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Welcome

We are glad you have chosen to attend Washburn Institute of Technology. This catalog provides lots of important information, including descriptions and requirements for the 30 certificate and associate degree programs offered on our campus. In addition, our admission, enrollment, and graduation processes are explained to help you navigate your path to success. We are ready and eager to help you meet your goals! In 2015, Washburn University celebrated 150 years committed to our vision and mission as a student-centered, teaching focused institution. At Washburn Institute of Technology, we are proud of our outstanding teachers and staff who will support you as you successfully prepare for your career and perhaps continue to complete your baccalaureate and advanced degrees. This is an exciting journey, so make sure you know important deadlines listed in this catalog. We recognize that “life happens along the way” when one starts a long-term goal, so know where to seek help. I encourage you to take part in all that Washburn has to offer and enjoy the journey! Best wishes for a successful year!

Jerry B. Farley, Ph.D.
President

# # #

Mission and Vision Statement

Mission Statement

Washburn Institute of Technology’s mission is to deliver innovative educational and training opportunities for individuals to strengthen the communities we serve.

Vision of Washburn Institute of Technology

Washburn Institute of Technology is dedicated to being a premier Midwest regional institution recognized as a leader in providing a superior student-centered, teaching-focused learning experience, preparing graduates for success in their chosen profession and stimulating economic vitality. It is our intention to place the Right student, in the Right program, for the Right reason.

Core Values

Core Values of Washburn Institute of Technology

Core values guide decision making and provide the foundation for directing our efforts, resources, and conduct. In fulfilling the mission, the faculty, staff, administration, and students are committed to the following core values of Washburn Institute of Technology:

- Advanced Manufacturing
- Business
- Computer & Networking Technology
- Construction
- Drafting & Design
- Health Care
- Hospitality & Human Services
- Transportation

At Washburn Tech we make education relevant and engaging. Our faculty use innovative methods to instruct students at leading-edge facilities on campus and in the community. Campus life at Washburn Tech is enriched by student organizations, pre-professional clubs, dining services and a year-round roster of social, cultural and entertainment events. Students also enjoy student health and counseling services, membership to the Student Recreation & Wellness Center on the Washburn University campus and several other student life services provided across the Washburn University system.

Washburn Tech is here to serve you, and I hope you will take full advantage of all that this remarkable institution has to offer.

Go Bods!

Gary Bayens, Ph.D.
Professor & Dean
Washburn Institute of Technology
Equal education and employment opportunities are provided to all students, faculty, and staff of Washburn Institute of Technology, without regard to race, color, religion, age, national origin, ancestry, disability, sex, marital or parental status, sexual orientation/gender identity, or other non-merit reasons. The university prohibits discrimination on the basis of these characteristics in its education programs and activities, as required by applicable laws and regulations. The following has been designated to handle inquiries regarding the non-discrimination policies:

Dr. Pamela Foster, Equal Opportunity Director
Washburn University
1700 SW College Ave.
Topeka, KS 66621
785-670-1509, eodirector@washburn.edu

History of Washburn Institute of Technology

In 1963, The Kansas Legislature passed legislation which has had, and continues to have, far reaching effects on career and technical education in Kansas. The intent of this legislation is revealed in the following excerpts from the statute:

“It is the intention of the Legislature and the purpose of this act to provide a means whereby the State of Kansas in cooperation with local communities can provide facilities for training and preparation of students for productive employment as technicians and skilled workers and to more nearly equalize educational opportunities.”

The boards of education in the unified school districts of Kaw Valley, North Jackson, Holton, Mayetta, Valley Falls, Jefferson County North, Jefferson West, Oskalooza, McLouth, Perry, Seaman, Silver Lake, Santa Fe Trail, Auburn-Washburn, Shawnee Heights, Burlingame, and Topeka took the opportunity to cooperatively provide technical education by establishing Kaw Area Technical School in Topeka, Kansas. In July 2008, Kaw Area Technical School affiliated with Washburn University of Topeka. As a result of this affiliation the name of the institution was changed to Washburn Institute of Technology, also known as Washburn Tech.

Equal Education and Employment Opportunity

Washburn Tech is committed to a policy of equal educational and employment opportunity without regard to race, color, religion, age, national origin, ancestry, disability, sex, marital or parental status, sexual orientation/gender identity. Each unit within Washburn Tech is charged with conducting its practices in conformity with these principles.

Equal employment opportunity includes, but is not limited to, recruitment, hiring, assignment of duties, promotion determinations, compensation, benefits, training, and termination. Positive action shall be taken to assure the full realization of equal opportunity for all employees of Washburn Tech.

Responsibility for monitoring and implementation of this policy is delegated to the Equal Opportunity Director; however, all employees will share in the specific activities necessary to achieve these goals.

The Equal Opportunity Director is Dr. Pam Foster
Morgan Hall Room 200K
Washburn University
Phone: 785-670-1509
Email: pam.foster@washburn.edu

Open Meetings and Records

Washburn Tech is a public institution of higher education. As a public institution, the meetings of its governing board are open to the public under the provisions of the Kansas Open Meetings Act (K.S.A. 75-4317 et seq) and the records of Washburn Tech are subject to inspection as provided under the Kansas Open Records Act (K.S.A. 45-215 et seq).

Gender Neutral Restrooms on Campus

At Washburn Tech, we work to provide a welcoming, supportive community for all students, faculty and staff. The following restrooms are identified as “Family Restrooms.” That means, that if you have a family member such as a child or individual who needs assistance, these are available to you. Those are also considered gender neutral.

Location:
- AC-017
- AW-116
- C-101
- C110A
- C-119A
- C-203
- D-110
Harassment Policies

Bullying

Bullying and Cyberbullying. Bullying and cyberbullying are repeated and/or severe aggressive behaviors that the student knew or should have known would intimidate, intentionally harm or control another person physically or emotionally, and are not protected by freedom of expression. Bullying is disruptive to the educational process, and is not acceptable behavior at Washburn Tech.

Racial Harassment

Racial harassment is unlawful discrimination on the basis of race, color or national origin under Title VI and VII of the Civil Rights Act of 1964, and the Kansas Acts Against Discrimination, and shall not be tolerated. Racial harassment may result from verbal or physical conduct or written/graphic material that is racially motivated, and which:

- affords a student different treatment, solely on the basis of race, color or national origin, in a manner which interferes with or limits the ability of the student to participate in or benefit from the services, activities or programs of the school;
- is sufficiently severe, pervasive or persistent so as to have the purpose or effect of creating a hostile academic environment or is sufficiently severe, pervasive or persistent so as to have the purpose or effect of interfering with a student's academic performance or ability to participate in or benefit from the services, activities or programs of the school.

Harassment

2.1.1 Responsibility. All individuals must be allowed to pursue their activities at the University free from sexual harassment, unwelcome sexual advances and sexual violence. Such conduct will not be tolerated. The responsibility for maintaining a sexual harassment-free campus environment rests with all Employees.

2.1.2 Sexual harassment is defined as unwelcome sexual advances, requests for sexual favors, and other verbal or physical conduct of a sexual nature when:

- Submission to such conduct is made either explicitly or implicitly a term or condition of an individual's employment;
- Submission to or rejection of such conduct by an individual is used as the basis for employment decisions affecting such individual;
- Such conduct has the purpose or effect of unreasonably interfering with an individual's work performance or creating an intimidating, hostile, or offensive working environment;
- Such conduct emphasizes the sexuality of an individual in a manner which prevents or impairs that individual's full enjoyment of work and/or educational benefits, environment, or opportunities, or,
- Such conduct is in the form of sexual violence.

2.1.3 Unwelcome sexual advances, request for sexual favors, and other verbal or physical conduct of a sexual nature constitute sexual harassment when:

- The conduct has the purpose or effect of interfering with the individual's work or academic performance, or of creating an intimidating, hostile, or offensive working or educational environment;
- Imposed by an Employee or agent of the University and denies, limits, conditions, or provides different aid, benefits, services, or treatment, or
- Imposed by a third party upon an Employee or Student who is engaged in a University-related activity.

2.1.4 Sexual Violence is defined as physical sexual acts perpetrated against an individual's will or where the individual is incapable of giving consent due to the victim's use of drugs or alcohol or an intellectual or other disability. Examples include, but are not limited to, rape, sexual assault, sexual battery and sexual coercion.

2.2 Employee Harassment. Section 703 of Title VII of the Civil Rights Act of 1964 defines harassment on the basis of sex.

2.3 Student Harassment. Sexual harassment of students is a violation of Title IX of the Education Amendments of 1972, which prohibits sex discrimination in education.

2.4 Complaints. Complaints of sexual harassment are to be made to the Equal Opportunity Director, Morgan Hall, Room 200K. Phone: 785-670-1509. Email: eodirector@washburn.edu (eodirector@%20washburn.edu) or online at www.washburn.edu/equal-opportunity (http://www.washburn.edu/equal-opportunity/).

3. Harassment—General

3.1 Responsibility. All individuals must be allowed to pursue activities at the University free from harassment based on race, color, religion, age, national origin, ancestry, disability, sex, sexual orientation, gender identity, genetic information or marital or parental status. Responsibility for maintaining a harassment free campus environment rests with all Employees and Students, and others while on the University campus or involved in University-sponsored activities.

3.1.1 Harassment is defined to have occurred when, on the basis of race, color, religion, age, national origin, ancestry, disability, sex, sexual orientation, gender identity, genetic information or marital or parental status a hostile or intimidating environment is created in which verbal or physical conduct, because of its severity and/or persistence, is likely to interfere significantly with an individual's work or education, or affect adversely an individual's living conditions.

3.2.1 Legal Implications.

3.2.1 Harassment of an Employee is a violation of Section 703 of Title VII of the Civil Rights Act of 1964 which defines harassment on the basis of sex.

3.2.2 Sexual harassment of a Student is a violation of Title IX of the Education Amendments of 1972 which prohibits sex discrimination in education.

3.2.3 Complaints. Complaints of harassment (as defined in this section) are to be made to the:
Equal Opportunity Director, Morgan Hall, Room 200K
Phone: 785-670-1509.
Email: eodirector@washburn.edu or online at www.washburn.edu/equal-opportunity (http://www.washburn.edu/equal-opportunity/).
Complaints must be filed within 180 days of the latest alleged incident.

3.3 Harassment—Complaint Procedures. Individuals who believe they may be or are victims of harassment in violation of the University's equal opportunity/harassment policies, should promptly take one or more of the steps outlined in the complaint procedure. It is not necessary for all steps to be taken or to be taken in order. Nothing in these procedures shall be construed as preventing any individual from pursuing any other legal action.

Any retaliation against an individual who files a complaint of discrimination/harassment or against individuals who participate in the proceedings is strictly prohibited.

Curriculum Approval

Curriculum at Washburn Tech is designed to prepare students for the work place. The curriculum approval process starts with curriculum that is develop by qualified instructors in consultation with industry experts. New curriculum and substantive curriculum changes are approved by each program's advisory board made up of local and regional employers. The curriculum is next approved by the Curriculum Committee. The process is managed and overseen by the chief academic officer, the Associate Dean for Instruction. New programs are approved by the Washburn University Board of Regents and then reviewed and approved by the Kansas Postsecondary Technical Education Authority and the Kansas Board of Regents.

Curriculum changes that are approved by the Curriculum Committee are entered into the Kansas Board of Regents’ data base for each program. Current syllabi for each program are available on the website. Washburn Tech has participated fully in the state program alignment process and entered into the Kansas Board of Regents’ data base for each program.

Curriculum Approval

Students share the responsibility for the evaluation of student learning by completing assessment activities which provide the data required for reliable analysis of the curricular activities.

Washburn Institute of Technology Accreditation

Programs at Washburn Institute of Technology are included in the accreditation for University, which is accredited by:

230 South LaSalle Street, Suite 7-500
Chicago, IL 60604

Program Accreditation

Individual programs accredited by national organizations:

• Auto Collision - ICAR
• Auto Service Technology – NATEF
• Building Technology - NCCER
• Cabinet/Millwork - NCCER
• Commercial & Heavy Construction - NCCER
• Practical Nursing – KSBN
• Surgical Technology – CAAHEP

Assessment of Student Learning

The assessment of student learning is an integral part of the teaching and learning process and Washburn Tech strives to create a culture of assessment surrounding all of the curricular and co-curricular activities in which students participate. Valid and reliable assessment is important for three reasons:

• To improve student learning
• To provide accountability to stakeholders, such as students, parents, legislators, accrediting agencies, and the public
• To assist in the process of accreditation, both of Washburn Tech and of individual programs

In order to foster this culture of assessment, Washburn Tech has created an institution-wide assessment committee. The mission of the Washburn Tech Assessment Committee is to aid the Washburn Tech community's assessment efforts to ensure that student learning is a responsibility shared by the entire community. The committee will support the collection, analysis and dissemination of the evidence of student learning to make certain that changes in student learning goals and outcomes are based on evidence. The mission of the Assessment Committee is to assist Washburn Tech in providing evidence that the mission of Washburn Tech delivers innovative educational and training opportunities for individuals to strengthen the communities we serve.

To help the Washburn Tech Assessment Committee satisfy its mission, the following are shared expectations:

• Every program has student learning goals.
  • Each goal is supported by competencies which are measurable.
  • Evidence is consistently collected and accessible to appropriate constituents.
  • Evidence is regularly analyzed i.e. the program has an established schedule for review of evidence.
  • The program has an appropriate mechanism to institute changes which are suggested by the evidence.

Campus and Facilities

Campus Locations

Washburn Institute of Technology has three campuses in Topeka:

• Huntoon Campus: 5724 SW Huntoon St., Topeka, KS
• Washburn Tech East: 2014 SE Washington St., Topeka, KS
• Cosmetology: 109 SW 29th St., Topeka, KS

Restaurant Facilities

Lunch is available from 11:10am-11:45am, Monday-Friday most days during the school year. Vending machines are available in multiple locations, including the center wing of Building A.

No food is allowed in classrooms or laboratory areas without instructor approval.

Library

Each technical program/each classroom maintains a resource library of materials pertinent to that program. Both print and electronic resources are available. Washburn Tech students have access to the Mabee Library...
and the Law Library on the Washburn University campus at 1700 College Avenue.

**Student Privileges on Washburn University Campus**

Secondary students may use the Washburn Mabee Library and receive discounts at many Topeka area businesses by presenting their Washburn Institute of Technology ID.

Post-secondary students with Washburn Tech ID cards may use the iCard to access the facilities at the Student Recreation and Wellness Center, to attend University Theatre productions and Sporting Events, to receive medical services at the University Health Center, to enjoy discounts at the University Bookstore, and to access all services at the Mabee Library and the Law Library.

**Bus Passes**

High school and post-secondary students with Washburn Tech ID cards may use the Topeka Public Bus system free of charge.

**Admission, Registration and Enrollment**

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**Transfer of Credits**

**Admission and Enrollment**

**Admission**

The Admissions staff along with Advisors in the Student Services Office at Washburn Tech offer many services for applicants and current students. An established application process makes for seamless transition from enrollment to admission. Easy access to technical education is possible due to August and January start dates for many programs and courses.

Full-time admission counselors are available to assist applicants through the application and enrollment processes. They are skilled in providing professional assistance to both traditional and non-traditional students. Of the current, approximately 1,350 students, almost half are adult students re-entering the classroom environment. Washburn Tech Career Navigators/Advisors also monitor and support our students as they progress through their programs of study. Admitted students in need of accommodations are welcome and staff are available to provide assistance.

**Enrollment Process**

Applicants who wish to apply for admission to Washburn Tech need to have the abilities necessary to benefit from instruction in a particular occupational field. Prospective students are required to take an ACCUPLACER Admissions Test and pass with the necessary scores, for their desired technical program before they are eligible to enroll. Applicants may only enroll in one technical program at a time. Exceptions to this may be considered upon special request to Student Services. Applicants who have alternative tests scores such as ACT, ASSET, SAT, TABE, and WorkKeys, or Bachelors or Associates degrees should consult with a recruiter or advisor to determine if they are qualified for their chosen technical program. Students must be enrolled no later than the beginning of the 3rd day of class any exception must go through the Associate Director of Tech Admissions.

**High School Enrollment Procedures**

Enrollment is open to qualified students who are currently enrolled in high school as junior and seniors. High school students who wish to enroll in a technical program at Washburn Tech must follow the procedures listed below.

1. Take the Admissions Test either at Washburn Tech or their home high school (when available).
2. Complete an online application at http://www.washburntech.edu/admissions/apply.html
3. Discuss scores and program of interest with an Admissions Counselor.
4. Submit an in-progress official high school transcript.
5. Enroll during designated enrollment periods. Most program registration is done on a first come, first served basis. Many programs have limited enrollment capacity and/or are competitive programs. Admissions Counselors can provide program specific information.

**Post-Secondary Enrollment Procedures**

Post-secondary students who wish to enroll in a technical program must follow the procedures listed below:

1. Register to take the Admission Test. A nonrefundable testing fee is required and payable through the Business Office. All individuals must register at least 24 hours prior to the desired testing date. Exceptions to this may be considered upon special request to Student Services. Applicants who have alternative tests scores such as ACT, ASSET, SAT, TABE, and WorkKeys, or Bachelors or Associates degrees should consult with a recruiter or advisor to determine if they are qualified for their chosen technical program.
2. Complete an online application at: http://www.washburntech.edu/admissions/apply.html
3. Submit an official high school transcript or GED transcript, and official transcripts from any post-secondary institutions attended.
4. Discuss scores and program of interest with an Admissions Counselor.
5. Enroll during designated enrollment periods. A $50.00 enrollment fee is required at the time of registration to reserve placement in desired program. Program registration is done on a first come, first served basis. Many programs have limited enrollment capacity and/or are competitive programs. Admissions Counselors can provide program-specific information.

**Probationary Enrollment**

For Fall semester, probationary enrollment may be offered starting July 1. For Spring semester, probationary enrollment begins December 1. Washburn Tech recognizes that some students may benefit from technical training but cannot successfully pass the entrance exam at the level required for the technical training they desire. To be admitted on a probationary basis, prospective students must take the entrance test, re-test at least once, and score no more than one level below the required entrance standards in one of the assessments required. If a student does not successfully complete a program that he/she entered on probation, he/she may not be admitted to a subsequent program on probation. Some programs do not allow probationary admission.

**Adding and Withdrawing Classes**

Adding and withdrawing from classes during a term will impact a student’s credit hour completion for Satisfactory Academic Progress (SAP) for purposes of financial aid. Course withdrawals after the 2nd day of the semester through the withdrawal deadline will reflect a “W” (withdrawal) on the student transcript.

**Transfer of Credits**

Individuals who want to transfer credits to Washburn Tech from another institution may submit a written request to the Assistant Dean for Instruction. The determination of whether to accept credits from another institution will be based upon many factors including the content/competencies of previous course work, the duration of previous course work, student attendance, grades earned in course work completed, and other criteria. Only those courses in which the individual earned a “C” or better will be considered for transfer credit. Students must complete a minimum of one-half of the required program credit hours at Washburn Tech. The final decision regarding the number of credits that will be transferred in will be determined by the Assistant Dean for Instruction in consultation with the program instructor(s).

**Challenge/Test Out Policy**

The institution provides a prescribed set of courses that meet the needs of the employers in our community. It is Washburn Tech policy to ensure that students meet the course requirements in a timely manner; students might not be required to take courses that cover materials that have already been mastered. Therefore, students may apply to complete a challenge exam, which with a passing grade will allow the student to test out of a specific course or courses.

In order to be eligible to attempt a challenge exam, the following procedure must occur:

- The student should request a challenge/test-out request form from their Career Navigator/Advisor. This challenge/test-out request form must be completed by the following dates of each term:
  - Fall – July 1st preceding the Fall semester
  - Spring – November 1st preceding the Spring semester
  - Summer – April 1st preceding the Summer semester
- The advisor will then verify that the student is eligible for the challenge exam by obtaining consent from the instructor of the course and the Assistant Dean and Director of Instruction.
- If approval is granted, a completion date of the exam will be issued to the student and instructor.
- If the student successfully passes the exam, the student will satisfy graduation requirements associated to the course for which the test-out was completed.
- If the student does not successfully pass the challenge exam, the student may remain enrolled in the full course for credit and pay the full tuition and fees associated with the course.
- The cost for a challenge exam is $50.00. The exam fee is non-refundable and will not be applied to the full tuition and fee amount that will be charged if the student remains enrolled in the standard course as a result of not passing the exam.
- The course for which the challenge exam was taken will be transcript as a credit/no-credit course.
- No financial aid is available for courses that an individual is approved to test out.
- Students may test out of no more than ½ of the technical program’s prescribed credits.

**Prior Learning Assessment**

Washburn Tech is committed to providing credit for prior learning in accordance with the guidelines approved by the Kansas Board of Regents.

**Credit Granted for Military Service**

Credit awarded for military service is based upon the recommendations of the Commission on Accreditation of Service Experiences which was appointed by the American Council on Education. Credit will be granted to all service members in accordance with the recommendations of the ACE Guide to the Evaluation of Educational Experiences in the Armed Services. Students should provide their military service record in one of the following formats according to their branch of service: DD 214 form, DD 295 form, Department of Defense transcript, Community College of the Air Force transcript, or the Army/American Council on Education Registry transcript. Military credit is subject to the same limitations as regular transfer credit (i.e. technical credit limits and no credit awarded for course duplications). For more information and to secure forms for making application, students should contact the Assistant Dean for Instruction.

**Audit Policy**

Students who want to attend classes, but do not want to receive credit, may audit classes. Students who audit classes do not need to take the general entrance test. To enroll as an audit student, individuals must have the approval of Student Services and must pay the same tuition and fees as credit earning students. Audit students are not eligible for federal financial aid. Audited courses are not assigned grades; students are not required to turn in class assignments or take examinations. Students enrolled in an audited class may not convert to a credit status after the first week of class. If students request a change to credit status, they must first meet all admissions requirements (take the entrance test and
achieve the required score and meet the technical standards associated with the program).

In the case of a lab-based class, students must either complete the safety class that is part of the program or test out of the safety portion of that program prior to gaining access to lab activities.

Individuals who want to enroll to earn credits will be given priority over those who express interest in auditing classes.

Audit exceptions may be reviewed on an individual basis by the Assistant Dean and Director of Student Services.

**Re-enrollment Procedures**

**Same Program**

Individuals who did not complete a program of study but want to re-enroll in the same program need to contact the Student Services and Admissions Office for details. In some instances, when the curriculum has changed significantly, an individual must re-enroll for the entire program. If students are dismissed for the remainder of a semester due to misconduct, they will not be permitted to re-enroll in the following semester. To re-enroll after the required time lapse, students must contact the Student Services and Admissions Office.

**Program Change**

Students who want to withdraw from one program and enroll in another program at Washburn Tech the following semester must meet with their Career Navigator/Advisor. Students must meet the Admissions requirements for the program in which they want to enroll.

**Changes to Enrollment Status**

Any individual who enrolls in a program of study for consecutive semesters will be expected to meet the Graduation Plan in place at the time he/she enrolled. All programs of study consist of courses that are taught in a sequential manner; some courses are offered only once during the school year. Because of this, changes regarding part-time or full-time status need to be discussed with a Career Navigator/Advisor.

Institutional refunds are calculated, according to the published schedule for all students who attend Washburn Tech and reduce the number of hours enrolled. The refund schedule applies to each course from which a student withdraws. Withdrawal from a course and enrollment in another course are treated as two separate transactions.

**Continuing Student Enrollment**

Students who plan to continue in the program in which currently enrolled must follow the enrollment procedures outlined by their Career Navigator/Advisor. However, fees must be paid by the published deadlines in order to remain on the roster for the next semester.

**Application for Graduation**

Students planning to complete a technical certificate must file an Application for Graduation form with the Student Records Administrator to initiate a graduation audit. This graduation audit will be completed early in the semester in which the student plans to graduate. The form should be filed in September for the fall semester and in February for the spring semester. A student is not a candidate for graduation until the application is on file. Students who do not meet the requirements for graduation in the semester specified on the Application for Graduation form must file another application for the subsequent semester in which they plan to graduate. Forms are available online and in the Student Services Office.

**Degree Conferment**

Washburn University Board of Regents with the recommendation of the faculty of Washburn Tech confers degrees at the end of the fall and spring semesters and spring session to students who have met all requirements as of the last day of final examinations for that session. All work not completed by the last day of finals will result in a graduation date of the following semester or later if a previous “incomplete” has not been finalized.

If a student is concurrently enrolled at another institution and intends to use the work to complete graduation requirements at Washburn Tech, an official transcript from the institution must be received within two weeks of Washburn Tech’s last day of instruction date of the graduating semester in order to have the degree conferred in the same semester. Washburn Tech holds a commencement ceremony at the end of the fall and spring semesters. Students who complete requirements for a certificate or degree during fall semester will be invited to participate in the fall commencement ceremony. Students who complete requirements for a certificate or degree during the spring semester will be invited to participate in the spring commencement ceremony. Students completing required coursework in summer session will be invited to participate in fall commencement. All such candidates must have the Application for Graduation form on file.

**Washburn University Transition**

The Washburn University School of Applied Studies, in conjunction with Washburn Tech, offers coursework at a reduced tuition rate that leads to the completion of an associate of arts or associate of science degree for qualifying programs. This opportunity requires coursework at both Washburn Tech and Washburn University. Students who plan to pursue a baccalaureate degree are encouraged to take advantage of this option. For information contact a Transition Director at Washburn Tech or the Washburn University School of Applied Studies at 785-670-2114.

**Associate Degree Affiliations**

Washburn Institute of Technology is pleased to offer articulation agreements with all Kansas community colleges in addition to Washburn University in Topeka. This allows coursework from most Washburn Institute of Technology programs to transfer toward an associate degree from these institutions. However, the transfer of academic credit is determined by the accepting institution and it is the responsibility of the student to request information from the accepting institution to learn how Washburn Institute of Technology credits will transfer in each case. Students are encouraged to obtain additional education and training whenever possible to enhance marketability, employability, and retention in the workplace.

**Notice to Applicants**

You are hereby notified that in the event your application for admission to state approved technical education courses or programs is denied by Washburn Tech, you may appeal to the Dean of Washburn Tech within thirty (30) days from the date of receiving the decision.
**Student Services**

- Campus Advocate (p. 11)
- Counseling Services, Washburn University (p. 11)
- Support Services for Students with Disabilities (p. 11)
- Advising (p. 12)
- Bookstore (p. 12)
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**Campus Advocate**

The campus advocate is a person who is trained to provide support to Washburn Institute of Technology students, staff, and faculty. Services provided by the advocate are free of cost and confidential and available Monday through Friday from 7:30 am – 4:30 pm. For more information call the campus advocate at 785-670-3364. Services provided by the campus advocate include:

- ADA Accommodations
- Assistance Providing Transit Between Classes
- Client Support at Legal Proceedings and Medical Advocacy
- Emotional Support
- Referrals to Campus Resources
- Sharing Reporting Rights and Options

**Counseling Services, Washburn University**

Students experiencing difficulty with academic work or who have personal concerns may want to utilize the Counseling Services’ office located in Kuhne Hall, room 200. Office hours are Monday through Friday, 8am - 5pm or other times by appointment. Students can drop-in to make an appointment or call 785-670-3100, select option 2 to speak to a counselor 24 hours a day, seven days a week (student ID required). Confidentiality is maintained for all types of counseling. Students under the age of 18 will need parental consent to use the Counseling Services’ office.

**Support Services for Students with Disabilities**

The Campus Advocate works with students with documented disabilities to provide equal access to Washburn Tech programs and to coordinate entrance and exit testing for all students. Washburn Tech provides technical education for high school and postsecondary students. Applicants who, with reasonable accommodations, can perform the essential functions of the occupation for which training is being sought, may request and be granted such reasonable accommodations assistance for the duration of their course. Reasonable accommodations may also be requested for assistance with the Admissions Test prior to enrollment. Applicants requesting accommodations should contact the Washburn Tech Campus Advocate for appropriate referral.

The Campus Advocate is responsible for assisting students with disabilities in arranging accommodations and for helping to identify resources on campus for students with disabilities. Qualified students with disabilities must register with the office to be eligible for services. The office MUST have current documentation on file in order to provide services. Accommodations, based on individual needs, may include such services as test readers and/or scribes, extended time for test taking, adaptive computer technology, or alternate media materials. Requests for accommodations should be submitted at least two months before services may begin; however, if you identify a need for an accommodation at any point during a semester, please contact the Campus Advocate immediately. Students may contact the Campus Advocate directly by phone at 785-670-3364 or voluntarily identify themselves to the instructor for a referral.

Washburn Tech does not offer a specialized curriculum for students with disabilities. All academic, technical and conduct program standards must be met. Modifications or accommodations cannot fundamentally alter the essential nature of the program.

It is the policy of Washburn Tech to assure equal employment and educational opportunity to qualified individuals without regard to race, color, sex, age, ancestry, marital or parental status, disability, religion, national origin or sexual orientation/gender identity. Complaints are to be made to:

The Equal Opportunity Director, Pam Foster
Morgan Hall, Room 380A/Room 202
Washburn University
(785-670-1509)
pam.foster@washburn.edu

**Confidentiality**

All documentation submitted to Washburn University Institute of Technology is kept confidential, and is used solely to determine the applicant’s eligibility for accommodations. Instructors/relevant Washburn University Institute of Technology staff are also instructed to treat as confidential all information they received relative to the student’s disability and accommodations.

**Contact Details:**
Campus Advocate
Washburn Institute of Technology
Building A, Room AC117
5724 SW Huntoon Street
Advising

Student Services staff members are available for academic advising and career planning. Staff provide guidance about school-related matters such as graduation requirements, changes of program, occupational information as well as grade and attendance concerns. Students are encouraged to seek assistance in a timely manner. Assistance is available on a walk-in basis or by appointment.

Bookstore

The Washburn Tech bookstore is located in the west wing of the Administration building and is a satellite of the Washburn University Bookstore (Ichabod Shop) on the University campus. Students can purchase textbooks, supplies, apparel and snacks at the bookstore. Books can also be pre-ordered on the website: http://washburn.edu/current-students/bookstore.html

Washburn University Sporting Events

Single game tickets at Washburn University are available free of charge to postsecondary Washburn Tech students who present a Washburn ID.

Information Technology Services

The Washburn Information Technology Services (ITS) Department provides computing, networking, video, wireless Internet access, and voice services at Washburn University Institute of Technology. Students may receive assistance with user accounts, e-mail, wireless connectivity, and other services by calling 785-670-3000 or visiting ITS staff.

Eligible recipients of educational assistance must certify their enrollment each semester through the Financial Aid Office to assure continuous benefits. When changes in enrollment occur, such as dropping courses, not attending class, or not formally withdrawing from Washburn Tech, the student must submit a report of mitigating circumstances. The VA expects veterans to pursue an educational objective, regularly attend classes, and make satisfactory progress.

Military Deployment Withdrawal

Students who are called to active duty and must withdraw from classes as a result should contact the Student Services Office and Financial Aid Office.

Health Services

As an affiliate of Washburn University, Washburn Tech post-secondary students may utilize the services of the Washburn University Student Health Service on the main campus. This service exists to enhance the learning and development of students and staff, through provision of prompt whole-patient-centered medical care, with a strong emphasis on education, prevention, affordability and patient advocacy. Student Health Services is located in 170 Morgan Hall, on the Washburn University Campus. Medical care, including physical exams, care of acute injuries and illness, immunizations and lab tests, and referral to outside providers as needed, is available to all enrolled students. Three nurse practitioners and a registered nurse are available for health care and counseling.

A low-cost health insurance program is available to all postsecondary students enrolled in six or more credit hours per semester. Literature regarding student insurance options is available in the Student Services Office. Students should be aware that many of the technical programs work with potentially dangerous equipment and that while students will be taught how to work safely around the equipment before they use it, accidents may still happen. For this reason, it is recommended that all students purchase health insurance.

Student Recreation and Wellness Center

Washburn Tech postsecondary students may utilize the Student Recreation and Wellness Center located on the Washburn University main campus. The facility components include a rock-climbing wall, indoor track, gymnasium, cardiovascular and resistance training area,
Student Organizations

SkillsUSA

SkillsUSA is a national organization that promotes technical excellence through organized student competition among technical institutions. The Washburn Tech chapter has a proud history of success on the state and national levels. Student activities promote leadership, technical skill development, and public service; any Washburn Tech student in good standing may participate in SkillsUSA. Faculty sponsors supervise the activities and training for competitions.

National Technical Honor Society

The National Technical Honor Society recognizes and honors Washburn Tech students for outstanding academic and personal achievements. The National Technical Honor Society promotes the qualities of honesty, service, leadership, and career development.

Washburn Tech students are nominated for The National Technical Honor Society by the instructors or may self-nominate. They must be in the last semester of their program. Students are evaluated on the basis of their academic and attendance records, community involvement, character and financial accountability. Final selection into The National Technical Honor Society is made by a committee of instructors and an administrator.

Student Activities Council

Washburn Tech students can volunteer to serve on the Student Activities Council. Students meet to plan activities and offer suggestions to improve the campus and the learning environment. The students learn leadership, teamwork, and social skills.

Washburn Tech Care Closet

Mission Statement

The purpose of the Washburn Tech Care Closet is to provide short-term emergency assistance to Washburn Tech students and/or staff who are in crisis situations, with the hope that students will be able to complete their training and that staff will resolve temporary emergencies so they can focus on carrying out their job responsibilities.

Belief Statements

Most people, at one time or another, need help. Crisis situations will be handled on an individual basis; confidentially will be strictly adhered to. The Washburn Tech Care Closet will not be able to help all individuals who request assistance. However, it will help as many individuals as expertise, funds and time will allow.

Guidelines for Providing Assistance

The Washburn Tech Care Closet has a limited budget. Funds devoted to one person must be limited. Ways in which the Washburn Institute of Technology Care Closet may be able to assist include, but are not limited to, food donations, transportation assistance, personal hygiene, counseling and referral to community agencies for additional services. Referrals for assistance may be made by students or staff to the Campus Advocate or Assistant Dean and Director of Student Services located in the Student Services Office, Building A, Suite AC 117.

Advantage Center

The Advantage Center, located in Building A, offers tutoring, help with resumes, listing of employment opportunities, GED preparation classes as well as adult basic education classes to refresh one's skills. Free tutoring is available to potential students wanting to polish up their academic skills prior to taking the WorkKeys exam for entry into Washburn Tech program. Computers and printers are available for student use.

The AO-K program is also offered through the Advantage Center. Individuals who want to work toward their GED and to acquire technical training at the same time can do so through the AO-K program. The tuition costs for the Technical classes are paid by the Kansas Board of Regents. The student only pays the $30 student materials fee and the cost of taking each of four tests to earn the GED. Call 785-670-2248 for more information.

Vehicles and Parking Policies on Campus

(Policies Apply to Bicycles As Well)

Individuals who drive to the Washburn Tech campus must assume the responsibility for safe and legal operation of a vehicle on or near the campus. The following guidelines apply to those who drive vehicles onto the Tech campus:

1. Students and staff will enter and leave the campus in an orderly and safe manner at all times
2. A speed limit of no more than 15 miles per hour will be observed on campus
3. Reckless driving and speeding will not be tolerated
4. Student parking is not permitted in front of the administration building or where curbs are painted yellow
5. Parking must be within the lines denoting parking areas
6. All traffic must stop for school buses that are loading and unloading on the campus
7. Students are not permitted to be in vehicles during breaks or lunch time
8. City police and University police may issue tickets for violations
9. With reasonable suspicion, any vehicle parked on the Washburn Institute of Technology premises may be subject to search for illegal drugs or weapons
10. Bicycles brought onto campus must be placed in the bicycle racks provided.

Washburn police officers provide emergency “jump starts” and “lock-outs.”

The provisions of the City of Topeka traffic codes and state traffic statues, Chapter 8 of the Kansas Statutes Annotated, are applicable to the operation and condition of motor vehicles operated on the University campus except as may be otherwise provided in these regulations by the Washburn University board of Regents. Persons operating or parking a vehicle on campus shall be fully responsible for that vehicle and its contents. Washburn University Institute of Technology has no responsibility for vehicles or protection of any vehicles or their contents.
while on campus. An enrolled student shall be held responsible for violations by vehicles registered to him/her through the State Motor Vehicle Department regardless of the operator at the time of the violation.

**Handicapped Parking**

Certain parking spaces are designated as handicapped parking. Parking in these spaces is reserved for those persons whose vehicles display:

1. A specially issued vehicle license plate displaying the international symbol of access to the physically handicapped;
2. A disabled veteran license plate issued in accordance with K.S.A. 8-161;
3. A specially issued identification placard displaying the international symbol of access to the physically handicapped.

Violators of handicap parking laws will receive traffic citations issued by officers of Washburn University, City of Topeka, Shawnee County and/or State of Kansas. Fines will be according to the city code of State statutes.

**Designated Parking**

The Washburn Tech campuses have open parking except where specifically designated.

**General Vehicle Operations**

**Parking Over-length Vehicle**

Over length or oversized vehicles such as buses, trucks and campers cannot be parked in regular parking spaces. Visiting groups and charter buses may arrange for special parking assignments and permits with the University Police Department.

**Overnight Camping or Sleeping**

Parking for camping or overnight sleeping in vehicles is prohibited.

**Prohibited Parking Practices**

The following acts are prohibited and Washburn Institute of Technology tickets may be issued for such infractions:

1. Double parking or blocking streets;
2. Parking on sidewalks or grass; Parking in service or restricted areas;
3. Parking across drive entrances or sidewalk crossings;
4. Parking outside marked spaces;
5. Parking in fire hydrant zone;
6. Parking over-length vehicle without permit;
7. Parking in a space for which the vehicle is not permitted;

Any other parking violation(s) as defined by city code or State statutes.

**Vehicle Removal**

Motor vehicles parking in violation of any of these regulations may be deemed a common nuisance and the nuisance abated by removal or towing away of the vehicle. The cost of abating, towing and impounding shall be the responsibility of the owner of the vehicle.

A fee of $25.00 shall be charged for all Washburn Tech tickets issued for parking violations (except for handicap parking violations.) Such fees are due and payable to the Washburn Tech Cashier (Building A, Room AW137) during business hours. Fees are due within five (5) business days following the date the ticket was issued.

If the fees are not paid, a late payment fee of $10.00 shall be assessed on the sixth day following the date of issuance of the ticket. Students, instructors, and staff are all subject to these fee and late fees.

**Failure to Pay**

Students with unpaid fees and/or late payment fees shall have a hold placed on their transcripts and re-enrollment until fees are paid in full.

**Hearsings**

A person who wants to contest the issuance of a Washburn Tech ticket issued to him/her for parking violations may obtain a hearing in accordance with the following procedures:

1. A verbal complaint regarding a specific ticket issuance shall be made to the Assistant Dean and Director of Student Services within five (5) business days of the issuance of the ticket. The Assistant Dean has five (5) business days to gather information and respond to the complaint.
2. If the individual is not satisfied with the disposition of the complaint regarding a specific ticket, the individual may then submit, in writing, his/her reason for a review request to the Director of Campus Police within five (5) business days after receiving the first response. A hearing will then be scheduled by the Parking Ticket Review Board that will consist of two students, two instructors or staff members, and the University Chief of Police. The decision of the Parking Ticket Review Board shall be final.

**Visitors to Campus**

A visitor is defined as an individual who is not a student, faculty, or staff member of Washburn Tech. Visitors ticketed on campus for parking violations may be excused for such parking violations by taking or mailing the Washburn Tech Parking Violation Notice, with proper identification, to the Assistant Dean and Director of Student Services on the Tech campuses.

**Students**

Students are defined as those individuals who are currently enrolled at Washburn Tech or were enrolled for the preceding regular or summer term and have not graduated. Any individual having evidence showing that they will not be a Tech student for the current or next term will be considered a visitor.

**Vehicles and Pedestrians**

Vehicles shall yield to all pedestrians.

**Vehicle Speed Limits**

All vehicles are to be driven prudently and not in excess of 15 mph on the streets and roads of the Washburn Tech campuses.

**Accidents, Reporting of**

All accidents, including motor vehicles, occurring on the Washburn Tech campuses should be reported to the Police Officer on duty. The Topeka Police Department also has jurisdiction to investigate all accidents occurring in the City of Topeka.

**Emergency Preparation**

To prepare students and staff in the event of an emergency, fire drills and tornado drills are held throughout the year on a regular basis. When the alarms sound, all students should immediately cease working and exit the classroom or shop area in the manner designated by their instructor.
Maps designating the appropriate exit routes are posted in, or adjacent to, all classrooms on campus.

**iAlert**

Washburn University has implemented iAlert, a mass message emergency notification system which significantly enhances our ability to maintain a safe academic environment for students, faculty and staff. Participation in the iAlert system is voluntary. It is the responsibility of the student to register for the free service and to keep the contact information up to date. For complete information on iAlert and details on how to register, go to washburn.edu/iAlert (http://washburn.edu/iAlert/) or call 785-670-1154.

**Campus Tobacco Policy**

The word “tobacco” is all-inclusive and refers to smoking, smokeless tobacco and electronic devices that simulate smoking. The use of tobacco products on Washburn Tech property is limited to the designated areas. The areas are designated by a green barrel with bright orange painted rings; the guidelines related to tobacco use are posted on or adjacent to the barrels. Smoking is permitted within 6-8 feet of the barrel. The use of tobacco products is prohibited except in the designated areas.

**Inspection of Property and Equipment**

The administrator in charge of the Washburn Institute of Technology campus, or his/her designee, shall have access at all times to all Washburn Institute of Technology property and equipment located therein. Students, employees of the school, Advisory Board members or other persons authorized to use school property or equipment should not have a reasonable expectation of privacy to school property or equipment used by them, including: vehicles, lockers, desks, tool boxes, and similar property. Such property and equipment is subject to periodic inventory and periodic inspection for maintenance and cleaning purposes and may be thoroughly searched should the administrator, or his/her designee, determine there are reasonable grounds for suspecting that the intended search will turn up evidence that the student or the employee has violated or is violating the rules of the school. Searches made in conjunction with or made at the request or direction of law enforcement agencies shall require a search warrant or a determination that probable cause and exigent circumstances exist for such a search.

Computers, network hardware (including servers) and software owned or leased by Washburn University/Washburn Institute of Technology are also subject to periodic inventory and inspection for maintenance, replacement, upgrades and/or cleaning purposes. The use of such technology is subject to the policies of the institution, the policies of Washburn University, or State or Federal law.

**Falsification of Documents**

Falsification of enrollment or program assignments/clinical documentation will result in disciplinary action that may include dismissal from the technical program.

**Off-Campus Conduct**

Off-campus conduct affects a substantial University interest. A substantial University interest is defined to include:

- Any situation where it appears that the student’s conduct may present a danger or threat to the health or safety of him/herself or others; and/or
- Any situation that significantly impinges upon the rights, property or achievements of self or others or significantly breaches the peace and/or causes social disorder; and/or
- Any situation that is detrimental to the educational mission and/or interests of Washburn University;

There is no time limit on reporting violations of the Student Conduct Code; however, the longer someone waits to report an offense, the harder it becomes for University officials to obtain information and witness statements and to make determinations regarding alleged violations.

Though anonymous complaints are permitted, doing so may limit Washburn University’s ability to investigate and respond to a complaint. Those who are aware of misconduct are encouraged to report it as quickly as possible to the Office of Student Life (785-670-2100) and/or to the Washburn University Police Department (785-670-1153).

A responding student facing an alleged violation of the Student Conduct Code will not cause an investigation to be terminated by withdrawing from the University. A responding student who does withdraw will still be given the same notice and opportunity to participate in the investigation as though he/she were still a student at Washburn.

University email is Washburn University’s primary means of communication with students. Students are responsible for all communication delivered to their University email address.

**Violations of the Law**

Alleged violations of federal, state and local laws may be investigated and addressed under the Student Conduct Code. When an offense occurs, over which Washburn University has jurisdiction, Washburn University’s conduct process will usually go forward notwithstanding any criminal complaint that may arise from the same incident. Washburn University reserves the right to exercise its authority of interim suspension upon notification that a student is facing criminal investigation and/or complaint (additional grounds for interim suspension are outlined below, on p. 17-18). Interim suspensions are imposed until a hearing can be held, typically within two weeks.

Within that time, the suspended student may request an immediate hearing from the Associate Vice President for Student Life to show cause why the interim suspension should be lifted. This hearing may resolve the allegation, or may be held to determine if the interim suspension should be continued. The interim suspension may be continued if a danger to the community is posed and Washburn University is delayed or prevented from conducting its own investigation and resolving the allegation. In such cases, the University will only delay its hearing until such time as it can conduct an internal investigation or obtain sufficient information independently or from law enforcement upon which to proceed.

**Standards of Conduct - Student Code of Conduct**

**Standards of Conduct**

A. Core Values and Behavioral Expectations

Washburn students are expected to conduct themselves in a manner that is consistent with the core values of the University as well as
the principles of social justice and community. Washburn University considers the behavior described in the following sub-sections as inappropriate and in opposition to the core values of the University as well as the principles of social justice and community.

Washburn University encourages individuals to report to University officials all incidents that involve the following actions. Any student found to have committed or to have attempted to commit misconduct listed under the following headings is subject to the sanctions outlined in Section 7.

1. **Falsification.** Knowingly furnishing or possessing false, falsified or forged materials, documents, accounts, records, identification or financial instruments;

2. **Academic Dishonesty/Impropriety.** Acts of academic dishonesty/impropriety as outlined in the Section 7 of the Faculty Handbook (https://washburn.edu/faculty-staff/faculty-resources/faculty-handbook/);

3. **Collusion.** Action or inaction with another or others to violate the Student Conduct Code;

4. **Election Tampering.** Tampering with the election of any University-recognized student organization (minor election code violations are addressed by the WSGA);

5. **Taking of Property.** Intentional and unauthorized taking of University property or the personal property of another, including goods, services and other valuables. This includes retaining without consent or refusing to return someone's property after having gained consent to possess it for a temporary period of time. As an example, if a person lets a student look at their phone to read a text message and then the phone owner asks for the phone back, failure to return the phone at that time would be a violation of this provision;

6. **Stolen Property.** Knowingly taking or maintaining possession of stolen property;

7. **Disruptive Behavior.** Substantial disruption of University operations including obstruction of teaching, research, administration, other University activities, and/or other authorized non-University activities which occur on campus;

8. **Rioting.** Causing, inciting or participating in any disturbance that presents a clear and present danger to self or others, causes physical harm to others, or damage and/or destruction of property;

9. **Unauthorized Access/Entry.** Misuse of, or unauthorized access to, University premises or unauthorized entry to or use of buildings, including trespassing, pranking or unauthorized use of alarmed/locked doors for entry into or exit from a University building, unauthorized possession, duplication or use of means of access to any university building or failing to timely report a lost University identification card or key;

10. **Unauthorized use of Trademark.** Unauthorized use (including misuse) of University or organizational names and images;

11. **Damage and Destruction.** Intentional, reckless and/or unauthorized damage to or destruction of University property or the personal property of another;

12. **Gambling.** Gambling as prohibited by the laws of the State of Kansas. Gambling may include raffles, lotteries, sports pools and online betting activities;

13. **Weapons.** Possession, use, or distribution of explosives (including fireworks and ammunition), guns (including air, BB, paintball, facsimile weapons and pellet guns), or other weapons or dangerous objects such as arrows, axes, machetes, nun chucks, throwing stars, or knives with a blade of longer than four (4) inches, including the storage of any item that falls within the category of a weapon in a vehicle parked on University property; Subject to statutorily conveyed rights to carry/possess weapons on campus and/or in locked vehicles on campus.

14. **Violation of Fire Safety Standards.** Violation of local, state, federal or campus fire policies including, but not limited to:
   a. Intentionally or recklessly causing a fire which damages University or personal property or which causes injury.
   b. Failure to evacuate a University-controlled building during a fire alarm;
   c. Improper use of University fire safety equipment; or
   d. Tampering with or improperly engaging a fire alarm or fire detection/control equipment while on University property. Such action may result in a local fine in addition to University sanctions;

15. **Ineligible Pledging or Association.** Pledging or associating with a student organization without having met eligibility requirements established by the University.

16. **Unauthorized Use or Possession of Animals.** Animals, with the exception of animals that provide assistance (e.g. service animals or approved emotional assistance animals), and pets as outlined in the Residential Living Handbook, are not permitted on campus except as permitted by law.

17. **Discrimination.** Any act or failure to act that is based upon an individual or group's actual or perceived status (sex, gender, race, color, age, creed, national or ethnic origin, physical or mental disability, veteran status, pregnancy status, religion, or sexual orientation, or other protected status) that is sufficiently severe in that it limits or denies the ability to participate in, or benefit from, Washburn University's educational program or activities. Complaints alleging violation of item 17 are to be made to the Equal Opportunity Director/Title IX Coordinator.

18. **Harassment.** Any unwelcome conduct based on actual or perceived status including: sex, gender, race, color, age, creed, national or ethnic origin, physical or mental disability, veteran status, pregnancy status, religion, sexual orientation or other protected status. Any unwelcome conduct should be reported to campus officials, who will act to remedy and resolve reported incidents on behalf of the victim and community. Complaints alleging violation of item 18 are to be made to the Equal Opportunity Director/Title IX Coordinator.
   a. Hostile Environment. Sanctions can and will be imposed for the creation of a hostile environment only when harassment is sufficiently severe, pervasive (or persistent) and objectively offensive that it unreasonably interferes with, limits or denies the ability to participate in or benefit from Washburn University's educational or employment program or activities. This policy
attempts to balance the need of the community to create a civil climate while also embracing the 1st Amendment protection that attaches to most harassing speech that is simply offensive.

19. **Retaliatory Discrimination or Harassment.** Any intentional, adverse action taken by a responding individual or allied third party, absent legitimate nondiscriminatory purposes, against a participant or supporter of a participant in a civil rights grievance proceeding or other protected activity under this Code. Complaints alleging violation of item 19 are to be made to the Equal Opportunity Director/Title IX Coordinator.

20. **Abuse of Conduct Process.** Abuse or interference with, or failure to comply in, University processes including conduct and academic integrity hearings including, but not limited to:
   a. Falsification, distortion, or misrepresentation of information;
   b. Failure to provide, destroying or concealing information during an investigation of an alleged policy violation;
   c. Attempting to discourage an individual's proper participation in, or use of, the campus conduct system;
   d. Harassment (verbal or physical) and/or intimidation of a member of a campus conduct body prior to, during, and/or following a campus conduct proceeding;
   e. Failure to comply with the sanction(s) imposed by the campus conduct system;
   f. Influencing, or attempting to influence, another person to commit an abuse of the campus conduct system.

21. **Harm to Persons.** Intentionally or recklessly causing physical harm or endangering the health or safety of any person.

22. **Threatening Behaviors:**
   a. **Threat.** Written or verbal conduct that causes a reasonable expectation of injury to the health or safety of any person or damage to any property.
   b. **Intimidation.** Intimidation defined as implied threats or acts that cause a reasonable fear of harm in another.

23. **Bullying and Cyberbullying.** Bullying and cyberbullying are repeated and/or severe aggressive behaviors that the student knew or should have known would intimidate, intentionally harm or control another person physically or emotionally, and are not protected by freedom of expression.

24. **Hazing.** Defined as an act that endangers the mental or physical health or safety of a student, or that destroys or removes public or private property, for the purpose of initiation, admission into, affiliation with, or as a condition for continued membership in a group or organization. Participation or cooperation by the person(s) being hazed does not excuse the violation. Failing to intervene to prevent and/or failing to discourage and/or failing to report those acts may also violate this policy.

25. **Intimate Partner/Relationship Violence.** Violence or abuse by a person in an intimate relationship with another. Complaints alleging violation of item 25 are to be made to the Equal Opportunity Director/Title IX Coordinator.

26. **Stalking.** Stalking is a course of conduct directed at a specific person that is unwelcome and would cause a reasonable person to feel fear. Complaints alleging violation of item 26 are to be made to the Equal Opportunity Director/Title IX Coordinator.

27. **Sexual Misconduct.** Includes, but is not limited to, sexual harassment, non-consensual sexual contact, non-consensual sexual intercourse, and/or sexual exploitation. Complaints alleging violation of item 27 are to be made to the Equal Opportunity Director/Title IX Coordinator.

28. **Public Exposure.** Includes deliberately and publicly exposing one's intimate body parts, public urination, defecation, and public sex acts.

29. **Alcohol.** Use, possession, or distribution of alcoholic beverages or paraphernalia except as expressly permitted by law on University premises or at University-sponsored events or except when explicitly authorized by Washburn University Policies, Regulations and Procedures. Persons having control of and/or in the area in which and when the prohibited beverage is found shall be charged with violating this section of the **Student Conduct Code.**

30. **Drugs.** Use, possession, distribution or being under the influence of illegal drugs and/or other controlled substances or drug paraphernalia except as expressly permitted by law on University premises or at University-sponsored events. Persons having control of and/or in the area in which and when the prohibited substance is found shall be charged with violating this section of the **Student Conduct Code.**

31. **Unauthorized/Illegal Use of Prescription Medications.** Misuse, sale, or distribution of prescription or over-the-counter medications;

32. **Failure to Comply.** Failure to comply with the reasonable directives of University officials or law enforcement officers during the performance of their duties and/or failure to identify oneself to these persons when requested to do so;

33. **Financial Responsibilities.** Failure to promptly meet financial responsibilities to the institution, including, but not limited to; knowingly passing a worthless check or money order in payment to the institution or to an official of the institution acting in an official capacity.

34. **Failure to Comply With Other Policies and Regulations.** Violating other published University policies or rules, including but not limited to all Residential Living policies, Acceptable Use of Technology Resources Policy, Tobacco Use Policy, and Policy on Skateboards, Skates and Bicycles.

35. **Health and Safety.** Creation of health and/or safety hazards (dangerous pranks, hanging out of or climbing from/on/in windows, balconies, roofs, etc.)

36. **Violations of Law.** Evidence of violation of local, state or federal laws, when substantiated through Washburn University's conduct process.

**Overview of the Student Code of Conduct Process**

This overview gives a general idea of how Washburn University's campus conduct proceedings work, but it should be noted that not all situations are of the same severity or complexity. Thus, these procedures are flexible, and are not exactly the same in every situation, though consistency in similar situations is a priority.
1. Any person may file charges against a student for violations of the Student Conduct Code. A charge shall be prepared in writing and directed to the Associate Vice President for Student Life. Alleged violations of the Student Conduct Code involving Washburn Tech students may be sent directly to the Assistant Dean and Director of Student Services.

Incident reports filed with the University Police will be forwarded to the Associate Vice President for Student Life or the Assistant Dean and Director of Student Services at the Washburn Tech for review and processing. 

Complaints of discrimination (harassment, sexual violence, and retaliation) are to be made to the Equal Opportunity Director/Title IX Coordinator. Washburn University’s non-discrimination policies and procedures can be found here: http://washburn.edu/statements-disclosures/equal-opportunity_files/non-discrimination-policy.pdf

2. The Student Conduct Administrator may conduct an investigation to determine if the charges have merit and/or if they can be disposed of administratively by mutual consent of the parties involved on a basis acceptable to the Student Conduct Administrator. Such disposition shall be final and there shall be no subsequent proceedings. If the charges are not admitted and/or cannot be disposed of by mutual consent, the Student Conduct Administrator will initiate the procedures detailed below. If the student admits violating institutional rules, but sanctions are not agreed to, subsequent process, including an appeal hearing if necessary, shall be limited to determining the appropriate sanction(s).

3. All charges shall be presented to the Respondent in written form. A time shall be set for a Student Conduct Hearing, not less than five (5) (unless all parties wish to proceed more quickly) nor more than fifteen (15) calendar days after the student has been notified. Maximum time limits for scheduling of Student Conduct Hearings may be extended at the discretion of the Student Conduct Administrator.

4. Student Conduct Hearings shall be conducted by a Student Conduct Administrator according to the following guidelines except as provided by Section 5, item G below:
   a. Student Conduct Board Hearings normally shall be conducted in private.
   b. The Complainant, Respondent and their advisor, if any, shall be allowed to attend the entire portion of the Student Conduct Hearing at which information is received (excluding deliberations). Presence of any other person to the Student Conduct Hearing shall be at the discretion of the Student Conduct Administrator.
   c. In Student Conduct Hearings involving more than one Respondent, the Student Conduct Administrator, in his or her discretion, may permit the Student Conduct Hearings concerning each student to be conducted either separately or jointly.
   d. The Complainant and the Respondent have the right to be assisted by an advisor they choose, at their own expense. The Complainant and/or the Respondent is responsible for presenting his or her own information, and therefore, advisors are not permitted to speak or to participate directly in any Student Conduct Hearing. A student should select as an advisor a person whose schedule allows attendance at the scheduled date and time for the Student Conduct Hearing because delays will not normally be allowed due to the scheduling conflicts of an advisor.
   e. The Complainant, the Respondent and the Student Conduct Administrator may arrange for witnesses to present pertinent information to the Student Conduct Administrator. The University will try to arrange the attendance of possible witnesses who are members of the University community, if reasonably possible, and who are identified by the Complainant and/or Respondent at least two (2) business days prior to the Student Conduct Hearing. Witnesses will provide information to and answer questions from the Student Conduct Administrator. Questions may be suggested by the Respondent and/or Complainant to be answered by each other or by other witnesses. Such questions will be directed to the Complainant and/or Respondent or other witnesses by the Student Conduct Administrator rather than the Complainant and/or Respondent directly.

   This method is used to preserve the educational tone of the hearing and to avoid creation of an adversarial environment. Queries of whether potential questions will be asked shall be resolved at the discretion of the Student Conduct Administrator.
   f. Pertinent records, exhibits, and written or video statements (including Student Impact Statements) may be accepted as information for consideration by a Student Conduct Administrator, at their discretion.
   g. All procedural questions are subject to the final decision of the Student Conduct Administrator.
   h. After the portion of the Student Conduct Hearing concludes in which all pertinent information has been received, the Student Conduct Administrator shall determine whether the Respondent has violated each section of the Student Code which the student is charged with violating.
   i. The Student Conduct Administrator’s determination shall be made on the basis of whether it is more likely than not that the Respondent violated the Student Code.
   j. Formal rules of process, procedure, and/or technical rules of evidence, such as are applied in criminal or civil court, are not used in Student Conduct Code proceedings.

5. There shall be a single verbatim record, such as an audio recording, of all Student Conduct Hearings before a Student Conduct Administrator (not including deliberations). Deliberations shall not be recorded. The record shall be the property of the University.

6. If a Respondent with notice, does not appear for a Student Conduct Hearing, the information in support of the charges shall be presented and considered even if the Respondent is not present.

7. The Student Conduct Administrator may accommodate concerns for the personal safety well-being and/or fears of confrontation of the Complainant Respondent, and/or other witness during the hearing by providing separate facilities, by using a visual screen, and/or by permitting participation by telephone, video conferencing, video recording, audio recording, written statement, or other means, where and as determined in the sole judgment of the Associate Vice President for Student Life to be appropriate.

8. The decision of the Student Conduct Administrator and the sanction(s), if applicable, shall be delivered orally upon conclusion of deliberations. The decision will also be reduced to writing and will be delivered via the student’s address on file with the University and/or the Respondent’s Washburn University email address. The Respondent is responsible for having accurate mailing information on file with the University.

### Student Conduct Appeals

#### A. Appeals

1. A decision reached by, or sanction imposed by, the Student Conduct Administrator may be appealed by the Respondent(s) or Complainant(s) to an Appeals Board within five (5) school days of the decision, barring exigent circumstances. Any exceptions are made at
the discretion of the Associate Vice President for Student Life. Failure to file an appeal within the required time period will constitute, and will be construed as, full acceptance of the findings by all parties.  

2. Except as required to explain the basis of new information, an appeal shall be limited to a review of the verbatim record of the Student Conduct Hearing and supporting documents.  

Appeal requests are limited to one or more the following grounds, which must be substantially addressed in the written appeal request:  

a. A procedural error occurred that significantly impacted the outcome of the hearing (e.g. substantiated bias, material deviation from established procedures, etc.). Deviations from designated procedures will not be a basis for sustaining an appeal unless significant prejudice results.  

b. New information or other relevant facts not brought out in the original hearing, sufficient to alter a decision, are available, and such information and/or facts were not known to the person appealing at the time of the original Student Conduct Hearing.  

c. The sanction imposed was inappropriate for the violation of the Student Conduct Code which the student was found to have committed.  

d. The decision was not supported by the preponderance of the evidence or is arbitrary, capricious, or unreasonable.  

3. Appeal requests must be made in writing and shall be delivered to the Associate Vice President for Student Life.  

4. Timely appeal requests will be shared with the other party (parties) when appropriate under procedure or law (e.g., if the Respondent appeals, the appeal is shared with the Complainant, who may wish to file a response, or request and appeal on the same grounds or different grounds). The other party will have five (5) school days to respond in writing to the appeal request.  

5. If Associate Vice President for Student Life finds the appeal request not to be timely or substantively eligible, the original finding and sanction will stand.  

6. Appeal requests found to be timely and substantively eligible will be forwarded to the Appeals Board for a hearing, typically within five (5) school days. All decisions of the Appeals Board are to be made within five (5) school days of the appeal being submitted to the Appeals Board.  

7. In review, the original finding and sanction are presumed to have been decided reasonably and appropriately, thus the burden is on the appealing party(ies) to show clear error. The Appeals Board must limit its review to the challenges presented.  

8. If an appeal is upheld by the Appeals Board, by majority vote, the matter shall be returned to the original Student Conduct Administrator for re-opening of the Student Conduct Hearing to allow reconsideration of the original determination and/or sanction(s). In cases where the original Student Conduct Administrator may be unduly biased by a procedural or substantive error, the case will be referred to a new Student Conduct Administrator for reconsideration.  

9. On reconsideration, the Student Conduct Administrator may affirm or change the original findings and/or sanctions. Procedural or substantive errors should be corrected, new evidence should be considered, and sanctions should be proportionate to the severity of the violation and the student’s cumulative conduct record.  

10. If an appeal is not upheld, by majority vote of the Appeals Board, the original finding and sanction of the Student Conduct Administrator will stand.  

11. A Respondent or Claimant disagreeing with the decision of the Associate Vice President for Student Life to not forward an appeal to the Appeals board, or who disagrees with the decision of the Appeals Board, or who disagrees with reconsideration of the Student Conduct Administrator, may make a final appeal to the Vice President for Student Life. Such appeals must be made in writing following the same guidelines as the original appeal. The decision of the Vice President for Student Life shall be final.  

B. The Appeals Board  

Three-member Appeals Boards are selected by the Associate Vice President for Student Life from an appeals board pool, with the following requirements to serve:  

1. they did not participate in the initial hearing in any way  
2. they were not involved in the investigation in any way  
3. they have been properly trained in appeals procedures  

Students serving on Appeals Boards must:  

1. Be in academic good standing and have completed a minimum of fifteen (15) hours of academic credit at Washburn University, with a cumulative GPA of at least 2.0.  
2. Be in good standing with respect to the conduct process throughout the term in which they serve. Good standing is defined as having no record of misconduct during the semester(s) in which a student wishes to serve on the panel, as well as not currently being on any probation. A serious history of misconduct could disqualify a student for service.  

The Vice President for Student Life will have final authority to approve all those serving on Appeals Boards. The parties may challenge a member(s) of the Appeals Board on the basis of potential bias, and any board member who cannot render an impartial decision must recuse themselves. The Vice President for Student Life will make the determination as to the validity of any challenge or need for recusal. In the event of a recusal from the panel, the Vice President for Student Life will solicit a replacement from the pool of panelists.  

The Associate Vice President for Student Life or designee serves as the non-voting advisor to the Appeals Board, with responsibility for training the board and ensuring a fair process for the Complainant and Respondent.  

The presumptive stance of the University is that all decisions made and sanctions imposed by the original Student Conduct Administrator are to be implemented during the appellate process. At the discretion of the Associate Vice President for Student Life, implementation of sanctions may be stayed pending review, generally only in extremely exigent circumstances. This does not include proximity to graduation, end of term, or exams. Instead, it refers to an overwhelming likelihood, as determined by the Vice President for Student Life and Associate Vice President for Student Life, in consultation, that the appeal would result in a reversal of the finding and/or substantial modification of the sanctions.  

C. Interpretation and Revision  

The Associate Vice President for Student Life will develop procedural rules for the administration of hearings that are consistent with provisions of the Student Conduct Code. Material deviation from these rules will, generally, only be made as necessary and will include reasonable advance notice to the parties involved, either by posting online and/or in the form of written communication.
The Associate Vice President for Student Life may vary procedures with notice upon determining that changes to law or regulation require policy or procedural alterations not reflected in this Code.

The Associate Vice President for Student Life may make minor modifications to procedure that do not materially jeopardize the fairness owed to any party. Any question of interpretation of the Student Conduct Code will be referred to the Associate Vice President for Student Life, whose interpretation is final. The Student Conduct Code will be updated annually under the direction of the Associate Vice President for Student Life with a comprehensive revision process being conducted every five (5) years.

Student Conduct Procedures

A. University as Convener
Washburn University is the convener of every action under this code. Within that action, there are several roles. The responding student (Respondent) is the person who is alleged to have violated the Student Conduct Code. The party bringing the complaint (Complainant), who may be a student, employee, visitor, or guest, may choose to be present and participate in the process as fully as the Respondent. There are witnesses, who may offer information regarding the allegation.

The Student Conduct Administrator will also serve as the investigator, whose role is to present the allegations and share the evidence that Washburn University has obtained regarding the allegations.

B. Group Violations
A student group or organization and its officers and membership may be held collectively and individually responsible when violations of this code by the organization or its member(s):

- Take place at organization-sponsored or co-sponsored events, whether sponsorship is formal or tacit;
- Have received the consent or encouragement of the organization or of the organization’s leaders or officers; or
- Were known or should have been known to the membership or its officers.

Hearings for student groups or organizations follow the same general student conduct procedures. In any such action, individual determinations as to responsibility will be made and sanctions may be assigned collectively and individually and will be proportionate to the involvement of each individual and the organization.

C. Amnesty
1. For Victims
Washburn University provides amnesty to victims who may be hesitant to report to University officials because they fear that they themselves may be accused of minor policy violations, such as underage drinking, at the time of the incident.

Educational options will be explored and records regarding provision of amnesty will be maintained, but no conduct proceedings or conduct record will result.

2. For Those Who Offer Assistance
To encourage students to offer help and assistance to others, Washburn University pursues a policy of amnesty for minor violations when students offer help to others in need. At the discretion of the Associate Vice President for Student Life, amnesty may also be extended on a case-by-case basis to the person receiving assistance. Educational options will be explored and records regarding the

provision of amnesty will be maintained, but no conduct proceedings or conduct record will result.

3. For Those Who Report Serious Violations
Students who are engaged in minor violations but who choose to bring related serious violations by others to the attention of Washburn University are offered amnesty for their minor violations. Educational options will be explored and records regarding the provision of amnesty will be maintained, but no conduct proceedings or conduct record will result.

Abuse of amnesty requests can result in a decision by the Associate Vice President for Student Life not to extend amnesty to the same person repeatedly.

4. Safe Harbor
Washburn University has a Safe Harbor rule for students. Washburn University believes that students who have a drug and/or addiction problem deserve help. If any Washburn University student brings their own use, addiction, or dependency to the attention of University officials outside the threat of drug tests or conduct sanctions and seeks assistance, a conduct complaint will not be pursued. A written action plan may be used to track cooperation with the Safe Harbor program by the student. Failure to follow the action plan will nullify the Safe Harbor protection and campus conduct processes will be initiated.

D. Interim Measures
Under the Student Conduct Code, the Associate Vice President for Student Life or designee may impose restrictions and/or separate a student from the community pending the scheduling of a student conduct hearing on alleged violation(s) of the Student Conduct Code. Generally interim measures are implemented when a student represents a threat of serious harm to others, is facing allegations of serious criminal activity, to preserve the integrity of an investigation, to preserve University property and/or to prevent disruption of, or interference with, the normal operations of Washburn University.

Interim measures can include separation from the institution or restrictions on participation in the community pending the scheduling of a student conduct hearing on alleged violation(s) of the Student Conduct Code. A student who receives an interim suspension may request a meeting with the Associate Vice President for Student Life or designee to demonstrate why an interim suspension is not merited. Regardless of the outcome of this meeting, Washburn University may still proceed with the scheduling of a student conduct hearing.

During an interim suspension, a student may be denied access to University housing and/or Washburn University campus/facilities/events. As determined appropriate by the Associate Vice President for Student Life, this restriction may include classes and/or all other University activities or privileges for which the student might otherwise be eligible.

At the discretion of the Associate Vice President for Student Life and with the approval of, and in collaboration with, the appropriate Dean(s), alternative coursework options may be pursued to ensure as minimal an impact as possible on the Respondent.

E. Hearing Options & Preparation
Students for which a conduct hearing will be held will be given a minimum of five (5) days to prepare unless all parties wish to proceed more quickly. Preparation for a conduct hearing is summarized in the following guidelines:
1. Notice of the time, date and location of the hearing will be in writing and may be delivered by one or more of the following methods: in person by the Student Conduct Administrator, or designee; mailed to the local or permanent address of the student as indicated in official University records; or emailed to the student's University-issued email account. Once mailed, emailed and/or received in-person, such notice will be presumptively delivered.

2. If there is an alleged victim of the conduct in question, the alleged victim may serve as the party bringing the complaint or may elect to have Washburn University administration serve as the party bringing the complaint forward. Where there is no alleged victim, Washburn University administration will serve as the party bringing the complaint forward.

3. If a responding student fails to respond to notice from the Student Conduct Administrator, or designee, the Student Conduct Administrator, or designee, may initiate a complaint against the student for failure to comply with the directives of a University official and give notice of this offense. Unless the student responds to this notice within two (2) business days by answering the original notice, a student conduct hearing may be scheduled and held on the student's behalf. As a result, the student may be administratively withdrawn from attending classes or a disciplinary hold may be placed on their University account, deeming them ineligible to register for courses or University housing and/or receive copies of transcripts until such time as the student responds to the initial complaint.

4. At least three (3) business days before any scheduled student conduct hearing, the following will occur:
   a. The Respondent will deliver to the Student Conduct Administrator, a written response to the complaint;
   b. The Respondent will deliver to the Student Conduct Administrator, a written list of all witnesses for Washburn University to call at the hearing;
   c. The Respondent will deliver to the Student Conduct Administrator, all physical evidence the student intends to use or needs to have present at the hearing and will indicate who has possession or custody of such evidence, if known, so that the Student Conduct Administrator can arrange for its presence;
   d. The Complainant will deliver to the Student Conduct Administrator a written list of all witnesses for Washburn University to call at the hearing;
   e. The Complainant will deliver to the Student Conduct Administrator all items of physical evidence needed at the hearing and will indicate who has possession or custody of such evidence, if known, so that the Student Conduct Administrator can arrange for its presence;
   f. The Complainant and the Respondent will notify the Student Conduct Administrator of the names of any advisors/advocates who may be accompanying the parties at the hearing.

5. The Student Conduct Administrator will ensure that the hearing information and any other available written documentation is shared with the parties at least two (2) days before any scheduled hearing.

F. Student Conduct Hearing Procedures

The parties have the right to be present at the hearing; however, they do not have the right to be present during deliberations. If a student cannot attend the hearing, it is that student's responsibility to notify the Student Conduct Administrator no less than three (3) days prior to the scheduled hearing to arrange for another date, time and location. Except in cases of grave or unforeseen circumstances, if the responding student fails to give the requisite minimum three (3) day notice, or if the responding student fails to appear, the hearing will proceed as scheduled. If the party bringing the complaint fails to appear, the complaint may be dropped unless Washburn University chooses to pursue the allegation on its own behalf, as determined by the Student Conduct Administrator.

The Student Conduct Administrator will conduct the student conduct hearing according to the following guidelines:

1. Hearings will be closed to the public.
2. Admission to the hearing of persons other than the parties involved will be at the discretion of the Student Conduct Administrator.
3. In hearings involving more than one Respondent, the standard procedure will be to hear the complaints jointly; however, the Student Conduct Administrator may permit the hearing pertinent to each Respondent to be conducted separately. In joint hearings, separate determinations of responsibility will be made for each Respondent.
4. The parties have the right to an advisor/advocate of their own choosing, including attorneys. Typically, advisors are members of the campus community, but the parties may select whomever they wish to serve as their advisor. The advisor may not make a presentation or represent the Complainant or Respondent during the hearing. They may confer quietly with their advisee, exchange notes, clarify procedural questions with the Student Conduct Administrator and suggest questions to their advisee.
5. The Complainant, Respondent, and the Student Conduct Administrator will have the privilege of questioning all present witnesses and questioning all present parties. Such questions will be directed to the Complainant and/or Respondent or other witnesses by the Student Conduct Administrator rather than the Complainant and/or Respondent directly. This method is used to preserve the educational tone of the hearing and to avoid creation of an adversarial environment. Queries of whether potential questions will be asked shall be resolved at the discretion of the Student Conduct Administrator. Unduly repetitive witnesses can be limited at the discretion of the Student Conduct Administrator.
6. Pertinent records, exhibits, and written statements may be accepted as information for consideration by the Student Conduct Administrator. Formal rules of evidence are not observed. The Student Conduct Administrator may limit the number of character witnesses presented or may accept written affidavits of character instead.
7. All procedural questions are subject to the final decision of the Student Conduct Administrator.
8. After a Student Conduct Hearing, the Student Conduct Administrator will deliberate and determine whether it is more likely than not that the Respondent has violated the Student Conduct Code. Once a finding is determined, if the finding is that of a policy violation, the Student Conduct Administrator will determine an appropriate sanction(s) and communicate the sanction(s) to the Respondent. The Associate Vice President for Student Life, or designee, is responsible for informing the Student Conduct Administrator of applicable precedent and any previous conduct violations or other relevant pattern information about the Respondent.

G. Conduct Sanctions

One or more of following sanctions may be imposed upon any student for any single violation of the Student Conduct Code:

1. Warning: An official written notice that the student has violated University policies and/or rules and that more severe conduct action
will result should the student be involved in other violations while the student is enrolled at Washburn University.

2. Restitution: Compensation for damage caused to Washburn University or any person's property. This could also include situations such as failure to return a reserved space to proper condition – labor costs and expenses. This is not a fine but, rather, a repayment for labor costs and/or the value of property destroyed, damaged, consumed, or stolen.

3. Fines: Reasonable fines may be imposed. Fines will depend on the severity of the violation, previous offenses, degree of involvement, and the circumstances. Fines shall not exceed $250 per violation.

4. Community/University Service Requirements: For a student or organization to complete a specific supervised Community/University service. May include reflection on the service through the lens of an identified student learning outcome.

5. Loss of Privileges: The student will be denied specified privileges for a designated period of time.

6. Confiscation of Prohibited Property: Items whose presence is in violation of University policy will be confiscated and will become the property of Washburn University. Prohibited items may be returned to the owner at the discretion of the Associate Vice President for Student Life and/or Campus Police.

7. Behavioral Requirement: This includes required activities including, but not limited to, seeking academic counseling or substance abuse screening, writing a letter of apology, etc.

8. Educational Program: Requirement to attend, present and/or participate in a program related to the violation.

It may also be a requirement to sponsor or assist with a program for others on campus to aid them in learning about a specific topic or issue related to the violation for which the student or organization was found responsible. Audience may be restricted.

9. Restriction of Visitation Privileges: May be imposed on a resident or non-resident student. The parameters of the restriction will be specified.

10. University Housing Probation: Official notice that, should further violations of Residential Living or University policies occur during a specified probationary period, the student may immediately be removed from University housing. Regular probationary meetings may also be imposed.

11. University Housing Reassignment: Reassignment to another University housing facility. Residential Living personnel will decide on the reassignment details.

12. University Housing Suspension: Removal from University housing for a specified period of time after which the student is eligible to return. Conditions for re-admission to University housing may be specified. Under this sanction, a student is required to vacate University housing within twenty-four (24) hours of notification of the action, though this deadline may be extended upon application to, and at the discretion of, the Director of Residential Living. This sanction may be enforced with a trespass action if deemed necessary. Prior to reapplication for University housing, the student must gain permission from the Director of Residential Living, or designee. This sanction may include restrictions on visitation to specified buildings or all University housing during the suspension.

13. University Housing Expulsion: The student's privilege to live in, or visit, any University housing structure is revoked indefinitely. This sanction may be enforced with a trespass action if deemed necessary.

14. University Probation: The student is put on official notice that, should further violations of University policies occur during a specified probationary period,

15. Eligibility Restriction: The student is deemed "not in good standing" with Washburn University for a specified period of time. Specific limitations or exceptions may be granted by the Associate Vice President for Student Life and terms of this conduct sanction may include, but are not limited to, the following:
   a. Ineligibility to hold any office in any student organization recognized by Washburn University or hold an elected or appointed office at Washburn University; or
   b. Ineligibility to represent Washburn University to anyone outside Washburn University community in any way including: student employment, participating in the study abroad program, attending conferences, or representing Washburn University at an official function, event or intercollegiate competition as a player, manager or student coach, etc.

16. University Suspension: Separation from Washburn University for a specified minimum period of time, after which the student is eligible to return. Eligibility may be contingent upon satisfaction of specific conditions noted at the time of suspension.

The student is required to vacate the campus within twenty-four (24) hours of notification of the action, though this deadline may be extended upon application to, and at the discretion of, the Associate Vice President for Student Life. During the suspension period, the student is banned from university property, functions, events and activities without prior written approval from the Associate Vice President for Student Life. This sanction may be enforced with a trespass action as necessary.

17. University Expulsion: Permanent separation from Washburn University. The student is banned from university property and the student's presence at any University sponsored activity or event is prohibited. This action may be enforced with a trespass action as necessary.

18. Other Sanctions: Additional or alternate sanctions may be created and designed as deemed appropriate to the offense with the approval of the Associate Vice President for Student Life or designee.

The following sanctions may be imposed upon groups or organizations found to have violated the Student Conduct Code:
   a. One or more of the sanctions listed above.
   b. Deactivation, de-recognition, loss of all privileges (including status as a University registered group/organization), for a specified period of time.

H. Parental Notification
Washburn University reserves the right to notify the parents/guardians of dependent students regarding any conduct situation, particularly alcohol and other drug violations. Washburn University may also notify parents/guardians of non-dependent students who are under the age of twenty-one (21) of alcohol and/or other drug violations. Parental notification may also be utilized discretionarily by administrators when permitted by FERPA or consent of the student.

I. Notification of Outcomes
The outcome of a student conduct hearing is part of the education record of the Respondent and is protected from release under the Federal Education Rights and Privacy Act (FERPA), except under certain conditions.

As allowed by FERPA, when a student is accused of a policy violation that would constitute a “crime of violence” or forcible or nonforcible sex
offense, Washburn University will inform the alleged victim/party bringing the complaint in writing of the final results of a hearing regardless of whether Washburn University concludes that a violation was committed. Such release of information may only include the alleged student’s/responding student’s name, the violation committed, and the sanctions assigned (if applicable). In cases of sexual misconduct and other offenses covered by Title IX, only, the rationale for the outcome will also be shared with all parties to the complaint in addition to the finding and sanction(s).

In cases where Washburn University determines through the student conduct process that a student violated a policy that would constitute a “crime of violence” or nonforcible sex offense, Washburn University may also release the above information publicly and/or to any third party. FERPA defines “crimes of violence” to include:

1. Arson
2. Assault offenses (includes stalking)
3. Burglary
4. Criminal Homicide—manslaughter by negligence
5. Criminal Homicide—murder and nonnegligent manslaughter
6. Destruction/damage/vandalism of property
7. Kidnapping/abduction
8. Robbery
9. Forcible sex offenses
10. Non-forcible sex offenses

J. Failure to Complete Conduct Sanctions
All students, as members of Washburn University community, are expected to comply with conduct sanctions within the timeframe specified by the Student Conduct Officer. Failure to complete conduct sanctions by the date specified, whether by refusal, neglect or any other reason, may result in additional sanctions and/or suspension from Washburn University. In such situations, resident students may be required to vacate University housing within twenty-four (24) hours of notification by the Associate Vice President for Student Life, though this deadline may be extended upon application to, and at the discretion of, the Director of Residential Living and/or the Associate Vice President for Student Life. A suspension will only be lifted when compliance with conduct sanctions is satisfactorily achieved. This determination will be made by the Associate Vice President for Student Life.

K. Disciplinary Records
All conduct records are maintained by Washburn University for seven (7) years from the time of their creation except those that result in separation (suspension or expulsion, including from housing) and those that fall under Title IX, which are maintained indefinitely.

Tuition, Fees, and Financial Aid

- Tuition and Fees (p. 23)
- Withdrawal and Refund Policy (p. 23)
- Institutional Refund Policy (p. 24)
- Federal Financial Aid (p. 25)
- Satisfactory Academic Progress (p. 26)

Tuition and Fees
1. Tuition rates and fees are reviewed and approved by the Washburn University Board of Regents annually. The tuition rate and materials and technology fee rate for the 2020-21 academic year is $148.00 per credit hour, and $22.00 per credit hour, respectively.
2. All courses and technical programs have related fees. There are 5 main fee categories:
3. Enrollment — a one time fee that secures a student’s enrollment in a program.
4. Graduation — a one time fee charged only to students that choose to participate in the graduation ceremony.
5. Transcript — a fee charged for the preparation of a transcript when requested by a student.
6. Materials and Technology — a per credit hour fee that offsets the cost of maintaining a modern technical campus.
7. Course specific fees — fees associated with a specific course, which includes the cost of supplies, materials, and certifications.

All fee information is available in the Student Services Office.

Financial Obligations
Tuition and fees are established by the Washburn University Board of Regents and are subject to change. Once a student has enrolled in classes, he or she is liable for tuition and fee charges unless the student withdraws from all classes during the 100% refund period. For students who have received financial aid, withdrawal from a program could result in that student owing a balance. Students considering withdrawing from a program need to be sure that the financial implications are clearly understood before withdrawing.

Payments
Semester tuition and fees are due by the published due date unless the student has an agency sponsorship authorization on file in the Washburn University Business Office.

Payments may be made using cash, checks, Visa, Master Card, Discover, American Express, or money orders. There is a 3rd party payment plan option for students who wish to spread the cost of the program over the semester. Students must enroll by the published due date in order to enroll in the plan. Payment plans are only for current semester charges. There will be a service charge for all returned items and a late fee for all missed payment plan payments.

Washburn Institute of Technology reserves the right to make adjustments to a student’s account as needed, with or without prior notification, to ensure accurate schedules and/or billing.

Delinquent Accounts / Late Fees
Unpaid balances will be subject to additional fees in the form of late charges and may incur collection fees should a collection agency be needed to recover the balance. To avoid late fees, accounts must be paid in full each semester by the published due date. Additionally, a Business Office hold will be placed on the student account; this hold will prevent the release of transcripts and diplomas as well as prevent enrollment in subsequent terms on either Washburn Institute of Technology or the Washburn University campus.

Withdrawal and Refund Policy
A student who withdraws from a semester in which he or she is enrolled may be allowed a credit of the institution/supply tuition charge for that semester based on the published refund policy.
Withdrawals (Official)
An official withdrawal occurs when a student notifies the Student Services Office of his/her intent to withdraw. The official withdrawal date is the actual last date of attendance.

Administrative Withdrawal
Washburn Tech may elect to initiate an administrative withdrawal of a student from all courses for any of the following reasons:

- Student fails to provide documentation required for full admission status.
- Student fails to meet Washburn Tech’s standards for Satisfactory Academic Progress;
- Student is absent five consecutive days without notice. The last day of absence will be used as the withdrawal date.

If an administrative withdrawal is initiated, written notification is sent to the student. Students have five business days to appeal an administrative withdrawal.

Students are not relieved of their financial obligations to Washburn Tech when an administrative withdrawal is processed.

All charges that are unpaid by students at the time of the administrative withdrawal are due upon notice of the withdrawal. Credits are applied, and, if applicable, refunds are issued in accordance with Washburn Tech’s published refund policy.

Institutional Refund Policy
Percentage of Tuition to be refunded for a full-semester length course:

<table>
<thead>
<tr>
<th>If . . .</th>
<th>Percentage Refunded</th>
</tr>
</thead>
<tbody>
<tr>
<td>withdraws within first 2 days of class</td>
<td>100%</td>
</tr>
<tr>
<td>withdraws days 3-5 of classes</td>
<td>80%</td>
</tr>
<tr>
<td>If withdraws days 6-10 of classes</td>
<td>60%</td>
</tr>
<tr>
<td>If withdraws days 11-15 classes</td>
<td>40%</td>
</tr>
<tr>
<td>If withdraws day 16 or after</td>
<td>no refund</td>
</tr>
</tbody>
</table>

The first day a class is scheduled to meet constitutes the beginning of the course when calculating tuition refunds.

The Institutional Refund Policy determines the amount of institutional charges the student has incurred at the time of withdrawal. This calculation is automatically performed for both official and unofficial withdrawals. A request from the student is not required.

If a student withdraws from a course that is less than a full semester in length, the tuition refund will be prorated according to the length of the course and based on the Institutional Refund Policy.

Refunds may take up to 45 days to process.

If tuition and fees were billed to, and paid by, a third party agency, Washburn Tech will refund any money due to that agency. If tuition and fees were not paid by a third-party agency, refunds will be made to the student, even if the payment(s) was made by someone other than the student.

Institutional Charges, Non-refundable (examples)

<table>
<thead>
<tr>
<th>Item(s)/Description</th>
<th>Reason Cannot Be Returned</th>
</tr>
</thead>
<tbody>
<tr>
<td>Uniforms, smocks, chef coats, work shirts</td>
<td>Sanitary/Health</td>
</tr>
<tr>
<td>Safety glasses, ear plugs, face shields</td>
<td>Sanitary/Health</td>
</tr>
<tr>
<td>Personal Protective Equipment (PPE)</td>
<td>Sanitary/Health</td>
</tr>
<tr>
<td>Gloves, respirators</td>
<td>Sanitary/Health</td>
</tr>
<tr>
<td>Shop supplies, lab materials/ supplies fee</td>
<td>Consumable Item</td>
</tr>
<tr>
<td>Online Training - Access Codes or Vouchers</td>
<td>Consumable Item</td>
</tr>
<tr>
<td>CDX fee for Auto students online access</td>
<td>Consumable Item</td>
</tr>
<tr>
<td>Certification Fees – Includes codes or vouchers</td>
<td>Consumable Item</td>
</tr>
<tr>
<td>Cosmetology Kits</td>
<td>Consumable Item</td>
</tr>
<tr>
<td>Practical Nursing Kits</td>
<td>Consumable Item</td>
</tr>
<tr>
<td>Practical Nursing ATI access fee</td>
<td>Consumable Item</td>
</tr>
<tr>
<td>Patches/Name Tags</td>
<td>Consumable Item</td>
</tr>
<tr>
<td>Culinary Arts Knife Sets</td>
<td>Consumable Item</td>
</tr>
<tr>
<td>Simulation “Sim” Lab fees</td>
<td>Student Specific/Consumable Item</td>
</tr>
<tr>
<td>Membership Fees</td>
<td>Student Specific/Consumable Item</td>
</tr>
<tr>
<td>Liability Insurance</td>
<td>Student Specific/Consumable Item</td>
</tr>
</tbody>
</table>

Institutional Charges, Refundable

<table>
<thead>
<tr>
<th>Item(s)/Description</th>
<th>Reason Cannot Be Returned</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tuition</td>
<td>N/A</td>
</tr>
<tr>
<td>Materials / Technology Fee</td>
<td>N/A</td>
</tr>
<tr>
<td>Tool Usage (Tool Rental) Fee</td>
<td>N/A</td>
</tr>
</tbody>
</table>

Return of Title IV Funds - Financial Aid Recipients Only

The Return of Title IV Funds Policy set forth by the U.S. Department of Education applies to post-secondary students if they received, or were eligible to receive, federal financial aid. Federal financial aid includes Pell Grants and student loans.

The Return of Title IV policy determines the amount of federal funding the institution and/or the student may retain. During the first 60% of the semester, a student “earns” aid in direct proportion to the length of time he or she attended class. A student who withdraws after the 60% point may retain 100% of the federal disbursements. If a refund of federal financial aid is due, the student must generally pay a portion of the refund. If the refund is to the student loan program the student repays the refund in accordance to the terms outlined on the Master Promissory Note (MPN). If the refund is to the Pell Grant program, the student must return the funds to the U.S. Department of Education or make satisfactory repayment arrangements with the U.S. Department of Education. For the student to remain eligible for future financial aid, this must be done within 45 days of receiving notification from Washburn Institute of Technology.
Military Refund Policy
Students serving in the National Guard or Reserves who are called to active duty during an academic term are entitled to receive a full refund of tuition, material fees and refundable fees, if they withdraw or for all classes dropped. Students who are directed to report for active military duty during an academic term shall also be entitled to receive a full refund of tuition. All refunds will be contingent upon presentation of official documentation. Students who volunteer for military service may be subject to the institution’s non-military refund policy.

Medical Withdrawal
Students who are unable to continue their course of study for medical reasons can withdraw from their program and will be refunded tuition based on the above stated policies and refund deadlines.

Refund Due to Death of Student
If a student should pass away during a semester in which the student is enrolled, the student’s estate will be refunded the tuition, material fees and refundable fees based on above stated policies. To initiate this process, the family must contact Student Services.

Federal Financial Aid
There are several federal programs available to help students pay for educational expenses. All students interested in applying for federal financial aid must complete the free application for Federal Student Aid (FAFSA) and meet with the Financial Aid Officer to determine eligibility.

A student is eligible to apply for assistance from the federal financial aid programs if he or she meets the following criteria:

- Is a U.S. citizen or an eligible non-citizen.
- Has a high school diploma or its recognized equivalent.
- Maintains satisfactory progress in his/her course of study.

Files a Statement of Educational Purpose, a Statement of Selective Service Registration Status and a Certification Statement on Refunds and Defaults with the school.

A student is not eligible for federal financial assistance if he or she:

- Is enrolled as a secondary student;
- Is in default on a student loan or owes a refund on a Pell Grant;
- Has borrowed in excess of the annual or aggregate loan limits in the Federal Student Loan program.
- Reaches the “lifetime Pell eligibility limit”

Courses not leading to a certificate or an Associate’s Degree at Washburn Tech are not eligible for federal financial aid.

Continuing Education courses are not eligible for any federal financial aid programs.

Federal PELL Grant
The Pell Grant program provides grants to help undergraduate students with financial need to meet the cost of their post-secondary education. A student who is not eligible for a Pell Grant if he/she has received a bachelor’s degree. Unlike a loan, a grant typically does not need to be repaid. Eligibility is determined by using the following factors:

- The Expected Family Contribution (EFC) provided by the U.S. Department of Education after submitting a FAFSA,
- Enrollment status,
- Cost of attendance.

Pell Grant funds are credited to a student’s account to pay for institutional charges at Washburn Tech. Any remaining proceeds are paid directly to the student to be used for other related educational expenses.

Federal Work Study (FWS)
Federal Work Study (FWS) is a need-based program that provides undergraduate students the opportunity to apply for jobs that allow them to earn money to pay educational expenses. To be considered for FWS funding, a student must submit a completed FWS application to the Financial Aid Office. Contact the Financial Aid Office to obtain job descriptions for all FWS positions and to determine eligibility.

Direct Loan Program (DL)
The three types of loans available under the DL program are Subsidized, Unsubsidized, and Parent loans for undergraduate students (PLUS).

The Subsidized and Unsubsidized loan programs are available to both dependent and independent students. Eligibility for the Subsidized Stafford loan is based on financial need while eligibility for the unsubsidized loan is not based on financial need. If a student’s financial need is not great enough, he/she may not be eligible for the entire amount of the Subsidized Stafford loan. In this situation the amount not received in the Subsidized Stafford loan may be received in the Unsubsidized Stafford loan program.

The maximum amount a dependent student can borrow per academic year (1 program) is $5,500, no more than $3,500 from the subsidized loan program. If a parent applies for a PLUS loan on behalf of their dependent student and is denied, the student may apply for an additional $4,000 from the unsubsidized program. The maximum amount an independent student can borrow per academic year (1 program) is $9,500, no more than $3,500 from the subsidized loan program. Under the Subsidized loan program, the government pays the interest due until the student enters repayment, six months after ceasing at least half-time enrollment. Under the Unsubsidized loan program, the student is responsible for interest that accrues from the date of the first disbursement.

Federal PLUS Loans are available to parents and/or step-parents, with a good credit history, to help pay for the education of a dependent undergraduate student who is enrolled at least half-time. Parents may borrow up to the total cost of attendance less any student aid received.

Loan funds are disbursed in two equal amounts. Funds are disbursed 30 days after the beginning of each semester for first-time borrowers and applied to charges on the student’s account. If a student is enrolled in only one semester per academic year, the second half of the loan disbursement is available after completing the first half of the semester.

Repayment
Subsidized and Unsubsidized loan repayment begins six months after the student ceases to be enrolled at least half-time. PLUS loan repayment begins 60 days after the date of the second disbursement, or the parent may request delayed repayment.

Origination Fee
The federal government deducts loan fees from each of these loans.
Subsidized and Unsubsidized – 1.066%
PLUS – 4.276%

**Credit Balances – refund checks**

If a student receives more loan money than the balance on their account, a credit balance is created and a refund check is issued. Refund checks are available in the Cashier’s Office at Washburn Tech.

Subsidized and Unsubsidized – the refund check is issued to the student PLUS - the check is issued to the parent who applied for the loan unless otherwise indicated on the PLUS application or a signed authorization from the parent requests the balance to be issued to the student.

**Scholarships**

Washburn Tech distributes scholarship opportunities to students as they become available. Each scholarship has specific criteria of eligibility and specific deadlines for application. Most scholarships are available for application between January and May for the upcoming fall or spring semesters.

Scholarship opportunities can be found on the Washburn Tech webpage and in the Student Services Office at Washburn Tech. Status updates are also added to the Washburn Tech Facebook page as new opportunities become available.

**Other Sources of Financial Assistance**

Many organizations and agencies provide financial assistance to students. These include but are not limited to: Kansas Dept. for Children and Families, Heartland Works, Jones foundation, Vocational Rehabilitation, and the Veterans Administration. Veterans may wish to contact the Regional Office of the VA for assistance at 1-800-827-1000. Information on any of these agencies can be obtained from the Washburn Tech Financial Aid Office.

**Satisfactory Academic Progress (SAP)**

Please see the section of this Academic Catalog titled "Satisfactory Academic Progress" for complete information on Washburn Tech's SAP policy.

**Satisfactory Academic Progress**

**Federal Guidelines**

Federal regulations require that financial aid recipients maintain Satisfactory Academic Progress (SAP) in order to remain eligible for Title IV Federal Financial Aid. Title IV financial aid includes Federal Pell Grant, Federal College Work Study, Federal Stafford Loan (subsidized and unsubsidized), and Parent Loans for Undergraduate Students (PLUS). SAP standards may also be required for some alternative/private loans.

Washburn Institute of Technology reviews the following items at the end of each semester for all students who received federal financial aid:

1. **Qualitative Measure:** Cumulative Grade Point Average: 2.0 (required for all students)
2. **Program Pace:**
   - All financial aid recipients must maintain pace of completion of 67% or greater. A student’s pace is calculated as cumulative credit hours successfully completed divided by cumulative credit hours attempted/number of enrolled credit hours. (Successfully completed is defined as a “C” or better). For example, if a student enrolls in, and attempts, 24 credit hours and successfully completes/earns, 20 credit hours, pace is 83% (20/24) and the student would meet the pace requirement. On the other hand, if a student enrolls in, and attempts, 24 credit hours and successfully completes/earns, 15 credit hours, pace is 63% (15/24) and the student would not have met pace.

3. **Maximum Time Frame for Program Completion:**
   - The maximum number of credit hours for which a student is eligible to receive financial aid cannot exceed 150% of the published length of the program. For example, if the published length of an academic program is 48 credit hours, the maximum number of credit hours must not exceed 72 credit hours, 48*1.5 = 72. Students are required to meet with an advisor to discuss an academic completion plan if and when they reach 100% and have not met graduation requirements.

**Financial Aid Warning/Probation:** If a student falls below any of the SAP standards at the end of the semester, they are automatically placed on academic probation for the next semester they attend. Students may remain eligible for financial aid during the warning or probation semester.

**Financial Aid Suspension/Cancellation:** Students who falls below any of the SAP standards at the end of a probation/warning semester, or at the end of any future semester, the student is academically suspended, withdrawn and, if applicable, financial aid is cancelled.

A student is not automatically eligible for financial aid upon re-enrolling in a program. A student must take-action to earn a satisfactory SAP status before eligibility for financial aid can be regained.

**Adding and Withdrawing Classes**

Courses in which students receive a grade of incomplete “I”, withdrawn “W”, or failing “F”, are not considered as completed hours for SAP purposes. However, an incomplete that becomes a satisfactory grade is counted in the cumulative GPA and as hours completed for SAP standards. Incompletes must be completed within the time frame approved by the instructor and the Assistant Dean & Director of Student Services.

**Repeating Courses**

If a student repeats any portion of a program, the most recent grade, not necessarily the best grade, is used when determining the qualitative and quantitative measures. However, all attempts are included when calculating pace and maximum time frame and all attempts remain on the transcript.

**Credit/No Credit Options**

Credit/No Credit classes are accepted as enrolled hours for SAP purposes. These classes always count as credit hours attempted when measuring SAP standards. If a student receives credit, the credit hours are included in the number of credit hours successfully completed. If a student receives no credit, the credit hours are not included in the number of credit hours successfully completed. Since there is no letter grade assigned for these classes, they are not included when calculating the cumulative grade point average.

**Transferring Credits**

Credits transferred to Washburn Tech from a previous institution are included when determining SAP.
Changing Programs
All grades earned at Washburn Tech are included in the SAP calculation. This is true even if a student changes programs.

Appeal Process
Appeals are accepted through the end of the 5th day of the subsequent semester.

Before students may appeal for reinstatement of financial aid eligibility, a Free Application for Federal Student Aid (FAFSA) must be on file for the semester funds are being requested.

Students who wish to appeal for reinstatement of enrollment must provide a written appeal to the Washburn Tech Financial Aid Office. Appeal forms are available in the Student Services Office. Written appeals must be supported with appropriate documentation. The SAP Appeal Committee reviews all appeals. The student will be notified in writing of the decision within ten days of receiving the appeal. This decision is final. If the appeal is approved financial aid may be reinstated.

Students who appeal because the maximum number of credit hours attempted was reached are required to meet with an advisor to review and revise their academic completion plan. The plan describes how the student intends to complete the program on a course-by-course or semester-by-semester basis.

However, reviewing the academic completion plan does not automatically reinstate financial aid eligibility. Students are required to follow the academic completion plan for each remaining semester to reach the graduation requirements successfully.

Return of Title IV Funds – Withdrawal from Classes
The Return of Title IV Funds Policy set forth by the U.S. Department of Education applies to post-secondary students if they received, or were eligible to receive, federal financial aid. Federal financial aid includes Pell Grants and student loans.

The Institutional Refund Policy determines the amount of institutional charges the student incurred at the time of withdrawal. This calculation is automatically performed for both official and unofficial withdrawals. A request from the student is not required. The Return of Title IV policy determines the amount of federal funding the institution and/or the student may retain. During the first 60% of the semester, a student “earns” aid in direct proportion to the length of time he or she attended class. A student who withdrawals after the 60% point may retain 100% of the federal disbursements.

If a refund of federal financial aid is due, the student must generally pay a portion of the refund. If the refund is to the student loan program, the student repays the refund in accordance to the terms outlined on the Master Promissory Note (MPN). If the refund is to the Pell Grant program, the student must return the funds to the U.S. Department of Education or make satisfactory repayment arrangements with the U.S. Department of Education. For the student to remain eligible for future financial aid, this must be done within 45 days of receiving notification from Washburn Tech.

Other Academic Programs
- Continuing Education (p. 27)
- Summer Session (p. 27)
- Business and Industry Customized Training (p. 27)
workforce and designed to aid initiatives to attract new businesses to our region. The Business and Industry area strives to be a consistent and reliable force in the growth, development and improvement of the workforce through collaboration with businesses, industry and government agencies.

**Academic Policies**

- Attendance, Absences and Tardiness (p. 28)
- Adding, Withdrawing, and Changes to Classes (p. 28)
- Academic Standing (p. 29)
- Gatekeeper Courses (p. 30)
- Graduation Requirements (p. 30)
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**Attendance, Absences and Tardiness**

Students are expected to attend classes every day to receive the maximum benefit from their instructional program. Washburn Tech realizes that, due to circumstances beyond the student’s control (i.e., illness, a death in the family); daily attendance is not always possible. Absences and tardiness are recorded each day, regardless of the reason. For purposes of taking attendance, there is no excused or unexcused absence or tardy. Each program applies its own system, explained in each program syllabus, which may factor absences and tardiness into the student’s daily and/or final grade and maintaining enrolled status in the program. Students are advised to visit with instructors regarding the grading and attendance systems used by the program in which the student is enrolled.

For high school students, if your home high school is closed for weather reasons, you are excused from attending classes at Washburn Tech. However, if your home high school is closed for holidays/breaks, professional development, parent teacher conferences, or the like, you are expected to attend class at Washburn Tech on the days that we are open and the high school is closed. For weather-related closings, home schooled students will be excused on days that the district in which they reside in is closed.

An instructor, after due notice to the student, may request withdrawal of the student from a program because of nonattendance through the same date as the last day a student may withdraw for a program. This would not absolve the student of financial responsibility for tuition/fees for the program.

**Adding, Withdrawing, and Changes to Classes**

Because Washburn Tech utilizes block scheduling, there are not often opportunities to add additional courses outside of one prescribed semester block of classes. However, the opportunity to add an additional course outside of one’s prescribed block may sometimes be an option. Students interested in adding an additional class should talk with their Career Navigator/Advisor located in the Student Services Office.

**Incompletes**

Courses in which students receive a grade of incomplete “I”, withdrawn “W”, do not necessarily affect a student’s Academic Standing. However a grade of “F” (failing), will negatively impact the student’s Academic Standing and potentially the student’s eligibility for financial aid, according to the financial aid SAP policy. Grades of incomplete “I” or “W” are not calculated into the student’s term or cumulative GPA.

However, an incomplete that becomes a letter grade (“A” through “F”) is counted in the cumulative GPA and as hours completed for Academic Standing and SAP standards. Incompletes must be completed within the time frame approved by the instructor and the Assistant Dean and Director of Student Services.

Students have no longer than the end of the next term (excluding summer) to make up an incomplete grade. If there are special circumstances involved that resulted in prolonged absences, additional time for make-up may be allowed. Any incomplete must be cleared with the instructor and the Assistant Dean and Director of Student Services. Instructors have the right to set a shorter time frame to make up an incomplete grade.

**Withdrawals - Individual Course and Term**

Students seeking to withdrawal from a course or courses must contact their Career Navigator/Advisor. The withdrawal is not official until process by registrar staff.

A student may voluntarily withdraw from the technical education program by submitting a written request to the Assistant Dean and Director of Student Services (including student’s full name, WIN number, and program).

If a withdrawal occurs once the refund period has expired, no refund will be allowed upon withdrawal from either the semester or program. The withdrawal appears on the transcript with a “W”.

The deadline for withdrawing from the semester is Friday of the 12th week of the semester. After that deadline, the student may not withdraw and the instructor will report the grade earned by the student at the end of the semester.

More information on withdrawals can be found in the Tuition, Fees, and Financial Aid section of this catalog.

**Repeating Courses**

If a student repeats any portion of a program, the most recent grade, not necessarily the best grade, is used to determine the qualitative and quantitative measures. However, all attempts are included when
calculating pace and maximum time frame and all attempts remain on the transcript.

**Credit/No Credit Options**

Credit/No Credit classes are accepted as enrolled hours for Academic Standing and Financial Aid SAP purposes. These classes always count as credit hours attempted when measuring Academic Standing and Financial Aid SAP standards. If a student receives credit, the credit hours are included in the number of credit hours successfully completed. If a student receives no credit, the credit hours are not included in the number of credit hours successfully completed. Since there is no letter grade assigned for these classes, they are not included when calculating the cumulative grade point average.

**Transferring Credits**

Credits transferred to Washburn Tech from a previous institution that are accepted and meet Washburn Tech graduation requirements are included when determining Academic Standing and Financial Aid SAP.

Students who wish to transfer credits to Washburn Tech from another institution should notify the Student Records Administrator in the registrar area of the Student Services Office of the request. Acceptance of credits earned at the previous institution is based upon many factors including the previous coursework; the duration and attendance of course work taken, competencies attained, and other criteria. When credit for previous course work is granted, the academic record of such work is included in determining SAP at Washburn Tech. Decisions regarding the acceptance of transfer credits rests with the Assistant Dean for Instruction.

**Credit Granted for Military Service**

(See Admission, Registration and Enrollment Section)

**Changing Programs**

Upon Admission into Washburn Tech, a student is enrolled into one technical education program. If the student wishes to change programs prior to completing a program, the student must write a letter to the Assistant Dean and Director of Student Services (include student’s full name, WIN number, and current program) explaining why the student wants to change programs and identifying the new program.

- If the student is in good academic standing, and if there is a seat available in the new program, the Assistant Dean may approve the program change.
- If the student is not in good academic standing, the assistant dean may deny the program change.
- If there is no space available in the new program, the assistant dean may approve the program change for a future semester.
- If the new program involves a selection process (i.e. in healthcare programs) the student must go through the required processes to be accepted into that program.

All grades earned at Washburn Tech are included in the Academic Standing and SAP calculations. This is true even if a student changes programs.

**Academic Standing**

Academic Standing refers to a student’s grade point average, and determines whether students are eligible for positive results such as scholarships and graduation or negative consequences such as academic probation and academic suspension.

**Washburn Tech Academic Probation and Reinstatement Policy**

**Good Standing:**

A student who has a cumulative GPA of 2.0 or higher shall be considered in Good Standing.

**Academic Warning:**

Academic Warning is used to indicate that a Washburn Tech student is not meeting requirements for good academic standing. A student is placed on academic warning when his/her cumulative grade point average (GPA) falls below a 2.0 for the first time while attending Washburn Tech. Academic Warning carries across all programs at Washburn Tech, and does not reset if a student changes program.

A student on Academic Warning can continue to enroll at Washburn Tech. Students on Academic Warning are encouraged to communicate often with their Program Navigator/Advisor located in the Student Services Office. For high school students, the high school will be notified of the student’s Academic Warning status. Post-secondary students placed on academic warning may continue to be eligible for federal financial aid. The Financial Aid Office calculates Satisfactory Academic Progress (SAP) separate from Academic Standing.

A student can be on Academic Warning only one time – subsequent low GPA problems may result in Academic Probation or Academic Suspension.

**Academic Probation:**

An undergraduate student on Academic Warning who does not achieve a 2.0 GPA for the semester and does not obtain a cumulative Washburn Tech GPA of 2.0 will be placed on Academic Probation for the next semester they attend. If there is a gap in attendance between a student being place on Academic Warning, and returning to Tech, the status of Academic Warning will stand from the last semester of attendance. A student on Academic Probation may remain eligible for federal financial aid. The Financial Aid Office calculates Satisfactory Academic Progress (SAP) separate from Academic Standing. A student who earns a 2.0 GPA for the semester but does not have a 2.0 cumulative GPA will remain on Academic Warning.

Students who are placed on probation rather than being suspended by the Student Services Office are subject to any of or all of the following:

- Semester course registration revisions to promote success
- Mid-term grade checks and class attendance checks
- Counseling and possible required follow-up meeting with your Program Navigator/Advisor
- High School students: Your high school is notified of your status and may take further action.
- Academic coaching meetings

Students who remain on Academic Probation after one term and are failing to make satisfactory progress toward a certificate can face Academic Suspension.

Students who return to Academic Probation after being on Good Standing also can face Academic Suspension.
**Gatekeeper Courses**

A gatekeeper course is a crucial building block to completion of a program. A student must pass a gatekeeper course before moving on in the program. Depending on the program, two possible actions may be possible if a student fails a gatekeeper.

**Academic Suspension:**

Students who remain on Academic Probation after one term and are failing to make satisfactory progress toward a certificate can face Academic Suspension. A student with a current status of Academic Probation who does have a semester 2.0 GPA or a cumulative 2.0 GPA may be placed on Academic Suspension.

A grade of incomplete will not affect the GPA for the semester in which it is received. The awarded grade will affect the GPA for the subsequent semester.

Students placed on suspension may be subject to the following:

- Academic Suspension requires that a student sit out for at least a semester.*

*The summer session does not count as a full semester.

Students who face Academic Suspension may complete an appeal for reinstatement form through the Student Services Office. The Academic Probation and Reinstatement committee will review the appeal and the Assistant Dean & Director of Student Services will notify students as to the results of the appeal.

**Appeal for Reconsideration of Suspension:**

- Students whose GPA falls below that level may request reconsideration if there were extenuating circumstances beyond their control which prevented them from attaining the required academic standards.

- If any appeals for reconsideration of suspension are received, a meeting of the Academic Probation and Reinstatement committee will be convened to hear those appeals.

  - In order to appeal a suspension, the student must complete an Appeal for Reconsideration of Academic Suspension form two (2) weeks prior to the beginning of the semester/session in which the student wants to enroll.

  - The student will need to have a plan for how they will succeed academically going forward.

  - The student is strongly encouraged to contact the Student Services Office to talk with an advisor PRIOR to submitting an Appeal for Reconsideration of Academic Suspension form.

  - After a student has come off of Academic Suspension, they will remain on Academic Probation until their cumulative GPA reaches a 2.0 or higher.

  - After a student has been suspended and reinstated multiple times, automatic reinstatement after sitting out a semester is no longer an option. Instead, a student must have an interview with the Academic Probation and Reinstatement committee.

A student returns to Good Academic Standing when their cumulative GPA reaches a 2.0 or higher.

**Graduation Requirements**

Students seeking to graduate from a technical education program, a student must be in good academic standing (maintain a 2.0 grade point average). Washburn Tech conducts two graduation ceremonies per year: one in December and one in May.

**Test Out Policy**

(See Admission, Registration and Enrollment Section (p. 9))

**Credit Hour Definition**

The Kansas Board of Regents has defined the term "credit hour" for lecture, lab, and other types of instruction as follows:

- LECTURE class - Each institution shall record one semester hour of credit for any student attending a lecture class, if the student has made satisfactory progress in the class and that class consists of at least 750 minutes of class instruction, plus time allocated for a final exam.

- LAB class - Each institution shall record one semester hour of credit for any student attending a lab class, if the student has made satisfactory progress in the class and that class consists of at least 1125 minutes of class instruction, plus time allocated for a final exam.

- OJT, CLINICAL, INTERNSHIP experience - Each institution shall record one semester hour of credit for any student attending an on-the-job training, clinical, or internship experiences, if the student has made satisfactory progress in the class and that class consists of at least 2700 minutes of class instruction, plus time allocated for a final exam.

- DISTANCE LEARNING – The number of semester hours of credit recorded for each distance education course shall be assigned by the institution that provided the course, based on the amount of time needed to achieve the course competencies in a face-to-face format.

Grades and Grading

Grades are issued by instructors four times per year, twice per semester. The following definition of letter grades will prevail:

<table>
<thead>
<tr>
<th>Grade</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>Excellent</td>
</tr>
<tr>
<td>B</td>
<td>Well Above Average</td>
</tr>
<tr>
<td>C</td>
<td>Average</td>
</tr>
<tr>
<td>CR</td>
<td>Credit Only (Practical Nursing and Surgical Technology Clinical Only)</td>
</tr>
<tr>
<td>D</td>
<td>Below Average</td>
</tr>
<tr>
<td>F</td>
<td>Failure</td>
</tr>
<tr>
<td>I</td>
<td>Incomplete</td>
</tr>
<tr>
<td>NC</td>
<td>No Credit (Practical Nursing and Surgical Technology Clinical Only)</td>
</tr>
<tr>
<td>W</td>
<td>Withdrawn</td>
</tr>
</tbody>
</table>

A grade of "I" or incomplete means that the student has not completed all the requirements of the course. Please see the section "Incompletes, Withdrawal, and Failures" listed above for more information.

Each course syllabus describes what kind of work will be graded in the course (i.e. quizzes, projects, exams, assignments, etc.) and the weight that each category of work contributes to the final grade. For example:

25% = Final Project
20% = Lab Project
20% = Quizzes
20% = Assignments
15% = Attendance/Participation

Students doing unsatisfactory work or failing will be notified by the instructor and a progress report will be completed. Instructors and/or Washburn Tech advisors will meet with those students to assist them in making adjustments to the school/technical program or in changing their vocational objective. Each program establishes its own grading scale and guidelines regarding satisfactory progress within the program.

Grade Dispute

If students have questions about final grades assigned, they need to first address their concerns with the instructor within five school days after receiving official documentation of the grade(s). If the concern is not resolved at that level, students need to follow the grievance procedure outlined below.

Grievance Procedure

A student who has an academic or non-academic concern or complaint needs to follow these steps to address and resolve the issue:

1. The student shall first bring the issue informally to the attention of his/her program instructor within five school days after the concern was raised. Every effort must be made to resolve the concern at this level.
2. If, after every effort has been made to resolve the concern with the instructor, the student is not satisfied, the student may present a written grievance to the Assistant Dean and Director of Student Services within 30 days after the incident/issue that raised concern. The Assistant Dean and Director of Student Services will investigate the matter and render his/her decision within ten school days after receiving the written grievance. A written notice of the decision will be mailed to the student.
3. If the student wants to appeal the decision of the Assistant Dean and Director of Student Services, he/she must file a written appeal within five school days to the Dean of Washburn Tech. The Dean will render a decision on the grievance within five school days of the filing. A written notice of the decision will be mailed to the student.
4. The decision of the Dean will be final.
5. Note: Health Occupations students with issues or concerns not resolved at the classroom level, will take those issues/concerns to the Director of Practical Nursing and Health Occupations before coming to the Assistant Dean and Director of Student Services.
6. Note: If the appeal is regarding dismissal from a program, the student may remain in class during the appeal process unless the student poses a risk to self or others.

Authorized Academic Load

The maximum number of credit hours permitted for technical students is 26 credit hours per semester. Students who are taking courses on both the University campus and the technical campus are limited to 20 credit hours. Correspondence, extension, online, and evening courses taken concurrently are counted as a part of the total load. For summer sessions, the maximum number of hours permitted on the technical campus is 12. Superior students may petition the Assistant Dean for Instruction permission to enroll in more credits hours in a given semester. Superior students are students with a GPA greater than 3.0.

Washburn Tech students enroll into programs, which consist of a series of block-scheduled courses. Students may be part-time or full-time, and attend part-day or full-day. The academic load varies based on this enrollment status.

1.a. Part-day students may carry an academic load of 1-17 credit hours per semester, while full-day students may carry an academic load of 18-26 credit hours per semester, depending on their program of study.
1.b. Exceptions to this policy will only be granted by the Dean of the college. To obtain an exception, the student must submit a request in writing to the Dean (include student’s full name, WIN number, and name of program) at least four weeks prior to the beginning of the next semester, so that a decision can be made prior to the first day of the semester.

Administrative Withdrawal

(See Tuition, Fees and Financial Aid Section (p. 23))

Transcripts

A transcript is an official copy of a student’s permanent academic record. Official transcripts are available from the Washburn Tech Student Services Office. Each transcript costs $5.00. A Transcript Request form must be completed and the fee must be paid in advance. A transcript request will not be processed for students who have financial or other obligations to Washburn Tech. Because a transcript contains confidential information, it cannot be released to anyone without the written request from the student. Any individual acting on behalf of the student with regard to requesting a transcript must have written authorization from the student and will be required to show photo identification. Students who are pursuing their education at Washburn...
University do not need to request a transcript as the information is available through the Student Information System shared by both campuses.

Transcripts may be requested in person upon showing some form of photo identification at Washburn Tech's Student Services Office. Any transcript mailed, or faxed to, or picked up by the student will be marked "Issued to Student."

The Transcript Request form may be obtained by printing it after accessing the Washburn Tech website: https://washburntech.edu/admissions/registrar.html. The Transcript Request form may be returned to the Washburn Tech Student Services Office by mail, fax, or in person.

Current students may view their academic records via the web through their my.washburn.edu (http://my.washburn.edu) account.

Family Educational Rights and Privacy Act (FERPA)

Policy, Procedure, and Records

Washburn University and Washburn Tech maintain various student records to document academic work and to record interactions with University staff and officials. The Family Educational Rights and Privacy Act of 1974 (FERPA) was enacted to protect each student's right to privacy and to provide each student the right to inspect and review his/her education records. This Act is also commonly known as the Buckley Amendment. A notice of this policy is published each semester/term in the Registration Information Guide and by email each semester to all students. For purposes of FERPA, “student” is defined as an individual who is or has been in attendance at Washburn University or Washburn Tech. An individual is considered “in attendance” on the day classes begin of the term a student is first enrolled.

Under the Family Educational Rights and Privacy Act, when a child turns 18 or attends a postsecondary institution, (if that happens first) all rights of the parents transfer to the student. It is the policy of Washburn Tech to assure equal educational and employment opportunity to qualified individuals without regard to race, color, sex, religion, age, national origin, ancestry, disability, marital or parental status or sexual orientation/gender identity, or other factors prohibited by law. Direct questions or concerns to Marc B. Fried, University Counsel, Morgan Hall, Room 208, 1700 SW College Ave., Topeka KS 66621, 785-670-1712, marc.fried@washburn.edu (marc.fried@washburn.edu)

Disclosure for Staff and Administration of Washburn Tech and Consortium (Sending) High School

Washburn Tech discloses directory information and academic records without written consent of students to those designated school officials at Washburn Tech and the secondary consortium (sending) institutions who have a legitimate educational interest.

Disclosure to Parents

Students may share their education records with parents at their own discretion. Academic records may be provided to parents who make the request directly to the institution upon:

Obtaining and providing the student's written consent, or, establishing the student's dependency as defined by the Internal Revenue Code of 1954, Section 152.

Directory Information

In accordance with the Family Educational Rights and Privacy Act of 1974 (FERPA), the University may release to the general public certain information about the student which has been identified by the institution as directory information. The following items are considered directory information at Washburn University and Washburn Tech: student's name, photo, current address and phone number, permanent address and phone number, university assigned e-mail address, classification status (i.e. freshman, sophomore, etc.), major field of study, dates of attendance, honors and awards received, degrees and certificates received and dates awarded, enrollment level and status (full-time, half-time, less than half-time, undergraduate or graduate), most recent educational institution attended, participation in officially recognized activities and sports and height and weight of members of athletic teams.

Washburn Tech students may “opt out” of the disclosure of directory information by completing a form in the Student Services Office. If a student “opts out”, neither the University nor Washburn Tech will disclose directory information without the student’s written consent. The “opt out” will remain in effect until the student submits a written revocation.

Types, Custodians, and Locations of Education Records

With the exception of Directory Information as described above, student records are considered to be confidential. Only the custodians of the records, their designee, or their director/dean/vice president to whom that person reports has the authority to release the record. The following is a list of the types of records that the Washburn Tech maintains, their custodians, and their locations.

Official Academic Records: University Registrar's Office or Washburn Tech Student Services and Admissions Office
Academic Records: Program Instructors and/or Student Services and Admissions Office
Academic Impropriety Records: Assistant Dean and Director of Student Services
Admissions Records: Student Services and Admissions Office
Business Records: Business Office
Career Services: Student Services and Admissions Office
Testing and Placement Records: Student Services and Admissions Office
Financial Aid Records: Financial Aid Office
Student Disciplinary Records: Student Services and Admissions Office
Traffic and Security Records: Chief of Police, Washburn University
Veteran Records: Financial Aid Office

Student Access to Education Records

Students may inspect, review and/or receive copies of their education records upon written request to the appropriate record custodian with the exceptions noted below. The written request submitted to the record
custodian (Records Administrator at Washburn Tech) or appropriate staff should identify as precisely as possible the record or records he or she wishes to inspect. The record custodian or appropriate staff must comply within a reasonable period of time, not to exceed 45 days from the receipt of the request. Copies of records accessible to the student will be provided at the student’s expense. The charge to the student for any such records is 25 cents per page.

When a record contains information about more than one student, the student may inspect and review only the records which relate to him or her. If any question arises as to the identity of the requesting student, the student shall be asked to provide photo identification.

Washburn Tech reserves the right to refuse to permit a student to inspect or have access to the following records:

1. The financial statement of the student’s parents.
2. Letters and statements of recommendation for which the student has waived his or her right of access, or which were placed in file before January 1, 1975.
3. Records connected with an application to attend Washburn University or Washburn Tech, or a component unit of Washburn University or Washburn Tech if that application was denied.
4. Medical and counseling records. These records may be released, however, to other medical or psychological professionals at the written request of the student; and may be inspected by the patient at the discretion of the professional staff.
5. Law enforcement records.
6. Private notes of staff, faculty, and administrators.
7. Official transcripts of credit earned at other institutions which have been presented for admission or evaluation of credit and have become a part of the student’s permanent record are not reissued or duplicated. Transcripts from other institutions, including the high school transcript and test scores, should be obtained from the original institution.
8. When a student is delinquent in a financial account to the University or Washburn Tech, has incomplete admission credentials, or about whom official disciplinary action has not been resolved, the appropriate university official may request that the student’s record not be released. The effect of this action is that grade reports, transcripts, and diplomas/certificates are not released. In addition to these documents not being released, registration and enrollment at Washburn University or Washburn Tech in subsequent semesters is not permitted.

Disclosure of Education Records or Personally Identifiable Information

The University will obtain written consent from the student before disclosing records or personally identifiable information from education records of the student, except in the cases of:

1. Directory Information, unless a student “opts out,” as defined and explained above.
2. School officials who have a legitimate educational interest in the records. A school official is: A person employed by the University in an administrative, supervisory, academic or research or support staff position.
3. A person employed by or under contract to the University to perform a special task, such as an attorney or auditor.
4. A student serving on an official committee, such as disciplinary or grievance committee.
5. A student employed by the university (through financial aid or departmental/administrative office) who assists another school official in performing his or her tasks.
6. A person serving on the Board of Regents.
7. A school official has a legitimate educational interest if the need to review an education record is in order to fulfill his or her professional responsibilities for the University.
8. Officials of another school in which a student seeks or intends to enroll.
9. Authorized representatives of the Comptroller General of the U.S., Attorney General of the U.S., the Federal Secretary of Education, or state or local education authorities in connection with an audit of federal or state-supported education programs or with the enforcement of or compliance with federal legal requirements related to those programs.
10. Financial aid personnel in connection with a student’s application for or receipt of financial aid as necessary to determine the eligibility, amount, or conditions of the financial aid, or to enforce the terms and conditions of the aid.
11. Organizations conducting certain studies for or on behalf of the University.
12. Accreditors to carry out their functions.
13. An outside consultant, consultant, or other party who is acting for the University to perform a service or function that the University would otherwise have to perform for itself.
14. Authorities to comply with a judicial order or a lawfully issued subpoena.
15. Appropriate parties in a health or safety emergency if necessary to protect the health or safety of the student or other individuals.
16. The final results of any disciplinary proceeding conducted by the University to the alleged victim of a crime of violence or non-forcible sex offense.
17. To a court in the context of a lawsuit between a student and the institution.
18. To parents of a student under 21 of a drug or alcohol violation.
19. To an outside contractor, consultant, or other party who is acting for the University to perform a service or function that the University would otherwise have to perform for itself.
20. To a court in the context of a lawsuit between a student and the institution.

Notice to Third Parties

The University must inform the parties to whom a student’s education record or personally identifiable information is given that they are not

• University Police Personnel will attempt to verify the identity of the person requesting information and the emergency situation. The class schedule will not be released to the requesting individual, but a police officer will attempt to contact the student directly.
• A record of each disclosure request must be made and maintained. The record should include the name and address of the requestor, date and time of request, and the nature of the emergency situation. These records of requests are considered part of the student’s educational record.
permitted to disclose that information to another person (third party) without the written consent of the student and that the information is to be used only for the purpose(s) intended. Persons who receive a student’s education record or personally identifiable information about the student may disclose such information to other persons only if the name of the additional persons and the legitimate interest of such persons is provided as a part of the original request.

Maintaining Education Records and Records of Requests and Disclosures

Each office that maintains education records shall adopt its own policy with regard to destruction of education records. No education record, however, may be destroyed if there is an outstanding request to inspect and review the record. Also, the record of requests for the disclosures of the education record and any explanation that are a part of the record must be maintained for as long as the education record to which it pertains is maintained.

Washburn University and Washburn Tech officials responsible for the various types of records will maintain a record of all requests for disclosure of information from a student’s education records. The record will indicate the name of the party making the request, any additional party to whom it may be re-disclosed, and the legitimate interest the party had in requesting or obtaining the information. The record of request is open to inspection of the student.

Records of requests and disclosures may not be maintained or may be maintained for only a limited time for:

1. requests made by the student him/herself;
2. requests for which the student has given written consent;
3. requests made by school officials with legitimate education interests;
4. requests for directory information; or
5. disclosures to comply with a judicial order or lawfully issued subpoena.

Student’s Right to Challenge Information Contained in Education Records

Students have the right to challenge the content of an education record that they believe inaccurate, misleading, or in violation of their privacy rights. No hearing under this policy shall be granted for challenging the underlying basis for a grade; however, the accuracy of its recording could be challenged. Following are procedures for challenging the content of education records:

A student must ask the appropriate school official to change or modify the record by identifying the part of the record they want changed and specify why the information is inappropriate.

After researching the request, the Washburn University or Washburn Tech official may comply with the request and make the changes wanted in a reasonable time. If the school official decides not to comply, the student will be notified in writing of the decision and advised of his/her right to a hearing to challenge the information believed to be inappropriate.

All requests for a formal hearing by the student shall be directed to the appropriate Area Head and shall contain a concise written statement of the specific facts constituting the student’s claim.

The hearing will be conducted by a hearing officer who is a Washburn Tech staff member but who does not have a direct interest in the outcome of the challenge and who shall be appointed by the appropriate Area Head or his/her designee. The hearing shall be held within a reasonable time of receipt of the student's request and the student shall be notified reasonably in advance by the hearing officer of the date, place and time of the hearing.

At the hearing, the student shall be afforded a full and fair opportunity to present evidence relevant to his/her claim and may, at his or her expense, receive assistance from any individuals of his/her choice.

The hearing officer shall make a written recommendation to the appropriate Area Head with written findings of facts concerning the student’s request within ten working days of the hearing. The appropriate Area Head or his/her designee shall notify the student in writing of the decision within an additional fourteen working days of receipt of the hearing officer’s report. The decision must include a summary of the evidence and the reasons for the decisions.

If the appropriate Area Head is adverse to the student’s request, the student will be notified that he/she has a right to place in the record a statement commenting on the challenged information and/or a statement setting forth reasons for disagreeing with the decision.

The statement will be maintained as a part of the student’s education records as long as the contested portion is maintained. If Washburn University or Washburn Tech discloses the contested portion of the record, it must also disclose the student’s summary statement.

If the student’s challenge to the content of a given record is successful, the University shall amend the education record accordingly and so inform the student in writing.

Complaints

A student who believes the Washburn University or Washburn Tech has not complied with federal law or regulations should check first with the office involved or the Area Head to which it reports. If the student wishes to file a complaint with the federal government concerning the University’s failure to comply with the Privacy Act, he/she may send a written complaint to The Family Policy Compliance Office, 400 Maryland Avenue, S.W., Washington, D.C. 20202.

Questions

Questions regarding FERPA at Washburn Tech may be directed to the University Registrar, 102 Morgan Hall, 785-670-1074 or the Assistant Dean and Director of Student Services, Building A, Ste AC 117, 785-670-3357.

Programs, Technical Certificates and Graduation Requirements

- Certificate Programs (p. 35)
  - Advanced Systems Technology (Industrial Machine Mechanic) (p. 35)
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  - Automotive Technology (p. 40)
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Advanced Systems Technology (Industrial Machine Mechanic)

The Advanced Systems Technology program prepares individuals to apply technical knowledge and skills to repair and maintain industrial machinery and equipment such as pumps, electric motors, conveyor systems, and production machinery. Instruction includes electrical theory, wiring, motor controls, 3-Phase/Single Phase/DC motors, blueprint reading, programmable logic controllers (PLC), hydraulics and pneumatics, mechanical systems, welding, machining, and robotics. This program will offer students preparation to test for the industry-recognized credentials listed below.

Program Information

- Required Math Score: Level 6*
- Required Reading Score: Level 5
- Program Start (semesters): August; January
- Financial Aid available (for post-secondary students only): Yes
- Veteran Benefits Eligible (for post-secondary students only): Yes
- Industry-recognized credentials: OSHA

*May enroll with a 5 in math, but will need to take an extra math course.

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<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Hours</th>
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<tbody>
<tr>
<td>IND 104</td>
<td>Basic Electricity I</td>
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<tr>
<td>IND 152</td>
<td>Electrical Control Systems I</td>
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<td>MAT 102</td>
<td>Technical Math II</td>
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<td>IND 112</td>
<td>Fluid Power I</td>
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<td>IND 207</td>
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<td>IND 105</td>
<td>OSHA - 10 Hr Gen Industry Cert</td>
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<td>IND 127</td>
<td>Mechanical Systems</td>
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<td>IND 147</td>
<td>Mechanical Systems Reliability</td>
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</tr>
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<td>IND 204</td>
<td>Electrical Control Systems II</td>
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</tr>
<tr>
<td>IND 213</td>
<td>Advanced ECS</td>
<td>3</td>
</tr>
<tr>
<td>IND 247</td>
<td>Industrial Process Control</td>
<td>3</td>
</tr>
</tbody>
</table>
IND 103 OSHA 10-Hr Healthcare (1)
Safety Orientation/OSHA 10 provides the student with an overview of the OSHA standards relevant to the construction industry. Various topics are presented in a 15-hour format. Among the subjects covered in the course are: an introduction to OSHA, electrical safety, fall protection, and excavation and trenching safety.

IND 104 Basic Electricity I (3)
This course is an introduction to electricity, basic electrical components and their characteristics, circuit schematics and basic analysis of series and parallel DC circuits. Hands-on labs help guide student learners to assimilate this material.

IND 105 OSHA - 10 Hr Gen Industry Cert (1)
This course is offered in an online or face-to-face format. For the online course, all course activities are completed through an interactive self-paced website. In the face-to-face format, a variety of classroom and/or lab learning and assessment activities are used to present the material. In both formats students in this course will: explain job/site safety and precautions for job/site hazards; determine the uses of personal protective equipment (PPE); identify the safety equipment and procedures related to safe work practices and environment; identify fire prevention and protection techniques; explore Hazardous Communications (HazCom) including Material Safety Data Sheets (MSDS).

IND 107 OSHA - 10 Hour Const Ind Cert (1)
This course provides the student with an overview of the OSHA standards relevant to the construction industry. Various topics are presented in a 10-hour format. Among the subjects covered in the course are: an introduction to OSHA, electrical safety, fall protection, excavation and trenching safety.

IND 108 Mechanical Systems I (3)
This course provides understanding of mechanical energy transmission concepts along with lab experience to operate, install, analyze performance, and design basic mechanical transmission systems using chains, v-belts and spur gears. Students also learn to safely move loads of different shapes and sizes using a variety of methods.

IND 109 OSHA - 30 Hour Const Ind Cert (2)
Students will learn basic OSHA regulations and safety. The students will also learn how to read the OSHA manual properly. The course will stress the importance of personal protective equipment; fall protection, hazard recognition and other topics connect to on the job site safety. The course will also provide the student with an understanding of current safety regulation, established safety practices, and the impact of behavior and environment on injury prevention.

IND 111 OSHA - 30 Hour Const Ind Cert (3)
This course provides an overview of the Occupational Safety and Health Administration Construction Training Topics. This course is intended to provide entry level construction workers a broad awareness on recognizing and preventing hazards on a construction site. This course will also address real world challenges that electrical workers face on a daily basis. It will introduce avoiding oversights that could result in shock and arc flash accidents. The material presented will emphasize the rules specified by the National Fire Protection Association (NFPA) using NFPA 70E standards. After taking this course, students will be able to take the arc flash certification test.

IND 112 Fluid Power I (3)
This course provides fundamentals of pneumatics, air compressors, control valves, pneumatic cylinders, and electro-pneumatic controls; and basic pump principles, centrifugal pumps, magnetic drive pumps, diaphragm pumps, metering pumps and pump seals. Students learn how to operate, install, troubleshoot, analyze performance, and design basic pneumatic systems and pump systems.

IND 115 ARC Flash (1)
This course will address real world challenges that electrical workers face on a daily basis. It will introduce avoiding oversights that could result in shock and arc-flash accidents. The material presented will emphasize the rules specified by the National Fire Protection Association (NFPA) using the NFPA 70E standards. The delivery method will include videos of real accidents due to arc flash in the manufacturing environment. It will cover first-time coverage of direct current (DC) shock protection boundaries, hazard and risk categories for specific electrical tasks such as full-head protection against arc flash by eliminating the second task designation protocol stated by the NFPA. After taking this course, students will be able to take the arc flash certification test.

IND 116 Lathe/Mill/Grind for I.M. (3)
This course covers fundamental manual machine operator skills and basic precision measuring techniques. Specific course topics include machines, tools and measurements to produce an end product. Participants work independently and as small teams in completing the hands-on lab activities.

IND 127 Mechanical Systems (3)
This course provides understanding of mechanical energy transmission concepts along with lab experience to operate, install, analyze performance, and design basic mechanical transmission systems using chains, v-belts and spur gears. Students also learn how to safely move loads of different shapes and sizes using a variety of methods.

IND 144 Basic Electricity II (3)
This course provides understanding of analysis of series and parallel DC and AC circuits; combination of resistive, inductive and capacitive circuits and industrial applications of these circuits. Hands-on labs help guide student learners to assimilate this material.

IND 146 Industrial Welding Basics (3)
This course introduces basic concepts of Industrial welding. Hands-on lab activities are provided for the participant to apply knowledge and develop skills in the following areas: Shop Safety, basics into GMAW and GTAW welding. Participants will work independently and as small teams in completing the lab activities.
IND 147 Mechanical Systems Reliability (3)
This course provides understanding of mechanical energy transmission concepts along with lab experience to operate, install, analyze performance, and design mechanical drive systems using right angle gears, bearings and couplings. Students learn how to setup and operate laser shaft alignment and apply vibration analysis to various power transmission systems. Prerequisite/Corequisite: Mechanical Systems or consent of instructor.

IND 148 Mechanical Systems II (3)
This course provides understanding of mechanical energy transmission concepts along with lab experience to operate, install, analyze performance, and design mechanical drive systems using right angle gears, bearings and couplings. Students learn how to setup and operate laser shaft alignment and apply vibration analysis to various power transmission systems.

IND 152 Electrical Control Systems I (3)
This course is an introduction to electrical control systems with focus on control devices, electric motors, manual/electric/magnetic motor control and overload/over current protection and monitoring. Lab experience helps develop skills to operate, install, design, and troubleshoot AC electric motor control circuits for various applications.

IND 156 Welding SMAW (3)
This course introduces basic concepts of general welding. Hands-on lab activities are provided for the participant to apply knowledge and develop skills in the following areas: Shop Safety, Cutting (oxy/acetylene) SMAW (Shielded Metal Arc Welding). Participants work independently and as small teams in completing the lab activities.

IND 204 Electrical Control Systems II (3)
This course provides an understanding of Reversing Motor Circuits, Solid State Devices and System Integration, Timing and Counting Functions, Relays and Solid State Starters, Sensing Devices and Controls. Hands-on labs help guide student learners to assimilate this material.

IND 207 Fluid Power II (2)
This course focuses on understanding of hydrodynamics, hydraulic principles, hydraulic circuitry and diagrams, piping, hydraulic valves and actuators, accumulators, hydraulic circuit maintenance and fluid maintenance. Students learn to operate, install, analyze performance, and design hydraulic and electrohydraulic systems. Prerequisite: Fluid Power I or consent of instructor.

IND 208 Fluid Power II (3)
This course focuses on understanding of hydrodynamics, hydraulic principles, hydraulic circuitry and diagrams, piping, hydraulic valves and actuators, accumulators, hydraulic circuit maintenance and fluid maintenance. Students learn to operate, install, analyze performance, and design hydraulic and electrohydraulic systems.

IND 212 Electrical Control Systems III (3)
This course focuses on motion and position control systems; servo motors and servo system feedback devices. Hands on labs help develop skills to operate, install, tune, and troubleshoot major types of AC and DC drives.

IND 213 Advanced ECS (3)
This course focuses on motion and position control systems; servo motors and servo system feedback devices. Hands on labs help develop skills to operate, install, tune, and troubleshoot major types of AC and DC drives. Prerequisite: IND152 or consent of instructor.

IND 216 Prog Logic Controllers I (3)
This course is an introduction to programmable logic controllers and PLC control of analog input and output devices. The course covers basic PLC programming and troubleshooting with live devices and their use in industrial, commercial, and residential applications.

IND 217 Indus Prog Logic Controllers (3)
This course is an introduction to programmable logic controllers (PLCs) and PLC control of analog input and output devices. The course covers basic PLC programming and troubleshooting with live devices and their use in industrial, commercial, and residential applications. Prerequisites/Corequisites: Electrical Control Systems II, Fluid Power I, or consent of instructor.

IND 223 Commercial & Industrial Wiring (3)
This course covers the routing, labeling, and the installation of wiring and components in an electrical control panel as well as wiring electric motors and external devices. This course also includes basic conduit bending and installation, selecting wire for an application, soldering, running network cables, and learning techniques to keep wiring and control panels tidy and organized.

IND 244 Process Control (3)
This course provides understanding of different types of process control systems like temperature, flow and level control. The course includes process control principles, thermocouples, RTD’s, temperature measurement devices, On/Off temperature controllers, programmable process heat controllers, transmitters, process loop test equipment and final control elements. Using this information students learn to construct, test and operate systems found in industrial applications.

IND 247 Industrial Process Control (3)
This course provides understanding of different types of process control systems like temperature, flow and level control. The course includes process control principles, thermocouples, RTD’s, temperature measurement devices, On/Off temperature controllers, programmable process heat controllers, transmitters, process loop test equipment and final control elements. Using this information students learn to construct, test and operate systems found in industrial applications. Prerequisites: Electrical Control Systems I, Fluid Power II, or consent of instructor.

IND 252 Robotics I (3)
This course is an introduction to robotics which provides an understanding of basic robotics principles, parts of robots, degrees of freedom, programming methods and languages. Students learn to home a robot, test teach points, construct flow charts and design simple robot programs for different applications.

IND 256 Robotics II (3)
This course builds on the knowledge gained in ‘Robotics I’ and focuses on sensors, end effectors, control systems and maintenance. Students learn advanced commands and operators, create simulation objects, configure objects and design work cells.

Automotive Collision & Repair
The Automotive Collision & Repair Program conducts state-of-the-art academic and hands-on training known as I-CAR (Inter-Industry Conference on Auto Collision Repair). This Enhanced Delivery Curriculum is utilized to meet or exceed the industry standards, providing highly-qualified employees for entry-level positions in all categories of the profession. Students will learn to use modern hand and power tools and equipment and computer-estimating software, and will handle typical collision repair tasks. The industry demands continuous learning due to
Certificate Requirements

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Hours</th>
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<tr>
<td>CLR 100</td>
<td>Orientation/Safety</td>
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<tr>
<td>CLR 121</td>
<td>Non-Structural A&amp;D Repair 1</td>
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<td>CLR 131</td>
<td>Structural A&amp;D Repair 1</td>
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<td>CLR 141</td>
<td>Paint &amp; Refinishing 1</td>
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<td>CLR 151</td>
<td>Mechanical &amp; Electrical</td>
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<td>CLR 126</td>
<td>Non-Structural A&amp;D Repair 2</td>
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<td>CLR 142</td>
<td>Paint &amp; Refinishing 2</td>
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<td>CLR 112</td>
<td>Estimate/Damage 1</td>
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<tr>
<td>CLR 162</td>
<td>Workplace Skills</td>
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<td>CLR 236</td>
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<td>CLR 246</td>
<td>Paint &amp; Refinishing 3</td>
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<td>CLR 202</td>
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<td>CLR 253</td>
<td>Mechanical &amp; Electrical</td>
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<td>CLR 238</td>
<td>Structural A&amp;D Repair 4</td>
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<tr>
<td>CLR 248</td>
<td>Paint &amp; Refinishing 4</td>
<td>4</td>
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<tr>
<td><strong>Total Hours</strong></td>
<td></td>
<td><strong>51</strong></td>
</tr>
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</table>

CLR 100 Orientation/Safety (1)

This course introduces the student to basic and industry specific safety skills that is an ongoing education. Topics include: Personal Protective Equipment (PPE), first aid, dress code, safety implications, Material Safety Data Sheets (MSDS), procedures of handling dangerous materials, Pollution Prevention and Environmental Safety (SP2), shop safety, introduction to tools/equipment, and safety of tools/equipment. When other tools/equipment is introduced, additional safety procedures will be covered in the course. No student will be allowed to operate or be in the area of operating machines until the student has successfully completed (96%) the initial safety test. Students are expected to observe and comply with all safety rules and regulations.

CLR 111 Estimate/Damage I (2)

Through a variety of classroom and/or lab/shop learning and assessment activities, students in this course will explore the components of analyzing damage pertaining to auto collision and repair; demonstrate basic estimating to identify structural repairs required, part design, construction materials, and manufacturing processes.

CLR 112 Estimate/Damage I (1)

Through a variety of classroom and/or shop/lab learning and assessment activities, students in this course will explore the components of analyzing damage pertaining to auto collision and repair; demonstrate basic estimating to identify structural repairs required, part design, construction materials, and manufacturing processes.

CLR 121 Non-Structural A&D Repair 1 (4)

Through a variety of classroom and/or shop/lab learning and assessment activities, students in this course will explore the components of analyzing damage pertaining to auto collision and repair; explore the parts and construction of vehicles, explore opportunities in the auto collision industry, identify metal straightening techniques, identify the application and use of body fillers, demonstrate proper use, set-up and storage of welding equipment, distinguish between weld able and non-weld able materials, demonstrate fundamental industry standard recommended welds, identify plastics and adhesives used in automotive industry, explain the general purpose of damage, estimation and repair orders; explore the processes required for outer body panel repairs, replacements and adjustments, and demonstrate fundamental cutting procedures.

CLR 126 Non-Structural A&D Repair 2 (4)

Through a variety of classroom and/or shop/lab learning and assessment activities, students in this course will explore the components of analyzing damage pertaining to auto collision and repair; perform outer body panel repairs, perform outer body replacements and adjustments; perform metal straightening techniques, perform body filling techniques, perform metal finishing techniques, use welding procedures in non-structural damage repair, distinguish between mechanical and electrical components, apply safety standards for the collision repair industry, use cutting procedures in non-structural damage repair, and determine procedures necessary for working with plastics and adhesives.

CLR 131 Structural A&D Repair 1 (2)

Through a variety of classroom and/or lab/shop learning and assessment activities, students in this course will identify trim and hardware to be protected, examine what to consider when working with movable glass, perform outer body panel repairs, perform outer body replacements and adjustments; perform metal straightening techniques, perform body filling techniques, perform metal finishing techniques, use welding procedures in non-structural damage repair, distinguish between structural and environmental safety (SP2), shop safety, introduction to tools/equipment, and safety of tools/equipment. When other tools/equipment is introduced, additional safety procedures will be covered in the course. No student will be allowed to operate or be in the area of operating machines until the student has successfully completed (96%) the initial safety test. Students are expected to observe and comply with all safety rules and regulations.

CLR 132 Structural A&D Repair 2 (2)

Through a variety of classroom and/or lab/shop learning and assessment activities, students in this course will analyze frame repair, determine direct and indirect damage for structural repair, analyze unibody inspection and measurement, and identify procedures of welding for structural repair.
CLR 141 Paint & Refinishing 1 (3)
Through a variety of classroom and/or lab/shop learning and assessment activities, students in this course will identify safety and personal health hazards according to OSHA guidelines and the "Right to Know" law, determine the different types of substrates and sanding materials relevant to auto body surface preparation, identify the process to clean and prepare a substrate for paint; distinguish between the properties, uses, and manufacturer specifications of metal treatments and primers, distinguish among the various types of spray guns and equipment; explore various paint codes and specifications for use, identify the various paint systems, explore the types of paint defects, distinguish between damage and non-damage related corrosion, and identify final detail procedures.

CLR 142 Paint & Refinishing 2 (3)
Through a variety of classroom and/or lab/shop learning and assessment activities, students in this course will select proper personal protective equipment, perform proper shop operations according to OSHA guidelines, remove paint coatings, apply corrosion resistant coatings, demonstrate proper spray gun operation and cleaning procedures, select proper painting and substrate materials for projects, analyze paint defects, causes and cures, repair paint defects, measure paint mil thickness, and determine final detail procedures for given projects.

CLR 151 Mechanical & Electrical (3)
Through classroom and/or lab/shop learning and assessment activities, students will determine how to diagnose steering and suspension, diagnose electrical concerns, complete head lamp and fog/driving lamp assemblies and repairs, demonstrate self-grounding procedures for handling electronic components, determine diagnosis, inspection, and service needs for brake system hydraulic components, examine components of heating and air conditioning systems, determine the inspection, service, and repair needs for collision damaged cooling system components, distinguish between the under car components and systems, and determine the diagnosis, inspection, and service requirements of active and passive restraint systems.

CLR 161 Workplace Skills 1 (1)
This course utilizes KeyTrain Software to assist in advancement of knowledge in Applied Math, Reading for Information, and Locating Information Work Keys assessments that are required prior to exiting the program. Students will also be required to attend seminars provided through the Career Resource Center. Seminar topics include interview techniques, developing and preparing a resume, completing job applications, ethics, and teamwork.

CLR 162 Workplace Skills (1)
This course utilizes KeyTrain Software to assist in reinforcing applied math and reading skills in preparation for the WorkKeys assessment, given prior to exiting the program. Students are encouraged to take the Locating Information WorkKeys exam as well, the third test needed to be eligible to earn a WorkReady Certificate. Students may also be required to attend seminars presented on campus dealing with topics such as interview techniques, developing and preparing a resume, completing job applications, ethics, and teamwork.

CLR 201 Estimate/Damage 2 (1)
Through a variety of classroom and/or lab/shop learning and assessment activities, students in this course will expand their knowledge and performance to explore the advanced components of analyzing damage pertaining to auto collision and repair, demonstrate a complete estimate to identify structural repairs required, part design, construction materials, and manufacturing processes.

CLR 202 Estimate/Damage 2 (2)
Through a variety of classroom and/or shop/lab learning and assessment activities, students in this course will expand their knowledge and performance to explore the advanced components of analyzing damage pertaining to auto collision and repair; demonstrate a complete estimate to identify structural repairs required, part design, construction materials, and manufacturing processes. Prerequisite: Estimate/Damage 1.

CLR 221 Non-Structural A&D Repair 3 (4)
Through a variety of classroom and/or lab/shop learning and assessment activities, students in this course will remove and install trim and hardware, determine process and procedures necessary for movable glass repair, repair outer body panel, replace and adjust outer body panels, remove and install mechanical and electrical components, demonstrate safety protocol appropriate for the auto repair setting, perform intermediate welding skills on non-structural damage repairs, and perform plastic and adhesive repairs.

CLR 226 Non-Structural A&D Repair 4 (5)
Through a variety of classroom and lab/shop learning and assessment activities, students in this course will apply safety requirements pertaining to structural damage repair, perform advanced welding and cutting techniques for structural repair, perform inspection and measurement of unibody for structural repair, repair unibody direct and indirect damage, perform frame inspection and measurement procedures, repair frame to industry standards, and remove and install fixed glass.

CLR 236 Structural A&D Repair 3 (3)
Through a variety of classroom and/or shop learning and assessment activities, students in this course will apply safety requirements pertaining to structural damage repair, perform welding and cutting techniques for structural repair; diagnose unibody direct and indirect damage, apply unibody inspection and measurement procedures, apply unibody repair procedures, apply frame inspection and measurement procedures, apply frame repair procedures, and remove fixed glass.

CLR 238 Structural A&D Repair 4 (3)
Through a variety of classroom and lab/shop learning and assessment activities, students in this course will apply safety requirements pertaining to structural damage repair, perform advanced welding and cutting techniques for structural repair, perform inspection and measurement of unibody for structural repair, repair unibody direct and indirect damage, perform frame inspection and measurement procedures, repair frame to industry standards, and remove and install fixed glass.

CLR 246 Paint & Refinishing 3 (3)
Through a variety of learning and/or lab/shop learning and assessment activities, students in this course will identify safety and personal health hazards according to OSHA guidelines and the "Right to Know" law, determine the different types of substrates and sanding materials relevant to auto body surface preparation, identify the process to clean and prepare a substrate for paint, distinguish between the properties, uses and manufacturer specifications of metal treatments and primers, distinguish among the various types of spray guns and equipment, explore various paint codes and specifications for use, identify the various paint systems, explore the types of paint defects, distinguish between damage and non-damage related corrosion, and identify final detail procedures.
CLR 248 Paint & Refinishing 4 (4)

Through a variety of classroom and/or lab/shop learning and assessment activities, students will advance knowledge and skills to determine how to diagnose steering and suspension, diagnose electrical concerns, complete headlamp and fog/driving lamp assemblies and repairs, demonstrate self-grounding procedures for handling electronic components, determine diagnosis, inspection and service needs for brake system hydraulic components, examine components of heating and air conditioning systems, determine the inspection, service and repair needs for collision damaged cooling system components, distinguish between the under car components and systems, and determine the diagnosis, inspection and service requirements of active and passive restraint systems.

CLR 251 Mechanical & Electrical 2 (1)

Through classroom and/or lab/shop learning and assessment activities, students will advance knowledge and skills to determine how to diagnose steering and suspension, diagnose electrical concerns, complete headlamp and fog/driving lamp assemblies and repairs, demonstrate self-grounding procedures for handling electronic components, determine diagnosis, inspection and service needs for brake system hydraulic components, examine components of heating and air conditioning systems, determine the inspection, service and repair needs for collision damaged cooling system components, distinguish between the under car components and systems, and determine the diagnosis, inspection and service requirements of active and passive restraint systems.

Prerequisite: Mechanical & Electrical 1.

CLR 252 Mechanical & Electrical 2 (2)

Through classroom and/or lab/shop learning and assessment activities, students will advance knowledge and skills to determine how to diagnose steering and suspension; diagnose electrical concerns; complete headlamp and fog/driving lamp assemblies and repairs; demonstrate self-grounding procedures for handling electronic components; determine diagnosis; inspection and service needs for brake system hydraulic components; examine components of heating and air conditioning systems; determine the inspection, service and repair needs for collision damaged cooling system components; distinguish between the under car components and systems; and determine the diagnosis, inspection and service requirements of active and passive restraint systems.

Prerequisite: Mechanical & Electrical 1.

CLR 253 Mechanical & Electrical 2 (3)

Through classroom and/or lab/shop learning and assessment activities, students will advance knowledge and skills to determine how to diagnose steering and suspension, diagnose electrical concerns, complete headlamp and fog/driving lamp assemblies and repairs, demonstrate self-grounding procedures for handling electronic components, determine diagnosis, inspection and service needs for brake system hydraulic components, examine components of heating and air conditioning systems, determine the inspection, service and repair needs for collision damaged cooling system components, distinguish between the under car components and systems, and determine the diagnosis, inspection and service requirements of active and passive restraint systems.

Prerequisite: CLR151

CLR 261 Workplace Skills 2 (1)

This course is the final preparation for the exit assessment by using Key Train software for Applied Math, Reading for Information, and Locating Information. A student will be required to attend remaining seminars that were not attended in Workplace Skills I through the Career Resource Center.

Automotive Technology

The Automotive Technology program offers students a well-equipped modern facility with a fleet of late-model vehicles. Content includes the major systems on domestic, European, and Asian vehicles. Completion of the program prepares students for entry level positions as automotive technicians. The Washburn Tech Automotive Technology program is certified by the National Technicians Education Foundation (NATEF), an affiliate of the National Institute for Automotive Service Excellence (ASE). NATEF certification signifies that the program meets uniform national standards for instructional facilities, equipment, staff credentials, and curriculum. This program will offer students preparation to test for the industry-recognized credentials listed below.

Program Information

- Required Math Score: Level 4
- Required Reading Score: Level 4
- Program Start (semesters): August; January
- Financial Aid available (for post-secondary students only): Yes
- Veteran Benefits Eligible (for post-secondary students only): Yes
- Industry-recognized credentials: ASE Brakes; ASE Engine Performance; ASE Electrical/Electronic Systems; ASE Suspension & Steering; ASE Automatic Transmission/Transaxle; ASE Manual Drive Trains; ASE Engine Repair; ASE Heating & Air Conditioning

Certificate Requirements

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<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Hours</th>
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<tbody>
<tr>
<td>AUT 111</td>
<td>Engine Overhaul</td>
<td>3</td>
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<tr>
<td>AUT 165</td>
<td>Engine Mechanical Diagnosis</td>
<td>2</td>
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<tr>
<td>AUT 205</td>
<td>Auto Transmission/Transaxle I</td>
<td>2</td>
</tr>
<tr>
<td>AUT 130</td>
<td>Manual Transmission I</td>
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<tr>
<td>AUT 140</td>
<td>Suspension and Steering I</td>
<td>3</td>
</tr>
<tr>
<td>AUT 150</td>
<td>Brakes I</td>
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<tr>
<td>AUT 161</td>
<td>Electrical I</td>
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<tr>
<td>AUT 162</td>
<td>Electricity/Electronics I</td>
<td>2</td>
</tr>
<tr>
<td>AUT 170</td>
<td>Heating - Air Conditioning I</td>
<td>2</td>
</tr>
<tr>
<td>AUT 181</td>
<td>Engine Performance I</td>
<td>3</td>
</tr>
<tr>
<td>AUT 182</td>
<td>Engine Performance II</td>
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<tr>
<td>AUT 215</td>
<td>Auto Transmission/Transaxle II</td>
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<tr>
<td>AUT 230</td>
<td>Manual Transmission II</td>
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</tr>
<tr>
<td>AUT 145</td>
<td>Suspension and Steering II</td>
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</tr>
<tr>
<td>AUT 155</td>
<td>Brakes II</td>
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<tr>
<td>AUT 260</td>
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<td>AUT 270</td>
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<tr>
<td>AUT 281</td>
<td>Engine Performance III</td>
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Total Hours 52

AUT 111 Engine Overhaul (3)

Engine overhaul introduces the student to the concepts and skills necessary to diagnose and overhaul automotive engines. Areas covered in this class include introduction to specialty tools and their correct use, complete engine disassembly, inspection and measurement of internal components including heads, valve resurfacing, and proper fitting and reassembly of entire “long block”. Class time is divided between classroom and lab.
AUT 130 Manual Transmission I (2)
Manual Drive Train & Axles I is a basic introduction to the manual transmission found in the automotive industry. The course includes an introduction to the theory behind manual transmissions, identification of the different types of transmission and their components, and an introduction to the specialized tools used in servicing transmissions, synchronmesh transmissions, gear ratios found in different transmissions, an introduction to manual clutches and transfer cases, and drive shaft technology including CV joint and bearing replacement. Students will receive instruction that will assist them in taking the Automotive Service Excellence (ASE) exams after successfully completing the 1st and 2nd levels of the automotive technology program.

AUT 140 Suspension and Steering I (3)
Suspension & Steering I introduces automotive steering and suspension systems. The course includes hydraulic principles, bushing replacement, long and short arm diagnosis and replacement, parallelogram steering geometry diagnosis and repair, McPherson strut strip down and reft, and the effect of damping and rebound on the vehicle handling, spring design measuring, and replacement. Classroom time is divided between lecture, discussion, and individual learning activities.

AUT 145 Suspension and Steering II (3)
Suspension & Steering II is the advanced application of knowledge and hands-on skills learned in AUT140 (Steering & Suspension I). The course includes the use of alignment geometry and computerized alignment equipment to diagnose and repair steering suspension problems and to verify that a vehicle’s suspension and steering components are within manufacturer’s specifications. It also includes removing and replacing steering and suspension components according to manufacturer’s specifications, inspecting, servicing, and repairing wheel and tire assemblies for optimum performance. Prerequisite: AUT140

AUT 150 Brakes I (3)
Brakes I is a basic introduction to automotive brake technology. The emphasis in this course is on diagnosing and maintaining brake systems. It covers identification of brake parts and how they function, the use and types of friction materials and heat dissipation, stripping and refitting disc and drum brakes, rotor diagnosing including measurement and cutting, identification of pad types, hydraulic principles and brake bleeding. The course is closely aligned with NATEF/ASE task list for A5 and will prepare the student to take the Automotive Service Excellence (ASE) exams. Classroom time is divided between lecture, discussion, and individual learning activities.

AUT 155 Brakes II (4)
Brakes II apply the knowledge and hands-on skills acquired in AUT150 (Brakes I). It includes testing troubleshooting, diagnosing, disassembling, and replacing both automotive drum and disc brake systems using manufacturer’s specifications, four-wheel and rear wheel anti-lock braking system components, operations, and repairs will also be covered. Prerequisite: AUT150

AUT 161 Electrical I (3)
In this course students will complete service work orders; describe the relationship between voltage, ohms and amperage; perform basic electrical circuit repairs; identify electrical system faults; identify basic wiring diagram symbols, components, and legend information; perform basic electrical circuit measurements using a DVOM; describe basic circuit characteristics of series, parallel and series parallel circuits through a variety of classroom and shop learning assessment activities.

AUT 162 Electricity/Electronics I (2)
Electrical & Electronic Systems I builds on the skills developed in Electrical I. This course emphasizes battery design, starter systems, and the charging system and its components. In addition to these systems, hybrid technology will be explored. Class time is divided between the classroom and lab experiences. Classroom is primarily lecture, discussion, and group or individual learning activities that emphasize troubleshooting and problem-solving skill development.

AUT 165 Engine Mechanical Diagnosis (2)
Engine Mechanical Diagnosis involves diagnostic theory, process, and testing as well as practicing major component replacement. Students will split their time between the classroom and lab.

AUT 170 Heating - Air Conditioning I (2)
Heating & Air Conditioning I is an introductory course that is designed to provide the student with a solid foundation in automotive heating and air conditioning. Class time is divided between the classroom and lab experiences. Classroom time is spent primarily on lecture, discussion, and group or individual learning activities that provide a foundation to encourage troubleshooting skill development.

AUT 181 Engine Performance I (3)
In this learning plan students will complete work order and check history; identify engine mechanical integrity; explore the fundamentals of fuel system theory; identify fuel system concerns; explore the fundamentals of ignition theory; identify ignition system concerns; identify induction system concerns; identify exhaust system concerns; identify engine mechanical integrity through a variety of learning and assessment activities.

AUT 182 Engine Performance II (3)
Engine Performance II builds on the knowledge and skills developed in Engine Performance I. The course continues the study of theory and of power train diagnostics. Students will learn the rudiment of computerized engine controls, ignition systems, fuel, air induction, and exhaust and emission control systems. The course provides extensive hands-on training on the use of the latest diagnostic equipment and tools.

AUT 205 Auto Transmission/Transaxle I (2)
Automatic Transmission/Transaxle I is a basic introduction to automatic transmissions/transaxle systems. The course includes an introduction to hydraulic principles, an introduction to the different types of automatic transmission fluids, automotive measurement, and the identification to the parts of the automatic transmission including planetary gear sets, brake bands, bearings, pumps, boost systems, and valve bodies. It also contains some basic services performed on an automatic transmission including oil filter replacement, air testing of clutch packs, removing and refitting a transaxle and/or transmission. Students will receive instruction that will assist them in taking the Automotive Service Excellence (ASE) Exams after successfully completing the requirements of the 1st and 2nd levels of the automotive technology program.

AUT 215 Auto Transmission/Transaxle II (2)
Automatic Transmission & Transaxles II is the advanced application of knowledge and hands-on skills acquired in Automatic Trans & Transaxles I. The course includes testing, troubleshooting and diagnosing, disassembly, inspection, and assembly of automatic transmissions and transaxles according to manufacturer’s specifications. Electronically controlled automatic transmission components and operation are covered along with diagnosing and repair. Students will receive instruction that will assist them in taking the Automotive Service Excellence (ASE) exams after successfully completing the requirements of the 1st and 2nd levels of the automotive technology program.
AUT 230 Manual Transmission II (2)
Manual Drive Train and Axles II contains the advanced application of knowledge and hands-on skills acquired in Manual Drive Train & Axles I. Emphasis will be on testing, troubleshooting and diagnosing, disassembling, inspecting and assembling transmissions and trans axles according to manufacturer’s specifications. Students will receive instruction that will assist them in taking the automotive excellence (ASE) exams after successfully completing the requirements of the 1st and 2nd levels of the automotive technology program.

AUT 240 Steering and Suspension II (2)
Steering & Suspension II is the advanced application of knowledge and hands-on skills learned in Steering & Suspension I. The course includes the use of alignment geometry and computerized alignment equipment to diagnose and repair steering suspension problems and to verify that a vehicle’s suspension and steering components are within manufacturer’s specifications. It also includes removing and replacing steering and suspension components according to manufacturer’s specifications, inspecting, servicing, and repairing wheel and tire assemblies for optimum performance.

AUT 251 Brakes II (2)
Brakes II apply the knowledge and hands-on skills acquired in Brakes I. It includes testing troubleshooting, diagnosing, disassembling, and replacing both automotive drum and disc brake systems using manufacturer’s specifications, four-wheel and rear wheel anti-lock braking system components, operations, and repairs will also be covered.

AUT 260 Electricity/Electronics II (6)
Electricity/Electronic Systems II is an advanced level course and builds on the knowledge, skills and abilities mastered in Electricity/Electronic Systems I. This class involves the theory and application of automotive electronic circuits and accessories. It includes the construction and servicing of lighting systems, gauges, warning devices, windshield wipers, and solid state devices. The course provides the knowledge to prepare for the Automotive Service Excellence (ASE) Exams. The course is aligned closely with the NATEF/ASE task list for A6 Electrical/Electronic Systems.

AUT 270 Heating - Air Conditioning II (2)
Heating and Air Conditioning II is an advanced level course and builds on the knowledge, skills and abilities mastered in AUT170 Heating & Air Conditioning I. Climate control systems are explained in-depth including theory of refrigeration, servicing procedures, and diagnosis techniques. Compressor service and distribution systems are studied. Laboratory experience is given in testing and servicing a variety of systems and problems. The course provides the knowledge to prepare for the Automotive Service Excellence (ASE) exams. The course is aligned closely with the NATEF/ASE task list for A7 Heating & Air Conditioning.

AUT 281 Engine Performance III (5)
Engine Performance III is an advanced level course and builds on the knowledge, skills, and abilities mastered in Engine Performance I (AUT181) and Engine Performance II (AUT182). This class involves theory and application of automotive engine diagnostics including computerized engine controls, ignition systems, fuel, air induction and exhaust systems, emission control systems, and exhaust gas treatments. The course provides extensive hands-on training on the use of the latest diagnostic equipment and tools. The class provides the knowledge to prepare for the Automotive Service Excellence (ASE) exams. The course is closely aligned with the NATEF/ASE task list for A8 Engine Performance.

Building Automation Systems

This program provides an opportunity for developing additional skills and knowledge to pursue an advanced position in the building industry. The Building Automation Systems program is designed for students who have already completed a certificate in either IST, AST, or HVAC.

Program Information
• Required Math & Reading Scores: Initial pathways are Advanced Systems Technology, Climate & Energy Control, or Information Systems Technology.
• Program Start (semesters): August; January
• Financial Aid available (for post-secondary students only): Yes
• Veteran Benefits Eligible (for post-secondary students only): Yes
• Industry-recognized credentials: N/A

Certificate Requirements

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<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Hours</th>
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</thead>
<tbody>
<tr>
<td>CEC 115</td>
<td>Electrical Fundamentals</td>
<td>4</td>
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<tr>
<td>CEC 116</td>
<td>Electrical Fundamentals II</td>
<td>1</td>
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<tr>
<td>CEC 200</td>
<td>Heat Loads and Duct Sizing</td>
<td>4</td>
</tr>
<tr>
<td>CEC 201</td>
<td>Heat Loads and Duct Sizing</td>
<td>4</td>
</tr>
<tr>
<td>CEC 205</td>
<td>HVAC Fundamentals</td>
<td>4</td>
</tr>
<tr>
<td>CEC 225</td>
<td>Heat Pumps</td>
<td>3</td>
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<td>CEC 230</td>
<td>Commercial HVAC</td>
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<td>IND 213</td>
<td>Advanced ECS</td>
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<td>IND 144</td>
<td>Basic Electricity II</td>
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<td>IND 217</td>
<td>Indust Prog Logic Controllers</td>
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<td>IND 247</td>
<td>Industrial Process Control</td>
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<td>IND 248</td>
<td>Commercial &amp; Industrial Wiring</td>
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<td>CRN 221</td>
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<tr>
<td>CRN 226</td>
<td>Intro Enterprise Networking Lab</td>
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Total Hours 37

CEC 105 Workplace Skills (1)
Upon successful completion of this course, the student should be able to identify the job skills necessary to have a successful career in the field of their choice. Topics included listening skills, oral communication, human relations, decision making/problem solving, how to work as a team, time and resource management, work ethics, career planning and resume building.

CEC 110 Safety Orientation/OSHA 10 (1)
Safety Orientation/OSHA 10 provides the student with an overview of the OSHA standards relevant to the construction industry. Various topics are presented in a 15-hour format. Among the subjects covered in the course are: an introduction to OSHA, electrical safety, fall protection, and excavation and trenching safety.

CEC 115 Electrical Fundamentals (4)
The student will receive instruction in basic electrical theory for DC and Alternating Current systems. The student will have knowledge on the production of electricity and how to apply Ohm’s Law and Power Formula. Electrical safety is taught along with skills in how to read and interpret schematic diagrams. This class must be passed with a minimum of a C or 78% for the student to continue to next course.
CEC 116 Electrical Fundamentals II (1)
Students will be introduced to motor theory and explore motor applications. This course builds on previous knowledge gained in Electrical Fundamentals I and requires a firm understanding of magnetism and voltage production. Motor trouble shooting will be introduced. Types of motors covered will be single phase motors, three phase and ECM motors. This class must be passed with a minimum of a C or 78% for the student to continue to next course.

CEC 120 Heating System Fundamentals (3)
This course will give students a firm understanding of combustion and how it is applied in the HVAC trade. Residential gas furnaces will be studies in detail in order to gain understanding in how they are installed and serviced. A thorough understanding of Standard, Midrange and High Efficiency furnace service and installation will be earned as a result of this course. This class must be passed with a minimum of a C or 78% for the student to continue to next course.

CEC 121 Heating System Fundamentals II (2)
The heating System Fundamentals II course is designed to walk student thorough the requirements of the Uniform Mechanical Code in relation to Gas Piping and exhaust ventilation. Student will gain a thorough understanding and be able to apply skills in sizing vents and pipe upon completion of this course.

CEC 125 Adv Electrical Theory for HVAC (2)
Advanced Electrical Theory for HVAC is a continuation of Electrical Fundamentals and places an emphasis on developing systematic diagnosis and troubleshooting methods and procedures that will enable the student to become a highly-skilled, professional HVAC-R service technician.

CEC 126 Advanced Heating Systems (3)
This course will introduce students to electric furnaces and hydronic heating with an emphasis on the electrical systems of those units and code requirements for the safe installation of such equipment. Indoor air quality will be discussed in detail as a major factor in human comfort.

CEC 135 Sheet Metal Fabrication I (3)
This course focuses on sheet metal fabrication utilizing various sheet metal tools and techniques. Duct sizing is discussed in addition to code requirements for duct systems.

CEC 136 NCCER HVAC Level 1 Part 1 (4)
This course features a highly illustrated design, technical hints and tips from industry experts, review questions and a whole lot more! Key content includes: Introduction to HVAC, Trade Mathematics, Basic Electricity, Introduction to Heating, Introduction to Cooling, Introduction to Air Distribution Systems.

CEC 138 NCCER HVAC Level 1 Part 2 (4)
This course features a highly illustrated design, technical hints and tips from industry experts, review questions and a whole lot more! Key content includes: Basic Copper and Plastic Piping Practices, Soldering and Brazing, and Basic Carbon Steel Piping Practices.

CEC 156 NCCER HVAC Level 2 Part 1 (4)
This course features a highly illustrated design, technical hints and tips from industry experts, review questions and a whole lot more! Key content includes: Alternating current, Compressors, Refrigerants and Oils, Leak Detection Evacuation Recovery and Charging, Metering Devices.

CEC 158 NCCER HVAC Level 2 Part 2 (4)
This course features a highly illustrated design, technical hints and tips from industry experts, review questions and a whole lot more! Key content includes: Heat Pumps, Basic Maintenance, Chimneys Vents and Flues, Fiberglass and Fabric Duct Systems, Commercial Airside Systems, Air quality Equipment, and Introduction to Hydronic Systems.

CEC 200 Heat Loads and Duct Sizing (4)
The course will teach students to analyze heat flow characteristics as they study heat loss and heat gain factors as it pertains to residential HVAC design. Topics will include the effects of selected materials and the layout of the system for the purpose of trouble shooting, load estimation and duct sizing.

CEC 202 Environmental HVAC Systems (4)
Environmental HVAC Systems introduces students to the heat transfer systems used in commercial applications to maintain comfort in a space. Students will gain an understanding of heat transfer, system design, commercial equipment and their operations. This course prepares students to enter into commercial work and exposes them to old and new designs they will encounter in the field while helping them understand the practices for energy efficiency in these systems.

CEC 205 HVAC Fundamentals (4)
This course is designed to introduce students to the broader picture that is HVAC. Students will become familiar with trade related organizations, job requirements, gain skills in soldering and brazing, and demonstrate learned skills to service and repair air conditioning systems. Students must earn a C grade or better in this course in order to advance to the next course.

CEC 210 EPA 608 (1)
Students will be certified in federal regulations of safe refrigerant handling practices. Successful completion of the certification course is required for technicians to work with and purchase refrigerants.

CEC 215 Intro Mechanical Refrigeration (4)
The students will apply knowledge previously learned in HVAC Fundamentals to ice machines, refrigerators and commercial coolers. Students will learn the function of the specialized electrical circuits and how to service and repair these systems.

CEC 225 Heat Pumps (3)
The student will learn the basic functions of various Heat Pump design as well as charging and troubleshooting procedures.

CEC 230 Commercial HVAC (4)
This course will introduce students to the commercial applications of various HVAC systems. A strong foundation in refrigeration theory is required as well as a comprehensive understanding of system airflow and electrical fundamentals. Students who complete this course will be skilled in reading advanced electrical schematics and be able to describe the function and application of various commercial systems and components including Direct Digital Control systems and frequency drives. This is a capstone course.

CEC 235 Commercial HVAC Lab (4)
This course continues the introduction to Commercial HVAC systems through hands-on training. Students will be performing basic maintenance, repairs and troubleshooting on functioning light commercial and commercial equipment.
CEC 236 NCCER HVAC Level 3 Part 1 (4)
This course features a highly illustrated design, technical hints and tips from industry experts, review questions and a whole lot more! Key content includes: Fasteners, Hardware and Wiring Terminations, Control Circuit and Motor Troubleshooting, Troubleshooting Cooling, Troubleshooting Heat Pumps, Troubleshooting Gas Heating, Troubleshooting Oil Heating, and Troubleshooting Accessories.

CEC 238 NCCER HVAC Level 3 Part 2 (4)
This course features a highly illustrated design, technical hints and tips from industry experts, review questions and a whole lot more! Key content includes: Zoning, Ductless, and Variable Refrigerant Flow Systems, Commercial Hydronic Systems, Steam Systems, Retail Refrigeration Systems, and Customer Relations.

CEC 256 NCCER HVAC Level 4 Part 1 (4)
This course features a highly illustrated design, technical hints and tips from industry experts, review questions and a whole lot more! Key content includes: Water Treatment, Indoor Air Quality, Energy Conservation Equipment, Building Management Systems, System Air Balancing, Construction Drawings and Specifications.

CEC 258 NCCER HVAC Level 4 Part 2 (4)
This course features a highly illustrated design, technical hints and tips from industry experts, review questions and a whole lot more! Key content includes: Heating and Cooling System Design, Commercial and Industrial Refrigeration Systems, Alternative and Specialized Heating and Cooling Systems, and Fundamentals of Crew Leadership.

CEC 280 Climate & Energy OJT (1-3)
This course features a is a hands-on method of teaching the skills, knowledge, and competencies needed for employees to perform in the field of HVAC. Students learn in an environment where they will need to practice the knowledge and skills obtained during their training.

Business Bookkeeping & Accounting

The Business Bookkeeping & Accounting program prepares students to obtain employment as an entry level accounting clerk. Instructor includes advanced accounting, advanced QuickBooks, basic business and office management skills. Professional standards and ethics in business are stressed as well as extensive training in computer software. Written and oral communication skills, including grammar, are emphasized as well as workplace skills. This program will offer students preparation to test for the industry-recognized credentials listed below.

Program Information
- Required Math Score: Level 4
- Required Reading Score: Level 5
- Program Start (semesters): August, January
- Financial Aid available (for post-secondary students only): Yes
- Veteran Benefits Eligible (for post-secondary students only): Yes
- Industry-recognized credentials: Microsoft Specialist Excel; Microsoft Specialist Word; Microsoft Specialist Access

Course Offerings

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<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Hours</th>
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<tr>
<td>BAT 117</td>
<td>Intro to Acct &amp; Acct Software</td>
<td>4</td>
</tr>
<tr>
<td>BAT 122</td>
<td>Business Communications</td>
<td>4</td>
</tr>
<tr>
<td>BAT 130</td>
<td>Word Processing</td>
<td>4</td>
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<td>BAT 140</td>
<td>Document Processing</td>
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<tr>
<td>BAT 172</td>
<td>Spreadsheet Management</td>
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<tr>
<td>BAT 180</td>
<td>Human Relations</td>
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<tr>
<td>BAT 200</td>
<td>Business Law</td>
<td>4</td>
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<tr>
<td>BAT 212</td>
<td>Professional Skills &amp; Ethics</td>
<td>4</td>
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<tr>
<td>BAT 215</td>
<td>Database Management</td>
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<tr>
<td>BAT 220</td>
<td>Intro Business &amp; Office Mgmt</td>
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<tr>
<td>BAT 255</td>
<td>Advanced Business Accounting</td>
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</tr>
<tr>
<td>BAT 265</td>
<td>Advanced Accounting Software</td>
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Total Hours: 48

BAT 113 Intro Acct and Acct Software (4)
This course develops a foundation for accounting skills and assists students attain an understanding of accounting concepts and the importance of accounting for funds in a business. Students get an introduction to the accounting equation, journal entries, t-accounts, Trial Balances, Financial Statements, adjusting entries, closing entries, and financial statement analysis. Students also use a comprehensive, hands-on training manual for QuickBooks Desktop to learn computer accounting practices through sample companies.

BAT 116 Intro to Business Accounting (2)
This course develops a foundation for accounting skills and assists students attain an understanding of accounting concepts and the importance of accounting for funds in a business. Students build on their foundation of knowledge one topic at a time with repetition of key concepts to ensure an understanding of the basic financial accounting cycle, including checkbook reconciliation, through lecture and comprehensive exercises using work papers, as well as spreadsheets.

BAT 117 Intro to Acct & Acct Software (4)
This course develops a foundation for accounting skills and assists students attain an understanding of accounting concepts and the importance of accounting for funds in a business. Students get an introduction to the accounting equation, journal entries, t-accounts, Trial Balances, Financial Statements, adjusting entries, closing entries, and financial statement analysis. Students also use a comprehensive, hands-on training manual for QuickBooks Desktop to learn computer accounting practices through sample companies.

BAT 118 Business Accounting I (2)
This course develops a foundation for accounting skills and assists students attain an understanding of accounting concepts and the importance of accounting for funds in a business. Students build on their foundation of knowledge one topic at a time with repetition of key concepts to ensure an understanding of the basic financial accounting cycle, including checkbook reconciliation, through lecture and comprehensive exercises using work papers, as well as spreadsheets.

BAT 122 Business Communications (4)
This course includes the identification and use of the parts of speech, punctuation, capitalization, and numbers correctly in writing effective sentences and paragraphs. Basic spelling rules will be covered and implemented.

BAT 126 Intro to Accounting Software (2)
This course provides an introduction to accounting software using a comprehensive, hands-on training manual to learn computer accounting practices through sample companies. Prerequisites: Introduction to Business Accounting or Business Accounting I
BAT 128 Business Accounting II (2)
Building on Business Accounting I, this course will lead the student to thoroughly study concepts relating to financial accounting and reporting, including accounting for payroll, accounting for a merchandising business, the use of special ledgers, and accounting for merchandise inventory. Prerequisites: Introduction to Business Accounting or Business Accounting I

BAT 130 Word Processing (4)
Students will use Microsoft Office Word software to create and edit basic-to-advanced documents, including tables and charts. This is an instructor-guided lab course.

BAT 140 Document Processing (4)
This course continues the development of basic typing skills and emphasizes the formatting of various kinds of business correspondence, reports, tables, electronic forms, and desktop publishing projects from arranged, unarranged, and rough-draft sources.

BAT 172 Spreadsheet Management (4)
This course is designed to familiarize the student with various basic and advanced spreadsheet functions. These include creating and maintaining spreadsheets, displaying information, adding and changing formulas, applying formatting, creating charts and tables, inserting graphics, and customizing the appearance and functions of spreadsheets.

BAT 180 Human Relations (4)
This course is designed for students to learn skills to compete in an increasingly competitive work environment. Skills stressed will be the production of documents and resources needed to obtain employment. Issues addressed will include appropriate communication, conflict resolution, teamwork, accountability, and business ethics.

BAT 200 Business Law (4)
This course provides a basic knowledge of the law and regulations to anyone contemplating a successful career in business. Students will attain knowledge of the nature, concepts and function of the law and the changes technology has brought within the legal system and business law.

BAT 205 Business Research & Writing (4)
A successful and productive member of any office team will write business correspondence, electronic mail and business documents using the correct grammar, style and content. This course is designed to ensure students will have the knowledge to produce effective business communications in written form.

BAT 212 Professional Skills & Ethics (4)
Business leaders in our society are faced with daily decisions, involving ethical decisions and professional comportment. Students will learn the basics of negotiation, conflict resolution, and trust building in the office and with clients. Students will demonstrate awareness and effective application of professional skills including teamwork, productivity, and employee retention and client relations. This course introduces students to important elements of moral theory as well as main topics in business ethics, including the fiduciary duty of managers, outsourcing, corporate responsibility, whistle-blowing, income smoothing, insider trading, sole-source procurements and kickbacks, conflicts of interest, deception in advertising and marketing, responsibility to the environment, pay for corporate personnel, confidentiality and duties to clients.

BAT 215 Database Management (4)
This course covers basic database management skills including creating, maintaining, and editing records, files, and tables and creating queries, forms, and reports. In addition, skills such as modifying database objects, creating advanced types of tables, calculating fields, and importing and exporting data from other software are covered.

BAT 220 Intro Business & Office Mgmt (4)
This course will offer the advanced student knowledge and skills used in business offices, accounting departments and professional firms. The student will learn the necessary skills to manage employees and materials as an office manager. Additionally, the student will become well versed in basic business principals, economic systems, management and organization and management information systems. Additionally, the student will understand business ethics and the importance of good business ethics. Students will gain a general understanding of human resources, marketing, product life cycle, finance and investment.

BAT 252 Payroll Accounting (4)
Building on Business Accounting, this course will have two units. The first unit will cover all aspects of payroll accounting and provides an innovative, hands-on approach with unique blend of theory and practical exercises, enabling students to get a thorough understanding of the most widely used payroll accounting functions. This unit ends with a comprehensive capstone project. The second unit will cover various accounting topics as accounts receivable, inventory costing, depreciation of long-term assets, bond amortization, financial statements, financial ratios, and budgeting. Students will incorporate knowledge gained from BAT 172 Spreadsheet Management to build Excel spreadsheets to handle accounting functions.

BAT 255 Advanced Business Accounting (4)
Building on Business Accounting I and II, this course will lead the student to thoroughly study concepts relating to financial accounting and reporting, including preparing financial statements and year-end accounting of a merchandise business. In addition, this course covers specialized accounting procedures for accounts receivable, promissory notes and interest, long-term assets, partnerships, corporate bonds, capital stock, and for corporations. Prerequisites: Business Accounting II

BAT 265 Advanced Accounting Software (4)
This course is a comprehensive survey of QuickBooks Pro 2014 that covers a wide range of accounting topics. The course includes exporting data from other software and creating advanced types of tables, calculating fields, and importing and exporting data from other software. In addition, skills such as modifying database objects, creating advanced types of tables, calculating fields, and importing and exporting data from other software are covered. Prerequisites: Business Accounting I

Cabinet/Millwork

The Cabinetmaking/Millwork program provides the student with the knowledge and skills necessary to plan and complete cabinetry, furniture and millwork. Students learn to work with prints, specifications and shop drawings, power tools, and equipment in design, layout, and construction of projects. Emphasis is placed on selecting proper materials, determining the best procedures, manufacturing parts to specification, and assembling and finishing. Students work individually and in teams to plan, estimate and execute these projects. This program will offer students preparation to test for the industry-recognized credentials listed below.

Program Information
- Required Math Score: Level 4
- Required Reading Score: Level 4
- Program Start (semesters): August
- Financial Aid available (for post-secondary students only): Yes
• Veteran Benefits Eligible (for post-secondary students only): Yes
• Industry-recognized credentials: NCCER Core; OSHA

Certificate Requirements

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<tr>
<th>Code</th>
<th>Title</th>
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<td>IND 109</td>
<td>OSHA - 30 Hour Const Ind Cert</td>
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</tr>
<tr>
<td>CBM 115</td>
<td>Design, Layout &amp; Safety</td>
<td>6</td>
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<tr>
<td>CBM 130</td>
<td>Workplace Skills I</td>
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<tr>
<td>CBM 135</td>
<td>Print Reading</td>
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<tr>
<td>CBM 145</td>
<td>Cabinetry Materials &amp; Products</td>
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<td>CBM 150</td>
<td>Millwork</td>
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<tr>
<td>CBM 205</td>
<td>Machining Processes</td>
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<tr>
<td>CBM 215</td>
<td>Finishing Techniques</td>
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<td>CBM 235</td>
<td>Methods of Construction</td>
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<td>CBM 237</td>
<td>Crew Leadership</td>
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<td>CBM 245</td>
<td>Cabinet Installation</td>
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<td><strong>Total Hours</strong></td>
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CBM 110 Shop Procedures I (6)
This course includes a review of general shop safety rules and practices in cabinet/millwork, information, and instruction in the use of professional tools for the woodworking trades. Emphasis will be placed on the safe use of each tool covered. Topics include layout and measuring tools, sawing tools, shaping and cutting tools, fastening tools, drilling and boring tools, finishing tools, job site set-up, and shop tool use.

CBM 115 Design, Layout & Safety (6)
Introduces the fundamentals of residential and commercial cabinet construction. Topics include Intro to cabinetmaking, Health and Safety, Career Opportunities, Industry, Cabinet Styles, Components of Design, Design Decisions, Human Factors, Production decisions, Sketches, Mock-ups and Working Drawings, Measuring, Marking and Laying out materials.

CBM 120 Cabinetmaking I (6)
Cabinetmaking I introduces the fundamentals of residential and commercial cabinet construction. Topics include fasteners, wood products, finishing materials, manufactured products for cabinet making, and introduction to estimation of products and services. Instruction is also provided in the planning, design, and layout of cabinet units. Topics include parts identification cabinet styles and floor plan arrangements, estimation procedures, layout to specifications, shop working sketches, scale mock-ups, drafting, blueprint, reading, furniture styles, and specifications.

CBM 125 Cabinetmaking II (7)
Cabinetmaking II builds on the fundamentals of Cabinetmaking I. The course introduces the fundamentals of wood joint identification, layout, cutting out cabinet components, and the procedures used for assembly of cabinet bases, wall units, and free frames. Topics include wood joints identification and application, equipment safety, frame member cutting, shelf cutting, drawer component and door cutting, material optimizing, and material estimation.

CBM 130 Workplace Skills I (1)
This course utilizes Key Train Software to assist in advancement of knowledge in Applied Math, Reading for Information, and Locating Information Work Keys assessments that are required prior to exiting the program. Students will also be required to attend seminars provided through the Career Resource Center. Seminar topics include interview techniques, developing and preparing a resume, completing job applications, ethics, and teamwork.

CBM 135 Print Reading (1)
Print Reading describes how to read and interpret sets of commercial drawings and specifications. Print Reading describes how to derive cabinetmaking plans from architectural drawings and specifications. This course uses NCCER Craft Module 27201-13 and all students take a certification exam.

CBM 140 Millwork I (4)
Millwork I introduces procedures for the installation of assembled drawers, doors, and related hardware. Emphasis will be placed on the safe use of hand tools. Topics include nail types, screw types, staples and equipment, special metal fasteners type, adhesives, and RTA fasteners.

CBM 145 Cabinetry Materials & Products (6)

CBM 150 Millwork (5)
This course will utilize NCCER curriculum modules: 27208-13 and 27210-13 to cover the installation of metal doors and related hardware in steel-framed, wood framed, and masonry walls, along with their related hardware, such as locksets and door closers. It also covers the installation of wooden doors, folding doors and pocket doors. Students will learn to recognize different types of trim used in finish work. It focuses on the proper methods for selecting, cutting, and fastening trim to provide a professional finished appearance. Students will be tested for possible certification.

CBM 205 Machining Processes (6)
Machining Processes topics include Sawing with Hand and Portable Power Tools, Sawing with Stationary Machines, Surfacing with Hand and Portable Power Tools, Surfacing with Stationary Machines, Shaping, Drilling and Boring, Computer Numerically Controlled Machinery, Abrasives, Using Abrasives and Sanding Machines, Turning, Joinery, Accessories, Jigs, Special Machines, and Sharpening.

CBM 210 Shop Procedures II (6)
This course will introduce the students to principles and practices required in the operation of a custom cabinet and architectural millwork shop. Topics include health and safety regulations, work flow, shop organization, job estimation, equipment maintenance, and shop safety.

CBM 215 Finishing Techniques (6)
This course introduces the learner to the operation of traditional finishing equipment. Students perform numerous exercises to gain familiarity with finishing tools and industrial finishing equipment while building their skills and familiarity with different finishes. Finishing Units include Finishing Decisions, Preparing Surfaces for Finish, Finishing Tools and Equipment, Stains, Fillers, Sealers, and Decorative Finishes, and Top coatings.
CBM 220  Cabinetmaking III (6)
Cabinetmaking III provides introduction in the assembly of cabinet components and emphasizing door and drawer assembly. Industry standards for safety, quality, and production will be goals in this course. The course introduces procedures for the application of plastic, laminates, and wood veneers. Topics include door and drawer fabrication, laminate, veneer, and glue, cutting and fitting procedures, gluing procedures, trimming and edge banding, special tool use, safety precautions, and counter top cutting and assembly.

CBM 225  Cabinetmaking IV (7)
Cabinetmaking IV provides further instruction in the assembly of base cabinets and wall cabinets. Industry standards for quality, safety, production assembly, back assembly, bracing, and joint assembly.

CBM 230  Workplace Skills II (1)
This course is the final preparation for the exit assessment by using Key Train software for Applied Math, Reading for Information, and Locating Information. A student will be required to attend remaining seminars that were not attended in Workplace Skills I through the Career Resource Center.

CBM 235  Methods of Construction (6)
Topics include Case Construction, Frame and Panel Components, Cabinet Supports, Doors, Drawers, Cabinet Tops and Tabletops, Kitchen Cabinets, Built-in Cabinetry and Paneling and Furniture.

CBM 237  Crew Leadership (1)
Using NCCER module 46101-11 the student will be introduced to the principles of leadership. Students will learn about the construction industry today, business organization, team building, gender and minority issues, communication, motivation, problem solving, decision making, safety, and project control. Students will be tested for possible certification.

CBM 240  Millwork II (4)
Millwork II provides instruction in surface preparation, wood finishing procedures, transporting and installation of cabinets, trim and interior doors. Finishing procedures will emphasize the use of spray equipment. Topics include abrasives, finishing materials, surface preparation, cabinet transporting and installation, trim profiles and installation, coping techniques, and door installation.

CBM 245  Cabinet Installation (5)
This course will introduce students to the procedures for building and installing various types of residential and commercial cabinetry. Using NCCER module 27211-13 students will receive instruction for the selection and installation of base, wall cabinets and counter-tops and test for possible certification. Using NCCER module 27501-07 students will be introduced to the materials, tools and methods used in cabinetmaking. Practice projects are included to help trainees learn the various joining techniques used by cabinetmakers, while providing practice on stationary power tools. Students will build a cabinet from a set of plans and will be tested for possible certification.

Carpentry

The Carpentry program is facilitated by a certified NCCER instructor. Instruction includes blueprint reading, applied math, rigging and safety, site preparation, concrete, masonry, commercial plumbing, commercial HVAC, sheet metal, commercial carpentry, commercial electrical, commercial plumbing and drywall, demolition and the basics of computer aided drafting and design. This program will offer students preparation to test for the industry-recognized credentials listed below.

Program Information

- Required Math Score: Level 4
- Required Reading Score: Level 4
- Program Start (semesters): August; January
- Financial Aid available (for post-secondary students only): Yes
- Veteran Benefits Eligible (for post-secondary students only): Yes
- Industry-recognized credentials: NCCER Core; NCCER Carpentry 1; OSHA

Certificate Requirements

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<tr>
<th>Code</th>
<th>Title</th>
<th>Hours</th>
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<tr>
<td>CHC 105</td>
<td>Introductory Craft Skills</td>
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<td>IND 109</td>
<td>OSHA - 30 Hour Const Ind Cert</td>
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<td>BDT 142</td>
<td>Masonry</td>
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<td>or BDT 217</td>
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<td>BDT 119</td>
<td>Carpentry Basics</td>
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<tr>
<td>BDT 122</td>
<td>Floors, Walls &amp; Ceiling Frames</td>
<td>4</td>
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<tr>
<td>BDT 127</td>
<td>Windows, Doors &amp; Stairs</td>
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<td>BDT 137</td>
<td>Roof Framing</td>
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BDT 117  Carpentry I (4)
The intent of this course is to teach the students the history of the construction trade, building materials, different fasteners and adhesives, hand and power tools and reading plans and elevations. It also describes the apprentice program and career opportunities. The course will follow the NCCER modules for: Orientation to the Trade, Building Materials, Fasteners and Adhesives, Hand and Power Tools, and Reading Plans and Elevations.

BDT 119  Carpentry Basics (4)
The intent of this course is to teach the students the history of the construction trade, building materials, different fasteners and adhesives, hand and power tools and reading plans and elevations. It also describes the apprentice program and career opportunities. The course will follow the NCCER modules for: Orientation to the Trade, Building Materials, Fasteners and Adhesives, Hand and Power Tools, and Reading Plans and Elevations.

BDT 122  Floors, Walls & Ceiling Frames (4)
This course will cover layout and erecting floor and wall and ceiling sections. The emphasis for this course is the understanding of precise layout of studs, sills, floor joist, and ceiling members. The student will learn how to layout partitions, door, and window openings. The student will perform the entire layout mentioned above, and know the correct symbols and names of all wall, floor, and ceiling components. The student will be introduced to the different methods used for framing buildings and floor framing with an emphasis on the platform, Balloon and post and beam framing method. The tools and materials used for this type of construction will be covered. The course will follow the NCCER modules for: Floor Systems, Wall and Ceiling Framing, and Introduction to Concrete, Reinforcing Materials and Forms.
BDT 127 Windows, Doors & Stairs (3)
This course will introduce the student to methods and procedures used in the selection and installation of residential windows, doors, and stairs. Students will learn the proper components of windows and doors along with basic stair layout. This course will follow the NCCER modules for Windows and Exterior doors and Basic Stair Layout.

BDT 132 Drywall (3)
The course introduces the student to the materials and techniques used in building and finishing residential and commercial buildings, including wood and steel framed structures. The course describes the various types of gypsum drywall, their uses, and the fastening devices and methods used to install them. The materials, tools and methods used to finish, and patch gypsum drywall are also covered.

BDT 136 NCCER Plumbing Level 1 Part 1 (4)
This course features a highly illustrated design, technical hints and tips from industry experts, review questions and a whole lot more! Key content includes: Introduction to the Plumbing Profession, Plumbing Safety, Tools of the Plumbing Trade, Introduction to Plumbing Math, Introduction to Plumbing Drawings, Plastic Pipe and Fittings, Copper Pipe and Fittings, Cast-Iron Pipe and Fittings.

BDT 137 Roof Framing (3)
Students will learn the different types of roofs used in residential and commercial construction. This course is the most demanding of the framing tasks. Unlike floor and wall construction that involve working with straight lines, roofs are sloped requiring the framer to understand and calculate precise angles. The student will learn the names of all the roof parts and how to calculate the angles to achieve a properly constructed roof. This course will follow the NCCER modules for roof framing.

BDT 138 NCCER Plumbing Level 1 Part 2 (4)
This course features a highly illustrated design, technical hints and tips from industry experts, review questions and a whole lot more! Key content includes: Introduction to the Cast-Iron Pipe and Fittings, Carbon Steel Pipe and Fittings, Introduction to Plumbing Fixtures, Introduction to Drain, Waste, and Vent (DWV) Systems, and Introduction to Water Distribution Systems.

BDT 142 Masonry (3)
This course introduces the student to the fundamentals of masonry work. The student will have the opportunity to gain practical knowledge of masonry as a trade, develop skills in the use of the tools, equipment, materials, and techniques used in masonry.

BDT 156 NCCER Plumbing Level 2 Part 1 (4)
This course features a highly illustrated design, technical hints and tips from industry experts, review questions and a whole lot more! Key content includes: Plumbing Math Two, Reading Commercial Drawings, Structural Penetrations, Insulation, and Fire Stopping, Installing and Testing DWV Piping.

BDT 158 NCCER Plumbing Level 2 Part 2 (4)
This course features a highly illustrated design, technical hints and tips from industry experts, review questions and a whole lot more! Key content includes: Installing Roof, Floor, and Area Drains, Installing and Testing Water Supply Piping, Types of Valves, Installing Fixtures and Valves, Installing Water Heaters, Basic Electricity, and Fuel Gas and Fuel Oil Systems.

BDT 212 Carpentry II (4)
Students will learn the techniques of framing and finishing. The students will have the opportunity to become familiar with roofing application, thermal and moisture protection, exterior finishing, commercial drawings, and cold-formed steel framing. This will follow the NCCER modules for Carpentry Level Two.

BDT 217 Construction Electricity (3)
This course introduces the student to the electrical field. It also provides the student with an opportunity to understand the connection between the two construction fields. The student will be introduced to series, parallel, series-parallel circuits, hardware and systems used by electricians. It also provides a navigational road map for use of the National Electrical Code.

BDT 222 Plumbing (4)
The course will familiarize the student with the terminology and basic plumbing principles used in the plumbing profession. A variety of topics will be present such as safety, tools, drawings, fittings, fixtures, and faucets. This course will follow the NCCER modules for Plumbing Level One.

BDT 227 HVAC (4)
The student will learn the basic functions of various Heat Pump design as well as charging and troubleshooting procedures.

BDT 232 HVAC Lab (4)
This HVAC Lab provides hands-on experience to identify major components and functions of air conditioning systems. Instruction is given on types of air conditioning systems and use of instrumentation. Lab topics include use of AC systems, heat-load calculation, properties of air, duct design, air filtration, and safety principles.

BDT 236 NCCER Plumbing Level 3 Part 1 (4)
This course features a highly illustrated design, technical hints and tips from industry experts, review questions and a whole lot more! Key content includes: Applied Math, Sizing Water Supply Piping, Potable Water Treatment, Backflow Preventers, Types of Venting.

BDT 238 NCCER Plumbing Level 3 Part 2 (4)
This course features a highly illustrated design, technical hints and tips from industry experts, review questions and a whole lot more! Key content includes: Sizing DWV and Storm Systems, Sewage Pumps and Sump Pumps, Corrosive-Resistant Waste Piping, and Compressed Air.

BDT 256 NCCER Plumbing Level 4 Part 1 (4)
This course features a highly illustrated design, technical hints and tips from industry experts, review questions and a whole lot more! Key content includes: Business Principles for Plumbers, Introductory Skills for the Crew Leader, Water Pressure Booster and Recirculation Systems, Indirect and Special Waste.

BDT 258 NCCER Plumbing Level 4 Part 2 (4)
This course features a highly illustrated design, technical hints and tips from industry experts, review questions and a whole lot more! Key content includes: Hydronic and Solar Heating Systems, Codes, Servicing Piping Systems - Fixtures and Appliances, Private Water Supply Well Systems, Private Waste Disposal Systems, Swimming Pools and Hot Tubs, and Plumbing for Mobile Homes and Travel Trailers.

BDT 270 Construction OJT (6)
This course features a is a hands-on method of teaching the skills, knowledge, and competencies needed for employees to perform in the field of construction work. Students learn in an environment where they will need to practice the knowledge and skills obtained during their training.
BDT 280 Building Tech OJT (4)  
This course features a hands-on method of teaching the skills, knowledge, and competencies needed for employees to perform in the field of building technology work. Students learn in an environment where they will need to practice the knowledge and skills obtained during their training.

BDT 290 Carpentry OJT (6)  
This course features a hands-on method of teaching the skills, knowledge, and competencies needed for employees to perform in the field of carpentry. Students learn in an environment where they will need to practice the knowledge and skills obtained during their training.

Certified Logistics Technology  
The Certified Logistics Technology program was developed by the Manufacturing Skills Standards Council (MSSC). The CLT program provides students with the knowledge and skills to seek employment as a mid-level material handler in the manufacturing supply chain. The program combines online instruction with in-class presentations, hands-on experiences, and opportunities to visit with various employers. This program will offer students preparation to test for the industry-recognized credentials listed below.

Program Information  
- Required Math Score: Level 4  
- Required Reading Score: Level 4  
- Program Start (semesters): August; January  
- Veteran Benefits Eligible (for post-secondary students only): Yes  
- Industry-recognized credentials: MSSC CLA; MSSC CLT

Certificate Requirements

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<tr>
<td>CLT 101</td>
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<td>or CLT 250</td>
<td>Forklift Operation</td>
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<td>CLT 102</td>
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CLT 250 Forklift Operation (1)  
This course is designed to train entry level workers in the correct use of a forklift to unload, move, stack, and load materials for shipping and distribution.

Certified Production Technology  
The Certified Production Technology program was developed by the Manufacturing Skills Standards Council (MSSC). The program will prepare students for positions in modern high tech industries at the production level. This program is also good preparation for admission into Advanced Systems Technology, a program that will lead to high-skill, high-demand careers in Industrial Maintenance. The program focuses on the important topics of Safety and Quality along with Manufacturing Processes with a brief introduction to Industrial Maintenance. The material can be taken online or as a hybrid experience with blended online and hands-on experiences. This program will offer students preparation to test for the industry-recognized credentials listed below.

Program Information  
- Required Math Score: Level 4  
- Required Reading Score: Level 4  
- Program Start (semesters): August; January  
- Financial Aid available (for post-secondary students only): No  
- Veteran Benefits Eligible (for post-secondary students only): Yes  
- Industry-recognized credentials: MSSC CPT

Certificate Requirements

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<tr>
<td>CPT 101</td>
<td>Safety in Manufacturing Prod</td>
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<td>CPT 102</td>
<td>Quality Practice &amp; Measurement</td>
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<td>CPT 103</td>
<td>Manufacturing Proc &amp; Produc</td>
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<td>CPT 104</td>
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CPT 101 Safety in Manufacturing Prod (3)  
It is important to be safe while you work. This course provides you with an overview of the Occupational Safety and Health Administration General Industry Designated Training Topics. The course is intended to provide entry level general industry workers a broad awareness on recognizing and preventing hazards in a general industrial setting. The training covers a variety of safety and health hazards which a worker may encounter at a general industry site.

CPT 102 Quality Practice & Measurement (3)  
In order to meet a customer’s needs, quality consistent product must be produced. This is accomplished through the knowledge of the equipment operator. Each machine operator determines both the quality and quantity of production from his/her equipment. In this course you will learn basic Quality Practices and Measurements that will enable you to produce high quality products.

CPT 103 Manufacturing Proc & Produc (3)  
Upon successful completion of this course, the student should be able to identify the job skills necessary to have a successful career. Topics include listening skills, oral communication, human relations, decision making/problem solving, how to work as a team, and resource management.
CPT 104 Maintenance Training (3)
Preventive maintenance and production housekeeping are very important aspects of equipment operations. In this course the student will learn how to monitor production equipment for both routine and preventive maintenance.

Climate and Energy Controls Technology (HVAC)

The Climate and Energy Controls Technology (HVAC) program presents technical training to students in the areas of electricity, heating, residential air conditioning, refrigeration, sheet metal fabrication, direct digital controls (DDC) & commercial HVAC applications. This program provides students with industry credentialing in the areas of refrigerant handling safety, tool usage and basic commercial HVAC. Foundational skills and principles learned in this program prepare students to work in the commercial and residential HVAC market place. This program will offer students preparation to test for the industry-recognized credentials listed below.

Program Information

- Required Math Score: Level 5
- Required Reading Score: Level 5
- Program Start (semesters): August
- Financial Aid available (for post-secondary students only): Yes
- Veteran Benefits Eligible (for post-secondary students only): Yes
- Industry-recognized credentials: ICE Core + Residential; EPA 608; OSHA

Certificate Requirements

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<td>Safety Orientation/OSHA 10</td>
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<td>CEC 115</td>
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<td>CEC 120</td>
<td>Heating System Fundamentals</td>
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<td>CEC 126</td>
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<td>CEC 225</td>
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<td>CEC 235</td>
<td>Commercial HVAC Lab</td>
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Subtotal 11
Total Hours 44

CEC 105 Workplace Skills (1)
Upon successful completion of this course, the student should be able to identify the job skills necessary to have a successful career in the field of their choice. Topics included listening skills, oral communication, human relations, decision making/problem solving, how to work as a team, time and resource management, work ethics, career planning and resume building.

CEC 110 Safety Orientation/OSHA 10 (1)
Safety Orientation/OSHA 10 provides the student with an overview of the OSHA standards relevant to the construction industry. Various topics are presented in a 15-hour format. Among the subjects covered in the course are: an introduction to OSHA, electrical safety, fall protection, and excavation and trenching safety.

CEC 115 Electrical Fundamentals (4)
The student will receive instruction in basic electrical theory for DC and Alternating Current systems. The student will have knowledge on the production of electricity and how to apply Ohm’s Law and Power Formula. Electrical safety is taught along with skills in how to read and interpret schematic diagrams. This class must be passed with a minimum of a C or 78% for the student to continue to next course.

CEC 116 Electrical Fundamentals II (1)
Students will be introduced to motor theory and explore motor applications. This course builds on previous knowledge gained in Electrical Fundamentals I and requires a firm understanding of magnetism and voltage production. Motor trouble shooting will be introduced. Types of motors covered will be single phase motors, three phase and ECM motors. This class must be passed with a minimum of a C or 78% for the student to continue to next course.

CEC 120 Heating System Fundamentals (3)
This course will give students a firm understanding of combustion and how it is applied in the HVAC trade. Residential gas furnaces will be studies in detail in order to gain understanding in how they are installed and serviced. A thorough understanding of Standard, Midrange and High Efficiency furnace service and installation will be earned as a result of this course. This class must be passed with a minimum of a C or 78% for the student to continue to next course.

CEC 121 Heating System Fundamentals II (2)
The heating System Fundamentals II course is designed to walk student thorough the requirements of the Uniform Mechanical Code in relation to Gas Piping and exhaust ventilation. Student will gain a thorough understanding and be able to apply skills in sizing vents and pipe upon completion of this course.

CEC 125 Adv Electrical Theory for HVAC (2)
Advanced Electrical Theory for HVAC is a continuation of Electrical Fundamentals and places an emphasis on developing systematic diagnosis and troubleshooting methods and procedures that will enable the student to become a highly-skilled, professional HVAC-R service technician.

CEC 126 Advanced Heating Systems (3)
This course will introduce students to electric furnaces and hydronic heating with an emphasis on the electrical systems of those units and code requirements for the safe installation of such equipment. Indoor air quality will be discussed in detail as a major factor in human comfort.
CEC 135  Sheet Metal Fabrication I  (3)
This course focuses on sheet metal fabrication utilizing various sheet metal tools and techniques. Duct sizing is discussed in addition to code requirements for duct systems.

CEC 136  NCCER HVAC Level 1 Part 1  (4)
This course features a highly illustrated design, technical hints and tips from industry experts, review questions and a whole lot more! Key content includes: Introduction to HVAC, Trade Mathematics, Basic Electricity, Introduction to Heating, Introduction to Cooling, Introduction to Air Distribution Systems.

CEC 138  NCCER HVAC Level 1 Part 2  (4)
This course features a highly illustrated design, technical hints and tips from industry experts, review questions and a whole lot more! Key content includes: Basic Copper and Plastic Piping Practices, Soldering and Brazing, and Basic Carbon Steel Piping Practices.

CEC 156  NCCER HVAC Level 2 Part 1  (4)
This course features a highly illustrated design, technical hints and tips from industry experts, review questions and a whole lot more! Key content includes: Alternating current, Compressors, Refrigerants and Oils, Leak Detection Evacuation Recovery and Charging, Metering Devices.

CEC 158  NCCER HVAC Level 2 Part 2  (4)
This course features a highly illustrated design, technical hints and tips from industry experts, review questions and a whole lot more! Key content includes: Fasteners, Hardware and Wiring Terminations, Control Circuit and Motor Troubleshooting, Troubleshooting Cooling, Troubleshooting Heat Pumps, Troubleshooting Gas Heating, Troubleshooting Oil Heating, and Troubleshooting Accessories.

CEC 200  Heat Loads and Duct Sizing  (4)
The course will teach students to analyze heat flow characteristics as they study heat loss and heat gain factors as it pertains to residential HVAC design. Topics will include the effects of selected materials and the layout of the system for the purpose of trouble shooting, load estimation and duct sizing.

CEC 202  Environmental HVAC Systems  (4)
Environmental HVAC Systems introduces students to the heat transfer systems used in commercial applications to maintain comfort in a space. Students will gain an understanding of heat transfer, system design, commercial equipment and their operations. This course prepares students to enter into commercial work and exposes them to old and new designs they will encounter in the field while helping them understand the practices for energy efficiency in these systems.

CEC 205  HVAC Fundamentals  (4)
This course is designed to introduce students to the broader picture that is HVAC. Students will become familiar with trade related organizations, job requirements, gain skills in soldering and brazing, and demonstrate learned skills to service and repair air conditioning systems. Students must earn a C grade or better in this course in order to advance to the next course.

CEC 210  EPA 608  (1)
Students will be certified in federal regulations of safe refrigerant handling practices. Successful completion of the certification course is required for technicians to work with and purchase refrigerants.

CEC 215  Intro Mechanical Refrigeration  (4)
The students will apply knowledge previously learned in HVAC Fundamentals to ice machines, refrigerators and commercial coolers. Students will learn the function of the specialized electrical circuits and how to service and repair these systems.

CEC 225  Heat Pumps  (3)
The student will learn the basic functions of various Heat Pump design as well as charging and troubleshooting procedures.

CEC 230  Commercial HVAC  (4)
This course will introduce students to the commercial applications of various HVAC systems. A strong foundation in refrigeration theory is required as well as a comprehensive understanding of system airflow and electrical fundamentals. Students who complete this course will be skilled in reading advanced electrical schematics and be able to describe the function and application of various commercial systems and components including Direct Digital Control systems and frequency drives. This is a capstone course.

CEC 235  Commercial HVAC Lab  (4)
This course continues the introduction to Commercial HVAC systems through hands-on training. Students will be performing basic maintenance, repairs and troubleshooting on functioning light commercial and commercial equipment.

CEC 236  NCCER HVAC Level 3 Part 1  (4)
This course features a highly illustrated design, technical hints and tips from industry experts, review questions and a whole lot more! Key content includes: Fasteners, Hardware and Wiring Terminations, Control Circuit and Motor Troubleshooting, Troubleshooting Cooling, Troubleshooting Heat Pumps, Troubleshooting Gas Heating, Troubleshooting Oil Heating, and Troubleshooting Accessories.

CEC 238  NCCER HVAC Level 3 Part 2  (4)
This course features a highly illustrated design, technical hints and tips from industry experts, review questions and a whole lot more! Key content includes: Zoning, Ductless, and Variable Refrigerant Flow Systems, Commercial Hydronic Systems, Steam Systems, Retail Refrigeration Systems, and Customer Relations.

CEC 256  NCCER HVAC Level 4 Part 1  (4)
This course features a highly illustrated design, technical hints and tips from industry experts, review questions and a whole lot more! Key content includes: Water Treatment, Indoor Air Quality, Energy Conservation Equipment, Building Management Systems, System Air Balancing, Construction Drawings and Specifications.

CEC 258  NCCER HVAC Level 4 Part 2  (4)
This course features a highly illustrated design, technical hints and tips from industry experts, review questions and a whole lot more! Key content includes: Heating and Cooling System Design, Commercial and Industrial Refrigeration Systems, Alternative and Specialized Heating and Cooling Systems, and Fundamentals of Crew Leadership.

CEC 280  Climate & Energy OJT  (1-3)
This course features a is a hands-on method of teaching the skills, knowledge, and competencies needed for employees to perform in the field of HVAC. Students learn in an environment where they will need to practice the knowledge and skills obtained during their training.

Commercial & Heavy Construction

The Commercial and Heavy Construction Program introduces the basic skills used in commercial and heavy construction projects. The program is a challenging, career-building educational experience for anyone who is serious about their future in construction. Courses are a combination of lecture, lab, and the opportunity for worksite experience utilizing skills with equipment acquired from the courses. Math and reading are embedded in the curriculum. At the completion of the program, students are eligible to be NCCER Certified Craft Technicians. Class A CDL is an
optional certification. This program will offer students preparation to test for the industry-recognized credentials listed below.

**Program Information**

- **Required Math Score:** Level 4
- **Required Reading Score:** Level 4
- **Program Start (semesters):** August
- **Financial Aid available (for post-secondary students only):** Yes
- **Veteran Benefits Eligible (for post-secondary students only):** Yes
- **Industry-recognized credentials:** NCCER Core; NCCER Heavy Equipment Level 1; NCCER Heavy Equipment Level 2; KS CDL; NCCER Site Layout Level 1; NCCER Site Layout Level 2; NCCER Heavy Highway Construction; NCCER Pipe Layer Level 1; Confined Space Safety; OSHA

**Certificate Requirements**

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>CHC 105</td>
<td>Introductory Craft Skills</td>
<td>3</td>
</tr>
<tr>
<td>CHC 110</td>
<td>Field Safety &amp; Orientation</td>
<td>2</td>
</tr>
<tr>
<td>CHC 120</td>
<td>Site Layout I</td>
<td>1</td>
</tr>
<tr>
<td>CHC 122</td>
<td>Site Layout II</td>
<td>4</td>
</tr>
<tr>
<td>CHC 130</td>
<td>Safety Certifications</td>
<td>2</td>
</tr>
<tr>
<td>CHC 140</td>
<td>Heavy Highway I</td>
<td>6</td>
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<tr>
<td>CHC 150</td>
<td>Heavy Equipment I</td>
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<tr>
<td>CHC 180</td>
<td>Pipe Laying</td>
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<td>CHC 195</td>
<td>Class A CDL</td>
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<tr>
<td>CHC 250</td>
<td>Heavy Equipment II</td>
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<tr>
<td>CHC 255</td>
<td>Heavy Equipment II Application</td>
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<td>IND 109</td>
<td>OSHA - 30 Hour Const Ind Cert</td>
<td>2</td>
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<tr>
<td><strong>Total Hours</strong></td>
<td></td>
<td><strong>45</strong></td>
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</tbody>
</table>

**CHC 105 Introductory Craft Skills (3)**

This course introduces the student to basic safety, construction math, hand and power tools of the trade, basic blueprint reading, communication skills, and basic employability skills. Math and reading will be embedded in the curriculum. Introductory Craft Skills is required for all students entering the Carpentry program. The intent of this course is to introduce the students to the construction trades. It is very important for every student to learn the proper way to conduct themselves while in the shop or on-the-job site. This course will cover shop and job site safety, tool safety, personal protective devices, protective railings, proper storage and handling of construction materials, and construction drawings. This course will follow the NCCER modules for: Basic Safety, Introduction to Construction Math, Introduction to Hand Tools, Introduction to Power Tools, Introduction to Blueprints, Basic Rigging, Basic Communication Skills, and Basic Employability Skills.

**CHC 110 Field Safety & Orientation (2)**

Through a variety of classroom and/or lab activities the student will explore and demonstrate hazard recognition, signs, signals, barricades, work permits, material handling, specialty work, and health issues related to the industry. In addition, work zone safety, electric and high voltage issues, fall protection, ladders and scaffolding, lock-out/tag-out, safety inspections and meetings, and how to properly investigate and document an accident are discussed and implemented. Math and reading will be embedded in the curriculum.

**CHC 120 Site Layout I (1)**

This course introduces the student to site layout and how it applies to commercial sites for building pads and site work. Introduction to the equipment used for site layout of these projects, and common math equations encountered will be addressed. Math and reading are embedded in the curriculum.

**CHC 122 Site Layout II (4)**

The course will include surveying math, metric system, and conversion between English and metric. Concepts in working formulas and equations will be an essential component of the course. Students will learn proper use and care for site layout equipment. An introduction to reading of blueprints and specifications are relevant to site layout of various projects. Math and reading are embedded in the curriculum.

**CHC 130 Safety Certifications (2)**

This course instructs and prepares the student for a certificate in trench safety and competent person training, confined space safety certificate; and the OSHA 10-hour safety certificate. Industry has a high priority and focus on these safety certifications. Math and reading are embedded in the curriculum.

**CHC 140 Heavy Highway I (6)**

In this course the student will be introduced to the heavy highway trade of trucks and heavy equipment. Course content includes procedures and components of trucks, heavy equipment, below grade construction, earthmoving, plant operations, paving, and structures. Math and reading are embedded in the curriculum.

**CHC 150 Heavy Equipment I (5)**

This course will prepare the student with technical skills to seek employment as a heavy equipment operator in the equipment operations career field. This course includes instructions and practical operation experience in bulldozers, backhoes, track excavators, skid loaders, motor graders, and dump trucks. Students will also have a working understanding of grade reading, laser level operation, engineering stake interpretations, safety procedures, and equipment maintenance. Math and reading will be embedded within the curriculum.

**CHC 180 Pipe Laying I (6)**

Through classroom and/or lab experiences, instruction will include proper use of hand and power tools in the pipe laying trade, receiving and inspecting pipe upon arrival on the job site, cutting and fabricating the pipe, discussion of concrete, PVC, and ductile iron pipe, proper elevations, and components of trucks, heavy equipment, below grade construction, earthmoving, plant operations, paving, and structures. Math and reading are embedded within the curriculum.

**CHC 195 Class A CDL (1)**

This course will provide technical knowledge and skills for the student about various trucks in the 54,000 lb. tag weight and used in construction. Dump trucks will be the primary focus and the student will learn the components of the trucks as well as be instructed on safe operation of the vehicle. Math and reading will be embedded in the program. Pre-and post-trip inspections will be taught along with proper paperwork required in such vehicle. Optional: the student may complete the assessment to obtain the Class A CDL.
Cosmetology Clinical (only if needed — see Program Information below)

Customer service. This program will offer students preparation to test for waving, apply facials and skin care, as well as marketing and salon hairstyling for all clientele types, manage hair color and permanent (KBOC). Students will learn how to artistically integrate haircutting and

1,500 contact hours required by the Kansas Board of Cosmetology (KBOC). The program includes classroom and clinical instruction and the 1,500 contact hours required by the Kansas Board of Cosmetology (KBOC). Students will learn how to artistically integrate haircutting and permanent waving, apply facials and skin care, as well as marketing and salon customer service. This program will offer students preparation to test for the industry-recognized credentials listed below.

**Course Requirements**

- **Program Start (semesters):** August; January
- **Required Math Score:** Level 4
- **Required Reading Score:** Level 4
- **Program Start (semesters):** August; January
- **Financial Aid available (for post-secondary students only):** Yes
- **Veteran Benefits Eligible (for post-secondary students only):** Yes
- **Industry-recognized credentials:** KS Cosmetology License; OSHA

<table>
<thead>
<tr>
<th>Certificate Requirements</th>
<th>Code</th>
<th>Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Scientific Concepts</strong></td>
<td>1</td>
<td>COS 131 - COS 135</td>
<td>5</td>
</tr>
<tr>
<td><strong>Physical Services</strong></td>
<td>2</td>
<td>COS 141 - COS 147</td>
<td>14</td>
</tr>
<tr>
<td><strong>Design Services</strong></td>
<td>3</td>
<td>COS 151 - COS 157</td>
<td>12</td>
</tr>
<tr>
<td><strong>Chemical Services</strong></td>
<td>4</td>
<td>COS 161 - COS 167</td>
<td>14</td>
</tr>
<tr>
<td><strong>Business Practices/Student Specific Needs</strong></td>
<td>5</td>
<td>COS 221 - COS 224</td>
<td>4</td>
</tr>
<tr>
<td><strong>State Law</strong></td>
<td>6</td>
<td>COS 231 - COS 232</td>
<td>2</td>
</tr>
<tr>
<td><strong>IND 105</strong></td>
<td>7</td>
<td>COS 130 - Cosmetology Clinical (only if needed – see below)</td>
<td>1-3</td>
</tr>
</tbody>
</table>

**Total Hours:** 53-55

**COS 130 Cosmetology Clinical (1-12)**

Cosmetology students who still have contact hours to complete, due to lack of attendance. This is usually after the original contact/credit semesters have ended.

**COS 131 Scientific Concepts (1)**

This course provides classroom instruction in sanitation, hair and scalp, skin, and nails for as prescribed by the Kansas Board of Cosmetology.

**COS 132 Scientific Concepts (2)**

This course provides classroom instruction in sanitation, hair and scalp, skin, and nails for as prescribed by the Kansas Board of Cosmetology.

**COS 133 Scientific Concepts (3)**

This course provides classroom instruction in sanitation, hair and scalp, skin, and nails for as prescribed by the Kansas Board of Cosmetology.

**COS 134 Scientific Concepts (4)**

This course provides classroom instruction in sanitation, hair and scalp, skin, and nails for as prescribed by the Kansas Board of Cosmetology.

**COS 135 Scientific Concepts (5)**

This course provides classroom instruction in sanitation, hair and scalp, skin, and nails for as prescribed by the Kansas Board of Cosmetology.

**COS 141 Physical Services (1)**

This course provides both classroom and clinical instruction in shampoos and rinses, scalp and hair care, facials and make-up, manicuring, pedicures and artificial nail enhancements.
COS 142 Physical Services (2)
This course provides both classroom and clinical instruction in
shampoos and rinses, scalp and hair care, facials and make-up,
manicuring, pedicures and artificial nail enhancements.

COS 143 Physical Services (3)
This course provides both classroom and clinical instruction in
shampoos and rinses, scalp and hair care, facials and make-up,
manicuring, pedicures and artificial nail enhancements.

COS 144 Physical Services (4)
This course provides both classroom and clinical instruction in
shampoos and rinses, scalp and hair care, facials and make-up,
manicuring, pedicures and artificial nail enhancements.

COS 145 Physical Services (5)
This course provides both classroom and clinical instruction in
shampoos and rinses, scalp and hair care, facials and make-up,
manicuring, pedicures and artificial nail enhancements.

COS 146 Physical Services (6)
This course provides both classroom and clinical instruction in
shampoos and rinses, scalp and hair care, facials and make-up,
manicuring, pedicures and artificial nail enhancements.

COS 147 Physical Services (7)
This course provides both classroom and clinical instruction in
shampoos and rinses, scalp and hair care, facials and make-up,
manicuring, pedicures and artificial nail enhancements.

COS 151 Design Services (1)
This course provides both classroom and clinical instruction in basic hair
shaping, hair styling, and thermal techniques.

COS 152 Design Services (2)
This course provides both classroom and clinical instruction in basic hair
shaping, hair styling, and thermal techniques.

COS 153 Design Services (3)
This course provides both classroom and clinical instruction in basic hair
shaping, hair styling, and thermal techniques.

COS 154 Design Services (4)
This course provides both classroom and clinical instruction in basic hair
shaping, hair styling, and thermal techniques.

COS 155 Design Services (5)
This course provides both classroom and clinical instruction in basic hair
shaping, hair styling, and thermal techniques.

COS 156 Design Services (6)
This course provides both classroom and clinical instruction in basic hair
shaping, hair styling, and thermal techniques.

COS 157 Design Services (7)
This course provides both classroom and clinical instruction in basic hair
shaping, hair styling, and thermal techniques.

COS 161 Chemical Services (1)
This course provides classroom instruction in Chemical Hair care
services. Virgin application, retouch application, foiling techniques, free
hand techniques, permanent waving, and chemicals services that are for
textured hair, relaxing and curl reformation.

COS 162 Chemical Services (2)
This course provides classroom instruction in Chemical Hair care
services. Virgin application, retouch application, foiling techniques, free
hand techniques, permanent waving, and chemicals services that are for
textured hair, relaxing and curl reformation.

COS 163 Chemical Services (3)
This course provides classroom instruction in Chemical Hair care
services. Virgin application, retouch application, foiling techniques, free
hand techniques, permanent waving, and chemicals services that are for
textured hair, relaxing and curl reformation.

COS 164 Chemical Services (4)
This course provides classroom instruction in Chemical Hair care
services. Virgin application, retouch application, foiling techniques, free
hand techniques, permanent waving, and chemicals services that are for
textured hair, relaxing and curl reformation.

COS 165 Chemical Services (5)
This course provides classroom instruction in Chemical Hair care
services. Virgin application, retouch application, foiling techniques, free
hand techniques, permanent waving, and chemicals services that are for
textured hair, relaxing and curl reformation.

COS 166 Chemical Services (6)
This course provides classroom instruction in Chemical Hair care
services. Virgin application, retouch application, foiling techniques, free
hand techniques, permanent waving, and chemicals services that are for
textured hair, relaxing and curl reformation.

COS 167 Chemical Services (7)
This course provides classroom instruction in Chemical Hair care
services. Virgin application, retouch application, foiling techniques, free
hand techniques, permanent waving, and chemicals services that are for
textured hair, relaxing and curl reformation.

COS 221 Bus Prctice/Std Specific Needs (1)
This course provides classroom instruction in management practices,
salon development, insurance, client records and salesmanship.

COS 222 Bus Prctice/Std Specific Needs (2)
This course provides classroom instruction in management practices,
salon development, insurance, client records and salesmanship.

COS 223 Bus Prctice/Std Specific Needs (3)
This course provides classroom instruction in management practices,
salon development, insurance, client records and salesmanship.

COS 224 Bus Prctice/Std Specific Needs (4)
This course provides classroom instruction in management practices,
salon development, insurance, client records and salesmanship.

COS 231 State Law (1)
This course provides classroom instruction in the Kansas Board of
Cosmetology General Laws, Rules and Regulations.

COS 232 State Law (2)
This course provides classroom instruction in the Kansas Board of
Cosmetology General Laws, Rules and Regulations.

Culinary Arts

The Culinary Arts program prepares students to serve under the
supervision of chefs and other culinary professionals. Instruction
includes culinary math, food safety and sanitation, use and care of
equipment, food preparation, and cooking skills. Students will develop
other essential skills including baking, purchasing, menu planning,
introduction to restaurant supervision and management, and the
exploration of international cuisines. Upon graduation students will have
the skills and confidence to be a productive member of any restaurant
team. This program will offer students preparation to test for the
industry-recognized credentials listed below.

Program Information
Sanitation/Safety

Basic Management Skills

Workplace Skills

Food Prep I

Baking Principles II

• Required Math Score: Level 4
• Required Reading Score: Level 4
• Program Start (semesters): August
• Financial Aid available (for post-secondary students only): Yes
• Veteran Benefits Eligible (for post-secondary students only): Yes
• Industry-recognized credentials: NRAE ServSafe Manager; OSHA

Certificate Requirements

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Hours</th>
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<tbody>
<tr>
<td>CUA 100</td>
<td>Culinary Math</td>
<td>4</td>
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<tr>
<td>CUA 110</td>
<td>Sanitation/Safety</td>
<td>3</td>
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<td>CUA 120</td>
<td>Basic Cooking Principles</td>
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<td>CUA 130</td>
<td>Food Prep I</td>
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<td>CUA 135</td>
<td>Food Prep II</td>
<td>6</td>
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<tr>
<td>CUA 210</td>
<td>Basic Management Skills</td>
<td>3</td>
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<td>CUA 215</td>
<td>Food Prep III</td>
<td>5</td>
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<td>CUA 220</td>
<td>Workplace Skills</td>
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<td>CUA 230</td>
<td>Food Prep IV</td>
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<td>CUA 235</td>
<td>International Cuisine</td>
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<td>CUA 240</td>
<td>Baking Principles I</td>
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<tr>
<td>CUA 245</td>
<td>Baking Principles II</td>
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Total Hours 48

CUA 100 Culinary Math (4)

This course develops students’ math skills that are vital to the food service industry. These skills include working with conversions of weights, measuring and calculating food cost, portion costs, labor control, and portion control which are all vital skills in becoming a great chef.

CUA 110 Sanitation/Safety (3)

This course covers sanitation and food safety by instructing the students on the regulations imposed by the State of Kansas Food Code that must be followed during the production of food for consumption by the public. It is a prerequisite to all other courses in the culinary arts program. Successful completion of the course will provide the student with methods of controlling the spread, growth, and elimination of bacteria and other food borne pathogens, as well as controlling physical contamination threats to foods. The student will also be able to perform safely in all areas of kitchen operations including the lifting and transporting of food and equipment, and have an awareness of safely handling hazardous materials along with knowledge of fire awareness, suppression, and avoidance, as well as avoidance of burns and lacerations. Safe equipment operation, maintenance, and cleaning are explained and no student is allowed to operate any power equipment until having its operation demonstrated by the instructor. Proper knife selection and handling is explained and demonstrated by the instructor. Sanitation and safety are continually brought by and related to current activities throughout the length of the program.

CUA 120 Basic Cooking Principles (5)

This course covers the most basic and some of the most important concepts in culinary arts profession. This course is a prerequisite for all later courses in the program. Upon completion of the student will have full vocabulary of cooking terminology and be able to identify the moist and dry heat methods of heat transfer as well as how equipment and materials provide heat and affect the cooking process. The student will be able to identify the components of recipes as well as how to read, interpret, price, and convert them. The student will be capable of utilizing the various ways product in the kitchen are measured and portioned along with the economic ramifications of proper implementation of these skills. Topics also include menu design and the factors involved in it along with the basic nutritional considerations and terminology that relate to it. Students also will be conversant on kitchen organization, prioritization of tasks, and time management in the face of deadlines. Students will use basic preparation tasks and knife skills. This course includes lecture, demonstration, and lab opportunities to apply knowledge and skills in food preparation.

CUA 128 Food Prep 1-A (3)

This course presents relevant information and training about standard commercial and institutional food preparation as it relates to the preparation of stocks, sauces, and soups. Upon completion, the student will be able to identify the ingredients and methods of production of stocks, reductions, and glazes. They will be capable of classifying and preparing sauces, thickening agents used, sauce families, production methods, finishing techniques, and producing and classifying soups. This course includes lecture, demonstration, and lab opportunities to apply knowledge and skills in food preparation.

CUA 130 Food Prep I (6)

This course presents relevant information and training about standard commercial and institutional food preparation as it relates to the preparation of stocks, sauces, soups, and red meats. Upon completion, the student will be able to identify the ingredients and methods of production of stocks, reductions, and glazes. They will be capable of classifying and preparing sauces, thickening agents used, sauce families, production methods, finishing techniques, and producing and classifying soups. The student will understand the composition, structure, and quality factors involved in utilizing red meats. Topics such as the basic cuts available and carcass structure, as well as selection of the various market forms available and an overview of cooking methods as it relates to tenderness and methods of determining doneness of meats will be explored. This course includes lecture, demonstration, and lab opportunities to apply knowledge and skills in food preparation.

CUA 135 Food Prep II (6)

This course presents relevant information and training about standard commercial and institutional food preparation as it relates to the understanding and preparation of poultry, seafood, and vegetables. Upon completion, the student will be conversant in the composition and classification of poultry, seafood, and vegetables. The student will be able to properly handle, butcher, prepare, and determine doneness of these products. This course includes lecture, demonstration, and lab opportunities to apply knowledge and skills in food preparation. This is a 6 credit hour intermediate level course consisting of 45 hours of classroom work and 90 hours of lab experience.
CUA 210 Basic Management Skills (3)
This course introduces the student to the nature of food service management philosophy. It gives the student an overview of management goals in the industry. Cost and sales concepts are discussed along with control processes. Cost, volume, and profit relationships are also examined along with customer service concepts are examined as well. Students will have hands-on experience with scheduling, conducting inventory, along with menu development and costin.

CUA 215 Food Prep III (5)
This course presents relevant information and training relating to commercial and institutional preparation of vegetables, potatoes, legumes, pastas, and other starches, along with salads and dressings. The student will be able to use various preparation methods in order to control changes in the color, flavor, texture, and nutritional content of these products. Topics included are the vegetarian diet as well the preparation of the various types of salads, dressings, and the types of emulsions involved in preparing them. This course includes lecture, demonstration, and lab opportunities to apply knowledge and skills in food preparation.

CUA 220 Workplace Skills (1)
This course utilizes Key Train software to assist in advancement of knowledge. A Level 4 in Applied Math and Reading for Information and a Level 3 in Locating Information Work Keys assessments are required prior to exiting the program. Students will also be required to attend seminars provided through the Career Resource Center. Seminar which includes interview techniques, developing and preparing a resume, completing job applications, ethics, and teamwork.

CUA 230 Food Prep IV (3)
This course presents relevant information and training relating to commercial and institutional preparation of sandwiches, hors d’oeuvres, breakfast preparations, and dairy and cheese products. The student will be able to prepare various common types of sandwiches and canapés, cocktails, relishes, and dips using typical methods. The student will also be able to prepare egg products and custards, dairy and cheese products, and breakfast beverage preparations. This course includes lecture, demonstration, and lab opportunities to apply knowledge and skills in food preparation.

CUA 235 International Cuisine (4)
This course gives students the opportunity to learn about other countries and cuisines from around the world. Students will investigate imports and exports, produce indigenous foods, and apply new cooking techniques from a variety of countries around the world.

CUA 240 Baking Principles I (4)
This course presents relevant information and training relating to commercial preparation of bakery products and ingredients used. This includes discussion of baking formulas and baking percentages. Dough and batter mixing and the information of gluten are covered along with the baking process. Primary ingredients and their use in the bake shop are examined. An initial look at bakery production is made through examining artisan and sour dough breads and the production of lean and rich dough yeast breads.

CUA 245 Baking Principles II (4)
This course presents relevant information and training relating to commercial and institutional preparation of bakery products and ingredients used. This includes the preparation of quick breads, syrups, creams, sauces, pies, pastries, tarts, cakes, cookies, and decorative sugar and chocolate pieces.

**Diesel Technology**

The Diesel Technology program prepares individuals to apply technical knowledge and skills to repair, service, and maintain diesel powered equipment. Instruction includes both theory and hands-on activities in safety, repair, and maintenance of several types of diesel equipment, as well as tune-up and overhauling, transmissions, and differentials. Specific hands-on experience will be provided on Case, Caterpillar, Cummins, Fuller, Allison, Arvin Meritor, and Rockwell Eaton equipment. This program will offer students preparation to test for the industry-recognized credentials listed below.

**Program Information**

- Required Math Score: Level 4
- Required Reading Score: Level 4
- Program Start (semesters): August; January
- Financial Aid available (for post-secondary students only): Yes
- Veteran Benefits Eligible (for post-secondary students only): Yes
- Industry-recognized credentials: ASE Brakes; ASE Diesel Engines; ASE Electrical/Electronic Systems; ASE Suspension & Steering; OSHA

**Certificate Requirements**

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Hours</th>
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<tbody>
<tr>
<td>DEM 111</td>
<td>Shop Skills &amp; Safety Fundamet</td>
<td>1</td>
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<tr>
<td>IND 105</td>
<td>OSHA - 10 Hr Gen Industry Cert</td>
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<td>DEM 113</td>
<td>Electrical/Electronic Systems</td>
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<td>DEM 116</td>
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<td>DEM 123</td>
<td>Hydraulics</td>
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<td>DEM 134</td>
<td>Scanner Diagnostics</td>
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<tr>
<td>DEM 138</td>
<td>Suspension and Steering</td>
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<tr>
<td>DEM 143</td>
<td>Brakes</td>
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<tr>
<td>DEM 148</td>
<td>Advncd Electrl/Electrnc Systms</td>
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<td>DEM 221</td>
<td>Drive Trains</td>
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<td>DEM 230</td>
<td>Brakes Service</td>
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<td>DEM 231</td>
<td>Diesel Engines I</td>
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<td>DEM 238</td>
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<td>DEM 241</td>
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<tr>
<td>DEM 250</td>
<td>Engine Performance</td>
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<td>DEM 268</td>
<td>Aux Power Units/Refrigeration</td>
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<td>DEM 248</td>
<td>Drive Trains II</td>
<td>3</td>
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<td><strong>Total Hours</strong></td>
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**DEM 111 Shop Skills & Safety Fundament (1)**
The focus of this course is the ability to safely work with shop equipment commonly found in a diesel servicing and repair facility. Emphasis is using, maintain and servicing shop equipment such as hoists, lifts, safety stands, cranes, presses and grinders. The location and usage of personal protective equipment (PPE) and of common hand tools is included.

**DEM 113 Electrical/Electronic Systems (5)**
Systems studies the principles of electricity through operations and testing procedures and provides an introduction to electronics. Diagnostics and repair of starting and charging electrical systems are covered, in addition to practical applications of the principles of electricity. Electronic management programs are referenced and studied.
DEM 116 Workplace Skills (1)
Overview and practice of general workplace skills including personal effectiveness, time management, teamwork, and critical thinking in the workplace. The course incorporates skill development in the following three units: overview of diesel technology, workplace communication and customer service, and job application.

DEM 123 Hydraulics (5)
Principles of basic hydraulics, introduction to hydraulics systems: open center, closed center, and pressure and flow compensating type systems.

DEM 134 Scanner Diagnostics (1)
Scanner Diagnostics focuses on the hands-on application of aftermarket diagnostic equipment and tools such as the Snap-on Pro-link and Modis as well as OEM systems utilized by Cummins, CASE and others.

DEM 138 Suspension and Steering (3)
Suspension and Steering addresses the theory, operations and troubleshooting of various steering and suspension system components.

DEM 142 Welding for Diesel (3)
Introduction to basic concepts of general welding; hands-on lab activities to apply knowledge and develop skills in the following areas: shop safety, cutting (oxy/acetylene) SMAW (Shielded Metal Arc Welding).

DEM 143 Brakes (3)
Brakes will cover the theory and operations of hydraulic and air brake systems, teaching troubleshooting, disassembly, inspection and adjustments of hydraulic and air brake systems, including ABS.

DEM 144 Brakes for Construction (2)
Brakes will cover the theory and operations of hydraulic and air brake systems, teaching troubleshooting, disassembly, inspection and adjustments of hydraulic and air brake systems, including ABS. Common braking system utilized on construction equipment are highlighted.

DEM 146 Welding for Diesel (4)
Introduction to basic concepts of general welding; hands-on lab activities to apply knowledge and develop skills in the following areas: shop safety, cutting (oxy/acetylene) SMAW (Shielded Metal Arc Welding). Participants will work independently and as small teams in completing the lab activities.

DEM 147 Welding for Locomotive (2)
The course includes basic oxy-acetylene heating, cutting, brazing and welding and basic shielded Metal Arc Welding (SMAW) typically used in the railroad industry. Safety and set-up are emphasized and the student will perform the fundamentals of the processes as they produce acceptable welds and cuts.

DEM 148 Advncd Electrl/Electrnc Sysm (5)
Construction machine electrical schematic reading, troubleshooting, diagnosis, and repair of monitoring systems, instrumentation, and other specialized electronic and computer-controlled equipment on CASE Construction machinery and heavy equipment. Students will determine proper use of wiring schematics to troubleshoot electrical systems on light through heavy vehicles.

DEM 150 EST Diagnostics (1)
The CASE EST (Electronics Scan Tool) Diagnostics course on the hands-on application of CASE and aftermarket diagnostic equipment and tools such as the Snap-on Pro-link and Modis as well as OEM systems utilized by Cummins, CASE and others.

DEM 202 Advanced Machine Electrical (3)
Construction machine electrical schematic reading, troubleshooting, diagnosis, and repair of monitoring systems, instrumentation, and other specialized electronic and computer-controlled equipment on CASE Construction machinery and heavy equipment.

DEM 203 Locomotive FRA (3)
This course is the fourth in a series of four courses in Locomotive Mechanics. This course is designed to introduce the student to the Federal Railway Administration and Department of Transportation Code of Federal Regulations Title 49, Parts 209, 218, 229, 231, and 232.

DEM 204 Advanced Machine Electrical (4)
Knowledge and skills learned in DEM113 are the foundation for the study of CASE Construction equipment electrical systems such as monitoring systems, instrumentation, lighting and other specialized electronic and computer-controlled systems. Troubleshooting, diagnosis, and repair of these systems is performed utilizing electrical testers, meters, and scan tools such as the CASE EST (Electronic Service Tool). The use of wiring schematics and repair manuals in the diagnosis process is emphasized. Prerequisite: DEM113 Electrical Electronics Systems

DEM 206 Basic GE Mechanical (3)
This is the second in a series of four courses in Locomotive Mechanics. This course is designed to introduce the student to the basic operation, maintenance, repair requirements and trouble shooting for GE diesel engines and support systems.

DEM 208 Basic EMD Mechanical (3)
This is the first in a series of four courses in Locomotive Mechanics. This course is designed to introduce the student to the basic operation, maintenance, repair requirements and trouble shooting for EMD diesel engines and support systems.

DEM 212 EST & Telematic Systems (3)
Theoretical and practical application of CASE Construction EST (Electronic Service Tool) and telematic systems as related to construction equipment; emphasis on software, product information, calibration and hardware functions.

DEM 221 Drive Trains (3)
The Drive Trains course will include classroom and/or shop exercises in: characteristics and principles of power trains units. Specific topics include introduction to diesel drive trains, drive shafts, power take-offs, and standard transmissions. Also the procedures in disassembly, wear analysis, and failure analysis. Instruction will be included in these topics of transmissions and differentials: Mack, Rockwell Eaton and Dana Spicer. Students will be expected to observe and comply with all safety rules and regulations.

DEM 223 Advanced Hydraulic Systems (2)
This course includes instruction on Hydraulic and hydrostatic systems used on construction equipment; diagnosing and testing to solve system problems; interpretation of fluid hydraulic schematic and diagrams; and electronic and computer-controlled systems.

DEM 224 Advanced Hydraulic Systems (3)
Knowledge and skills learned in DEM123 are the foundation for the study of the hydraulic and hydrostatic systems used on CASE construction equipment. Diagnosing and testing to solve system problems; interpretation of fluid hydraulic schematic and diagrams; and electronic and computer-controlled systems are all covered. Prerequisite DEM123 Hydraulics
DEM 230 Brakes Service (2)
The focus of this course is hands-on work on common light, medium and heavy truck hydraulic and air brake systems and components. Basic operating theory is covered at the level required to understand or perform the operation, maintenance, inspection, diagnosis, wear pattern interpretation, failure analysis, reconditioning, disassembly, re-assembly of systems.

DEM 231 Diesel Engines I (5)
Diesel Engines I introduces the theory of operation and the use of the engine's mechanical components; disassembling, inspecting, measuring, reassembling and performing maintenance procedures on diesel engines.

DEM 232 Service Department Implementation (3)
Simulation of a service department including diagnostic work, disassembly work, repair work and assembly work on CASE CONSTRUCTION equipment. Students will practice accurate and precise labor documentation.

DEM 233 Locomotive Air Brake (3)
This course is the third in a series of four courses in Locomotive Mechanics. It is designed to provide the student an introduction to the operation, testing, maintenance, and troubleshooting for 26L and 30 ACDW locomotive air brake systems. This course also emphasizes FRA air brake requirements applicable to locomotives.

DEM 238 Suspension & Steering Service (2)
The focus of this course is hands-on work on common light, medium and heavy truck suspension and steering systems and components. Basic operating theory is covered at the level required to understand or perform the operation, maintenance, inspection, diagnosis, wear pattern interpretation, failure analysis, reconditioning, disassembly, re-assembly of systems including a basic alignment. Basic usage of Oxyacetylene equipment is also covered.

DEM 241 Advanced Diesel Engines (5)
Advanced Diesel Engines course will include classroom and/or shop exercises: basic principles of the various engine systems, the disassembly and inspection, reconditioning of component parts to include various fuel systems. In addition, engine diagnosis and maintenance will be discussed and performed in various engine systems. Students will be expected to observe and comply with all safety rules.

DEM 242 Heavy Equipment I (4)
Introduction to heavy highway trade of trucks and heavy equipment. Content includes: Setup, repair and operational field testing of new and used construction equipment; procedures and components of trucks, heavy equipment, below grade construction, earthmoving, plant operations, paving, and structures.

DEM 243 BNSF Worksite Observation (1)
This one hour Locomotive-Mechanic worksite observation is designed to allow the Locomotive Diesel students to view the engine components at the worksite to coincide with the courses for EMD and GE diesel engines and support systems in the NARS curriculum.

DEM 244 Heavy Equipment Operation (2)
Operation and operator-level service and inspection of typical heavy construction equipment such as bulldozers, backhoes, loaders, track hoes, uni-loaders, and off road trucks. Pre-operation inspections, setup, and operational field testing of new and used construction equipment.

DEM 248 Drive Trains II (3)
Drive Trains II builds on the knowledge, skills and abilities obtained in DEM221. Systems utilized in light, medium and heavy truck drive trains including: automatic transmissions, drive axles, procedures in disassembly/assembly, wear analysis, and failure analysis in drive trains, pressure and flow testing of drive train systems, timing of drive train systems, and theory and operation of final drives and shuttles are included. Prerequisite: DEM221 Drive Trains

DEM 250 Engine Performance (2)
Engine Performance covers the engine control and emission control systems such as fuel injection, air induction, exhaust, exhaust gas treatments/filters utilized on light, medium and heavy diesel trucks. Students are introduced to diagnostic equipment and tools such as the Snap-on Pro-link and Modis as well as OEM systems utilized by Cummins, CASE and others.

DEM 252 Power Trains for Construction (3)
Drive trains and components of construction equipment, clutch systems, transaxles, differentials, axles; emphasis on disassembly, reassembly and component identification; pressure and flow testing of powertrains used in construction equipment; calibrations of transmissions, theory and operations of final drives and shuttles. Emphasis: Understanding of operation of mechanical, power shift, power shuttle, S type power shift, and hydrostatic transmissions to include tracking and adjustments.

DEM 255 Engine Performance (3)
Provides theory, diagnosis, and service of diesel fuel and emission systems. Included are opportunities to analyze fuel and emission components and systems with emphasis on practical application of computer controlled fuel and emission systems.

DEM 258 Drive Trains II (2)
The Power Trains 2 course will include classroom and/or shop exercises in the following courses in the Power Trains unit: automatic transmission and torque converters, clutches, drive axles, special drives; and procedures in disassembly, wear analysis, and failure analysis in power trains. Instruction will include these types of transmissions and differentials: Mack, Rockwell Eaton, Arvin Meritor, and Dana Spicer. Students will be expected to observe and comply with all safety rules and regulations.

DEM 268 Aux Power Units/Refrigeration (2)
The function and purpose of Auxiliary Power Units (APUs) that power system when the primary engine is not in use, such as refrigeration units on tractor-trailers, are covered. This course includes basic air conditioning service, diagnostic, and repair on applications used in the diesel field and Section 509 Refrigeration certification by the Mobile Air Condition Society (MACS).

DEM 272 Auxiliary Power Units (2)
Course emphasizes the study and practices of additional and exterior units that are crucial to the diesel industry, such as machine hydraulics and auxiliary power units and trailers.

Dispatch Technology - Emergency Communications

The Dispatch Technology – Emergency Communications Program provides graduates with the necessary telecommunications skills and knowledge in order to be effective in serving the public’s needs as part of the local law enforcement system. This program will offer students preparation to test for the industry-recognized credentials listed below.
Program Information

- Required Math Score: Level 4
- Required Reading Score: Level 4
- Program Start (semesters): August, January
- Financial Aid available (for post-secondary students only): Yes
- Veteran Benefits Eligible (for post-secondary students only): Yes
- Industry-recognized credentials: FFEMA ICS 100; FEMA ICS 200; CPR

Certificate Requirements

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<th>Code</th>
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<th>Hours</th>
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<td>Dispatch</td>
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<td>DPT 103</td>
<td>Introduction to Emergency Mgmt</td>
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<td>DPT 107</td>
<td>Dispatch Protocols</td>
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<td>DPT 109</td>
<td>Emergency Communications</td>
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<td>DPT 111</td>
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<td>DPT 112</td>
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<tr>
<td>HCT 105</td>
<td>First Aid &amp; CPR</td>
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Total Hours 19

DPT 101 Dispatch (5)
Students will learn the roles and responsibilities of a dispatcher. The student will learn to answer emergency calls and work with citizens and law enforcement to provide necessary services. Training will include collecting necessary information from callers, use of voice to calm and deescalate situations, determining when calls should be referred to other agencies as well as what resources are available and should be dispatched.

DPT 103 Introduction to Emergency Mgmt (1)
This course provides emergency preparedness personnel with an overview of the skills needed at the community and state levels for emergency operations involving all hazards. This class is appropriate for business and industry, firefighters, Emergency Managers, EMS, police and other interested parties. Participants will complete the NIMS 100 course online.

DPT 107 Dispatch Protocols (2)
The Dispatch Protocols course is intended to give the student an introduction to protocols as they apply to Emergency Communications.

DPT 109 Emergency Communications (3)
Basic emergency communications equipment and operating procedures; specialized equipment used specifically for emergency communications such as alert paging and interagency radio, telephone, and computerized equipment; practice in use of emergency communications equipment; professional responsibilities and career opportunities in emergency communications.

DPT 111 Dispatch Clinical (1)
Students will spend a minimum of 45 contact hours working with dispatchers at the county and city law enforcement offices handling calls as well as working with the fire department dispatchers.

DPT 112 Advanced Dispatch Clinical (2)
Students will spend a minimum of 90 contact hours working with dispatchers at the county and city law enforcement offices handling calls as well as working with the fire department dispatchers.

DPT 121 Advanced Dispatch (4)
This course will build on the competencies learned in the Dispatch Course (DPT101). It is designed for students who have decided that they are interested in pursuing a career as a dispatcher. Students will learn to determine how to work with other agencies, route calls to the appropriate agency, multitask and make good decisions.

Early Childhood Professional

The Early Childhood Professional program is designed to provide training in the processes and principles of growth and development of children from infancy through six years of age. Emphasis is placed on social, emotional, physical, intellectual, motor development, and support services relating to children. Upon completion of the program, students have opportunities for employment in day care centers and state institutions as teacher's aides or home day care providers.

Program Information

- Required Math Score: Level 4
- Required Reading Score: Level 4
- Program Start (semesters): August
- Financial Aid available (for post-secondary students only): Yes
- Veteran Benefits Eligible (for post-secondary students only): Yes
- Industry-recognized credentials: N/A

Certificate Requirements

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<th>Code</th>
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<tr>
<td>CCC 125</td>
<td>Guidance &amp; Discipline/Family</td>
<td>2</td>
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<tr>
<td>CCC 130</td>
<td>Regs Safety Abuse</td>
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<tr>
<td>CCC 140</td>
<td>Collection File I</td>
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<td>CCC 150</td>
<td>Child Care Lab I</td>
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<tr>
<td>CCC 215</td>
<td>Intro Early Child</td>
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<tr>
<td>CCC 225</td>
<td>Child Care Program Development</td>
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<td>CCC 230</td>
<td>Inf/Toddler/Exceptional Child</td>
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<tr>
<td>CCC 250</td>
<td>Child Care Lab II</td>
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Total Hours 24

CCC 115 Child Care Curriculum Planning (2)
This course introduces techniques for guiding the following types of experiences: art, storytelling, puppetry, writing, math, science, social studies, music, and field trips. Assessment of the course includes written and assigned activities.

CCC 125 Guidance & Discipline/Family (2)
This course will assist students in developing guidance skills, handling guidance challenges, establishing classroom rules, and involving parents and family. Assessment of the course includes written and assigned activities.

CCC 130 Regs Safety Abuse (2)
This course will address KDHE Licensing Regulations, in-service training on First Aid, CPR, abuse, neglect, and communicable diseases, and promoting children's safety. Assessment of the course includes written and assigned activities.
CCC 140 Collection File I (1)
This course requires assembling a portfolio of various activities that can be used as teaching tools in the center. The method of instruction will utilize the resource library and various web sites. Assessment of the course includes written and assigned activities.

CCC 150 Child Care Lab I (5)
This course involves participation in the licensed child care center under supervision of the unit leader. Students use knowledge and skills expected of professionals new to the early care and education field. Assessment of the course includes preparing lesson plans and implementing activities in the center with evaluation completed by the unit leader.

CCC 215 Intro Early Child (2)
This course introduces students to the fundamentals of early childhood care. Topics include program orientation, types of early childhood programs, observation and assessment of children, and child development principles and theories. Assessment of the course includes written and assigned activities.

CCC 225 Child Care Program Development (2)
This course will assist students in developing teaching philosophies, developing areas for a balanced curriculum, writing lesson plans, selecting toys, equipment and educational materials, and exhibiting professionalism. The method of instruction will utilize textbook, lecture, and student activity sheets. Assessment of the course includes written and assigned activities.

CCC 230 Inf/Toddler/Exceptional Child (2)
This course introduces students to quality programs for infants and toddlers, school-age children, and children with special needs. Assessment of the course includes written and assigned activities.

CCC 240 Collection File II (1)
This course is the continuation of compiling a teaching portfolio. The method of instruction will utilize the resource library and various web sites. Assessment of the course includes written and assigned activities.

CCC 250 Child Care Lab II (5)
This course involves participation in the licensed child care center under the supervision of the unit leader. Students should demonstrate increased knowledge and skills by assuming a teacher's role. Assessment of the course includes planning, developing, and implementing lesson plans with evaluation done by the unit leader.

Electrical Technology

The Electrical Technology program prepares individuals to apply technical knowledge and skills for employment in electrical construction and maintenance. Instructional areas include safety, electrical theory, blueprint reading, wiring, electrical construction, residential and commercial electricity, and National Electrical Code. This program will offer students preparation to test for the industry-recognized credentials listed below.

Program Information
- Required Math Score: Level 6
- Required Reading Score: Level 5
- Program Start (semesters): August
- Financial Aid available (for post-secondary students only): Yes
- Veteran Benefits Eligible (for post-secondary students only): Yes

• Industry-recognized credentials: NCCER Core; NCCER Electrical Level 1; KS Journeyman Exam; OSHA

Certificate Requirements

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<td>IND 109</td>
<td>OSHA - 30 Hour Const Ind Cert</td>
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<td>ELE 125</td>
<td>AC/DC Circuits I</td>
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<td>ELE 120</td>
<td>National Electrical Code I</td>
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<td>ELE 132</td>
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<td>ELE 135</td>
<td>Commercial Wiring</td>
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<td>ELE 140</td>
<td>Residential Wiring I</td>
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<td>ELE 142</td>
<td>National Electrical Code II</td>
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<td>ELE 137</td>
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ELE 120 National Electrical Code I (4)
This is an introductory course on the use and interpretation of the current National Electrical Code. The student will develop a working knowledge of the code which will permit them to apply it to everyday applications. The course will include the requirements for electrical installation, wiring design and protection, methods and materials used, equipment for general use, special occupancies equipment, and condition.

ELE 125 AC/DC Circuits I (4)
This course introduces students to the basic of alternating current and direct current circuits. The student will perform calculations using Ohm's law and the study the construction, operation and purpose of resistors, potentiometer, switches, fuses, relay capacitors, inductors, batteries, alternators, transformers, and series-parallel resonant circuits. Students will build basic AC and DC circuits using multi meter and oscilloscope.

ELE 127 International Res Code I (1)
The IRC (International Residential Code) is the understanding of building of single and two-family dwellings. The student will develop a working knowledge of the code and standards of constructing a dwelling. The electrical student needs the understanding of basic building design to do their work more efficiently. The course will include the requirements for scope and administration, definitions, and building planning.

ELE 132 Print Reading (2)
Print Reading introduces the student to the fundamentals of interpreting construction drawings. Students will learn to interpret plan views, elevation views, sections, details, schedules, specifications, symbols and abbreviations found on most residential, commercial, and industrial construction drawings.

ELE 135 Commercial Wiring (4)
In Commercial Wiring I, the student will study the theory, practice, and National Electrical Code requirements for commercial wiring. The course consists of definitions, formulas, wiring methods, overcurrent protection, calculation and sample examinations. Wiring projects are also assigned to put the theories learned in the classroom into practice.
ELE 137 International Residential Code (3)
The IRC (International Residential Code) is the understanding of building of single and two-family dwellings. The student will develop a working knowledge of the code and standards of constructing a dwelling. The electrical student needs the understanding of basic building design to do their work more efficiently. The course will include the requirements for scope and administration, definitions, and building planning. The course will also include general requirements, electrical definitions and services, branch circuit and feeder requirements, wiring methods, and power and lighting distribution.

ELE 140 Residential Wiring I (4)
This course is an introduction to residential wiring methods that includes practical application and hands on experience in implementing code requirements. The student will gain the necessary skills to wire a residence to meet the minimum requirements as set forth in the current National Electrical Code for residential occupancies.

ELE 142 National Electrical Code II (4)
This course is a continuation of the National Electrical Code I course on the use and interpretations of the current national electric code (NEC Chapters 5-9).

ELE 147 International Res Code II (1)
The IRC (International Residential Code) is the understanding of building of single and two-family dwellings. The student will develop a working knowledge of the code and standards of constructing a dwelling. The electrical student needs the understanding of basic building design to do their work more efficiently. The course will include general requirements, electrical definitions and services, branch circuit and feeder requirements, wiring methods, and power and lighting distribution.

ELE 220 Electricity II (6)
This course features a highly illustrated design, technical hints and tips from industry experts, review questions and a whole lot more! Key content includes: Alternating Current, Motors: Theory and Application, Electric Lighting, Conduit Bending, Pull and Junction Boxes, Conductor Installations, Cable Tray, Conductor Terminations and Splices, Grounding and Bonding, Circuit Breakers and Fuses, Control Systems and Fundamental Concepts.

ELE 230 Electricity III (6)
This course features a highly illustrated design, technical hints and tips from industry experts, review questions and a whole lot more! Key content includes: Load Calculations – Branch and Feeder Circuits, Conductor Selection and Calculations, Practical Applications of Lighting, Hazardous Locations, Overcurrent Protection, Distribution Equipment, Transformers, Commercial Electrical Services, Motor Calculations, Voice, Data, and Video, and Motor Controls.

ELE 240 Electricity IV (6)
This course features a highly illustrated design, technical hints and tips from industry experts, review questions and a whole lot more! Key content includes: Load Calculations – Feeders and Services, Health Care Facilities, Standby and Emergency Systems, Basic Electronic Theory, Fire Alarm Systems, Specialty Transformers, Advanced Controls, HVAC Controls, Heat Tracking and Freeze Protection, Motor Operation and Maintenance, Medium-Voltage Terminations/Splices, Special Locations, and Fundamental Principles of Crew Leadership.

ELE 250 Electrical OJT (6)
This course features a hands-on method of teaching the skills, knowledge, and competencies needed for employees to perform in the field of electrical work. Students learn in an environment where they will need to practice the knowledge and skills obtained during their training.

Emergency Medical Technology
The Emergency Medical Technology program is designed to provide instruction to those individuals desiring to provide medical care at the Emergency Medical Technician level, a vital link in the health care team chain. Participants will have the opportunity to gain special skills, knowledge, and teamwork concepts necessary for gaining certification and practicing as an EMT in the State of Kansas. This program will offer students preparation to test for the industry-recognized credentials listed below.

Program Information
- Required Math Score: Level 5
- Required Reading Score: Level 5
- Program Start (semesters): August; January; Summer
- Financial Aid available (for post-secondary students only): No
- Veteran Benefits Eligible (for post-secondary students only): Yes
- Industry-recognized credentials: KSEMS Practical Skills Exam; National Registry Exam

Certificate Requirements

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<thead>
<tr>
<th>Code</th>
<th>Title</th>
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<tbody>
<tr>
<td>EMS 100</td>
<td>Emergency Medical Technician</td>
<td>9</td>
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Total Hours 9

EMS 100 Emergency Medical Technician (9)
This program is designed to provide instruction to those individuals desiring to provide medical care at the Emergency Medical Technician level, a vital link in the health care team chain. Participants will have the opportunity to gain special skills, knowledge, and teamwork concepts necessary for gaining certification and practicing as an EMT in the State of Kansas. This program is sponsored by Washburn Tech. This program must be approved by the Kansas Board of Emergency Medical Services (KSBEMS). This program is based on current information and techniques considered the responsibility of the EMT according to the United States Department of Transportation, National Standard Curriculum, as enriched by the KSBEMS. This course exceeds the state and national requirements.

Graphics Technology
The Graphics Technology program is designed to give students knowledge of the graphics industry. Students will study the basics of imaging software through tutorials, projects, and internship opportunities. Printing basics will be learned through study of basic print components and how they apply to graphics technology. Students are instructed on how graphics and print work together to provide entry-level skills for employment in the graphics industry. This program will offer students preparation to test for the industry-recognized credentials listed below.

Program Information
- Required Math Score: Level 4
- Required Reading Score: Level 4
- Program Start (semesters): August; January
- Financial Aid available (for post-secondary students only): Yes
- Veteran Benefits Eligible (for post-secondary students only): Yes
Certificate Requirements

<table>
<thead>
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<th>Code</th>
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<th>Hours</th>
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<tr>
<td>GRP 110</td>
<td>Graphic Design I</td>
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<td>GRP 121</td>
<td>Color Composition</td>
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<td>GRP 133</td>
<td>Page Layout</td>
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<td>GRP 141</td>
<td>Graphic Design II</td>
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<td>GRP 148</td>
<td>Vector Based Graphics</td>
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<td>GRP 163</td>
<td>Digital Printing</td>
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<td>GRP 233</td>
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<td>Paper &amp; Bindery</td>
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<td>GRP 258</td>
<td>Portfolio Preparation</td>
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**GRP 110 Graphic Design I (4)**

The purpose of this course is to summarize the role served by graphic communications in a technological society and to identify the basic functions of the industry. This course also covers the fundamental principles and elements of design and general layout principles used by graphic designers in the production of visual images. This course introduces students to design software such as Adobe InDesign, Adobe Illustrator and Adobe Photoshop.

**GRP 120 Color Theory/Composition (4)**

This course will teach color theories and composition as they relate to imaging rules of creative element placement and design of an image, including the effects of light, exposure, and image tone. Students will further learn color theories and composition as they are used in graphic design and complement theories used in digital imaging.

**GRP 121 Color Composition (4)**

This course will introduce the use of color and composition as they relate to imaging rules of creative element placement and design of an image. Students will learn the psychology of color and how color can affect the message of the design.

**GRP 132 Digital Imaging I (4)**

This course incorporates the introduction to imaging techniques relating to basic camera operation, basic composition, basic lighting as it relates to exposure, and image reproduction. Students learn good camera handling techniques, and establish the ability to operate their digital camera using manual settings.

**GRP 133 Page Layout (4)**

This course will teach composition techniques and procedures utilizing page layout software such as Adobe InDesign. The student will explore formatting, alignment, spacing, breaks, tabs, tables, lists, drop caps, margins, columns, and become familiar with typographic details. They will also apply page layout techniques to create balanced and professionally designed materials.

**GRP 143 Typography (2)**

This course will introduce the use of different styles of typograph and how to use them more creatively. Students will learn how different styles of typography can affect the message of the design as well as add impact to their designs.

**GRP 148 Vector Based Graphics (3)**

A study and use of vector graphics for production. Skill development in the use of the tools and transformation options of Adobe Illustrator to create complex vector illustrations for print and web-based media. Mastery in manipulation of both text and graphics with emphasis on the use of the pen tool as well as the correct use and management of different color modes. Focus on software tools and techniques to capture, correct, create and combine images for print and web. Topics include input devices, resolution, tone and color correction, retouching, painting, drawing, image manipulation, compositing, automation, graphic formats, design and reproduction considerations, interview skills with clients to obtain information. This course continues to master skills in design software such as Adobe Indesign, Adobe Illustrator and Adobe Photoshop.

**GRP 152 Digital Imaging II (4)**

A continuance in camera technique will be explored with emphasis on exposure techniques that will produce the proper reproducible tone and image production. Image editing software will be given to produce and enhance a photograph to create a desired impact.

**GRP 153 Vector Based Graphics (5)**

A study and use of vector graphics for production. Skill development in the use of the tools and transformation options of Adobe Illustrator to create complex vector illustrations for print and web-based media. Mastery in manipulation of both text and graphics with emphasis on the use of the pen tool as well as the correct use and management of different color modes.

**GRP 163 Digital Printing (3)**

Principles of digital imaging technology and the different types of equipment and methods involved in electronic image capture are learned in this course. Students also learn how to prepare digital design and imaging files for successful output. This course will teach proper workflow techniques from file generation to print production. Emphasis is placed on troubleshooting and managing files as well as determining proper file structure based on the required output.

**GRP 170 Lighting Theories (2)**

This course provides a basic understanding of the elements of light, how lighting works and its effect on recording an image. Students will learn to see with light and establish the knowledge of the tonal limits and contrast as they relate to a given image.

**GRP 210 Paper & Bindery (2)**

This course covers the different types of paper and other substrates used for printing in the graphics industry. The course also covers various finishing methods and binding techniques.
GRP 220 Digital Printing (2)
Principles of digital imaging technology and the different types of equipment and methods involved in electronic image capture are learned in this course. Students also learn how to prepare digital design and imaging files for successful output.

GRP 233 Graphic Design III (5)
This course covers the advanced principles and elements of design and layout principles used by graphic designers in the production of visual images. The projects will become directed more toward working with clients and workplace skills. Students learn to evaluate the project and determine appropriate timeline and tools needed to accomplish the task. Students also learn how to manage multiple projects and deadlines successfully. The students will be given the opportunity to begin working with clients either in person or online. This course continues with advanced skills in design software such as Adobe InDesign, Adobe Illustrator and Adobe Photoshop.

GRP 235 Studio Lighting (2)
Students will practice portrait and commercial lighting techniques in the studio to develop an understanding of how lighting affects the varying differences of people. Commercial lighting will also be used to provide the maximum detail and representation for a given object.

GRP 241 Paper & Bindery (3)

GRP 242 Digital Imaging III (4)
This course establishes a higher level of camera operation and pre-visualization, along with an opportunity to enhance creative levels in composition and design. In addition, usage of editing software is introduced to enhance images created for projects. Students will have the opportunity to work with clients.

GRP 244 Raster Based Graphics (4)
This course will teach image composition techniques and procedures utilizing raster graphics software such as Adobe Photoshop. Focus on software tools and techniques to capture, correct, create and combine images for print and web. Topics include input devices, resolution, tone and color correction, retouching, painting, drawing, image manipulation, compositing, automation, graphic formats, design and reproduction considerations.

GRP 246 Graphic Design III (4)
This course covers the advanced principles and elements of design and layout principles used by graphic designers in the production of visual images. The projects will become directed more toward working with clients and workplace skills. Students learn to evaluate the project and determine appropriate timeline and tools needed to accomplish the task. The students will be given the opportunity to begin working with clients either in person or online. This course continues with advanced skills in design software such as Adobe InDesign, Adobe Illustrator and Adobe Photoshop.

GRP 248 Graphic Design IV (5)
Students who have met grade and attendance requirements will work directly with clients. Students will advance the skills learned in Graphic Design III by further mastering the use of a tracer system and interview skills with clients to obtain information. This course continues to master skills in design software such as Adobe InDesign, Adobe Illustrator and Adobe Photoshop.

GRP 251 Graphic Design IV (4)
Students who have met grade and attendance requirements will work with clients. Students will advance the skills learned in Graphic Design III by further mastering the use of a tracer system and interview skills with clients to obtain information. This course continues to master skills in design software such as Adobe InDesign, Adobe Illustrator and Adobe Photoshop.

GRP 252 Digital Imaging IV (4)
Students who have met grade and attendance requirements will work with clients. Students will advance the skills learned in Digital Imaging III by further mastering the use of a tracer system and interview skills with clients to obtain information.

GRP 254 Production Graphics (4)
This course will provide students with an on-the-job experience in a graphics setting. May include on campus virtual internship, job shadowing or off campus internship.

GRP 258 Portfolio Preparation (3)
This course will cover business operations and job management techniques. Students will learn interview techniques, developing and preparing a resume, digital and physical portfolio, completing job applications, ethics, and teamwork. Students will also participate in mock interviews.

GRP 260 Portfolio Preparation (4)
This course will cover business operations and job management techniques. Students will learn interview techniques, developing and preparing a resume, completing job applications, ethics, and teamwork. Students will also participate in mock interviews.

Health Care Technology

The Health Care Technology program is designed for high school students (grade 11 and 12) who want to enter the nursing field of study. This program meets state guidelines for the Kansas Nurse Aide and the Kansas Home Health Aide certification testing through the Kansas Department of Aging and Disability Services. This program will offer students preparation to test for the industry-recognized credentials listed below.

Program Information
- Required Math Score: Level 4
- Required Reading Score: Level 4
- Program Start (semesters): August; January; Summer
- Financial Aid available (for post-secondary students only): No
- Veteran Benefits Eligible (for post-secondary students only): No
- Industry-recognized credentials: CNA; HHA; OSHA

Certificate Requirements

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<thead>
<tr>
<th>Code</th>
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<th>Hours</th>
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<tr>
<td>HCT 108</td>
<td>Health Occupations I</td>
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<tr>
<td>MOS 150</td>
<td>Medical Terminology</td>
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<td>IND 103</td>
<td>OSHA 10-Hr Healthcare</td>
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<tr>
<td>HCT 128</td>
<td>Nurse Aide</td>
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<td>HCT 138</td>
<td>Home Health Aide</td>
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<td><strong>Total Hours</strong></td>
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</table>
HCT 100 Intro to Human Body (4)
This course introduces HealthCare Technology students to the basic science of body structure and function. It will familiarize the students to the human body and its levels of organization. Intro to Human Body is a component of and incorporated into the semester long program.

HCT 105 First Aid & CPR (1)
This course is an introduction to basic first aid and included CPR certification. The course provides the basic information and skills needed to meet the AMerican Heart Association standards. Participants will be allowed to practice the skills in a real life based environment that will test their learned skills.

HCT 108 Health Occupations I (4)
This course introduces Health Care Technology students to the basic science of body structure and function. It will familiarize the students to the human body and its levels of organization. Health Occupations I is a component of and incorporated into the semester long program.

HCT 118 Medical Math (1)
This course familiarizes the HealthCare Technology student to basic medical math used in a nursing care setting. It is a component of and incorporated into the semester long program.

HCT 122 Medical Terminology (2)
The course introduces the student to the language of the medical field. Medical prefixes, suffixes, and combining forms are introduced to the student so they may have a thorough knowledge and understanding of what they are reading and writing in the medical field. An emphasis is placed on terms, pathological conditions, and diagnostic terms.

HCT 124 Lab Skills & Patient Care (2)
This course provides the student with knowledge and practical application of basic laboratory skills with a focus on patient care. Students learn and practice basic skills in personal care, sterile technique, patient safety, documentation, and medication administration. There is major emphasis on the critical elements of laboratory procedures and the scientific rationale for performing the procedures correctly.

HCT 125 Lab Skills & Patient Care (3)
This course provides the student with knowledge and practical application of basic laboratory skills with a focus on patient care. Students learn and practice basic skills in personal care, sterile technique, patient safety, documentation, and medication administration. There is major emphasis on the critical elements of laboratory procedures and the scientific rationale for performing the procedures correctly.

HCT 128 Nurse Aide (5)
This course provides the student with the knowledge and skills necessary to secure employment as a CNA in the workplace through a combination of classroom instruction, nursing lab skill demonstration/practice, and the opportunity to gain instructor supervised experience in a work setting. This program meets state guidelines for the Kansas Nurse Aide certification testing through Kansas Department of Aging and Disability Services.

HCT 131 Human Development (3)
This course provides an introduction to physical, cognitive, emotional, and social aspects of human development throughout the life span. It emphasizes developmental processes beginning with conception and continuing throughout childhood, adolescence, adulthood, later life and death. The course focuses on developmental processes, cultural influences, and other factors that make each individual unique. This course takes an inter-disciplinary approach toward human development that is based on science and applied toward the goal of solving important human problems.

HCT 132 Anatomy & Physiology (4)
This course is designed to introduce the student to the structure and function of the following body systems: skeletal, muscular, nervous, sensory, circulatory, respiratory, digestive, and urinary systems. This class offers information concerning normal human structures and functions and the developmental changes that occur during an individual's life span. Students will learn specific information about factors associated with expected and abnormal anatomical and physiological changes associated with the body's major organ systems. This course is designed for students who are interested in pursuing a career in a health occupation.

HCT 133 Anatomy & Physiology Lab (2)
This course provides opportunities to observe various anatomical parts and to investigate physiological phenomena. The student will relate specimens, models, microscope slides, and whole body information learned in lecture and read about in the textbook. Study of anatomy of major organ systems includes use of anatomical models and selected preserved animals and organs.

HCT 134 Human Growth & Development (3)
This course provides an introduction to physical, cognitive, emotional, and social aspects of human development throughout the life span. It emphasizes developmental processes beginning with conception and continuing throughout childhood, adolescence, adulthood, later life and death. The course focuses on developmental processes, cultural influences, and other factors that make each individual unique. This course takes an inter-disciplinary approach toward human development that is based on science and applied toward the goal of solving important human problems.

HCT 135 CPR (0)
This course is an introduction to basic first aid and included CPR certification The course provides the basic information and skills needed to meet the American Heart Association standards. Participants will be allowed to practice the skills in a real life based environment that will test their learned skills.

HCT 136 Human Anatomy & Physiology (4)
This course is designed to introduce the student to the structure and function of the following body systems: skeletal, muscular, nervous, sensory, circulatory, respiratory, digestive, and urinary systems. This class offers information concerning normal human structures and functions and the developmental changes that occur during an individual's life span. Students will learn specific information about factors associated with expected and abnormal anatomical and physiological changes associated with the body's major organ systems. This course is designed for students who are interested in pursuing a career in a health occupation.
HCT 137 Human Anatomy & Physiology Lab (2)
This course provides opportunities to observe various anatomical parts and to investigate physiological phenomena. The student will relate specimens, models, microscope slides, and whole body information learned in lecture and read about in the textbook. Study of anatomy of major organ systems includes use of anatomical models and selected preserved animals and organs.

HCT 138 Home Health Aide (2)
This course is designed for the person seeking to provide direct care services to clients in their home. Home Health Aides assist other health care professionals in maintaining and restoring the client to optimum levels of physical and emotional well-being while allowing the client to remain at home. Upon completion of the course students are eligible to receive a certificate after passing the Kansas Department of Aging and Disability Services exam. Prerequisites: CNA certification.

HCT 141 Nutrition (3)
This introductory course provides a basic knowledge of human nutrition. Students will learn the sources and functions of the various nutrients. They will also explore the interaction of diet, disease, prevention, and treatment. Through the use of computerized nutrition program, students will analyze their diets for nutritional deficiencies and excesses.

HCT 148 Medication Aide (5)
The Certified Medication Aide (CMA) course is designed for the person seeking work in a long-term care facility. The CMA course introduces the student to basic concepts of medication administration including drug classification, drug action, and nursing implications for specific drugs. Student’s participation in hands-on experience in a clinical setting is an integral part of the course. Upon completion of the course, students are eligible to receive a Medication Aide certificate after passing the Kansas Department of Aging and Disability Services exam. Prerequisite: CNA certification.

HCT 152 Phlebotomy (3)
The Phlebotomy course is designed to train individuals to properly collect and process blood and other clinical specimens for laboratory testing and to interact with health care personnel, clients, and the general public. Presentation includes equipment and additives, basic anatomy, and techniques for safe and effective venipuncture. Emphasis will be placed on collection techniques, specimen processing, work flow practices, referrals, and utilizing laboratory information systems.

HCT 154 Phlebotomy Clinical (3)
Phlebotomy Clinical is a health-related, work-based learning experience that enables the student to apply specialized occupational theory, skills, and concepts. Direct supervision is provided by the clinical laboratory professional. This course provides opportunities to practice phlebotomy skills in a clinical setting. Safety, quality control, and interpersonal communications will be stressed. The student will be eligible to apply for a national certifying examination upon successful completion.

HCT 155 Phlebotomy Clinical (2)
Phlebotomy Clinical is a health-related, work-based learning experience that enables the student to apply specialized occupational theory, skills, and concepts. Direct supervision is provided by the clinical laboratory professional. This course provides opportunities to practice phlebotomy skills in a clinical setting. Safety, quality control, and interpersonal communications will be stressed. The student will be eligible to apply for a national certifying examination upon successful completion.

HCT 162 Fundamentals of Phlebotomy (3)
This course is designed to train individuals to properly collect and process blood and other clinical specimens for laboratory testing and to interact with health care personnel, clients, and the general public. Presentation includes equipment and additives, basic anatomy, and techniques for safe and effective venipuncture. Emphasis will be placed on collection techniques, specimen processing, Order of Draw, departments in the clinical laboratory, the tests analyzed in each department, and work flow practices.

HCT 164 Phlebotomy Lab (2)
This course provides the student with knowledge and practical application of basic laboratory skills with a focus on patient care. Students learn and practice basic skills in venipuncture, sterile technique, patient safety, and documentation. There is major emphasis on the critical elements of laboratory procedures and the scientific rationale for performing the procedures correctly.

HCT 166 Phlebotomy Clinical Practicum (2)
A health-related, work-based learning experience that enables the student to apply specialized occupational theory, skills and concepts; direct supervision is provided by the clinical laboratory professional; course provides opportunities to practice phlebotomy skills in a clinical setting; safety, quality control and interpersonal communications will be stressed.

HCT 168 Phlebotomy National Exam Rev. (1)
This course is designed to prepare the student for the ASCP or NHA National Exam. The course will include practice test questions over the topics covered in the didactic course Fundamentals of Phlebotomy.

**Heavy Diesel Construction Technology**

The Heavy Diesel Construction program prepares individuals to apply technical knowledge and skills in the field maintenance and repair of heavy construction equipment, and in the general maintenance and overhaul of such equipment, along with the academic skills to be a valuable employee. Instruction includes foundational courses in theory and hands-on skills practice in safety standards, power trains, diesel engines, and welding.

Specialized courses for diesel construction include instruction in inspection, maintenance, and repair of tracks, wheels, brakes, operating controls, pneumatic and hydraulic systems, electrical circuitry, engines and techniques of welding and brazing. Machines and equipment in the lab include Case wheel loader, loader backhoe, and skid steers. Tier 4 and 3 Fiat engines plus engine cut-aways are provided for skills practice with tear-down, operations and diagnostics. Students are given the option to serve an internship with area dealers and may qualify for company sponsorship for their second term. This program will offer students preparation to test for the industry-recognized credentials listed below.

**Program Information**

- Required Math Score: Level 4
- Required Reading Score: Level 4
- Program Start (semesters): August; January
- Financial Aid available (for post-secondary students only): Yes
- Veteran Benefits Eligible (for post-secondary students only): Yes
- Industry-recognized credentials: ASE Brakes; ASE Diesel Engines; ASE Electrical/Electronic Systems; ASE Suspension & Steering; OSHA
## Certificate Requirements

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<th>Hours</th>
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<td>Electrical/Electronic Systems</td>
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<tr>
<td>DEM 123</td>
<td>Hydraulics</td>
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<td>IND 105</td>
<td>OSHA - 10 Hr Gen Industry Cert</td>
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<td>DEM 111</td>
<td>Shop Skills &amp; Safety Fundament</td>
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<td>DEM 116</td>
<td>Workplace Skills</td>
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<td>DEM 221</td>
<td>Drive Trains</td>
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<td>DEM 252</td>
<td>Power Trains for Construction</td>
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<td>DEM 244</td>
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<td>DEM 268</td>
<td>Aux Power Units/Refrigeration</td>
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<td>Diesel Engines I</td>
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<td>DEM 241</td>
<td>Advanced Diesel Engines</td>
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<tr>
<td>DEM 224</td>
<td>Advanced Hydraulic Systems</td>
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<td>DEM 144</td>
<td>Brakes for Construction</td>
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<td>Advanced Machine Electrical</td>
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<td>Welding for Diesel</td>
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<td>DEM 150</td>
<td>EST Diagnostics</td>
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<td>DEM 250</td>
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**DEM 111 Shop Skills & Safety Fundament (1)**
The focus of this course is the ability to safely work with shop equipment commonly found in a diesel servicing and repair facility. Emphasis is using, maintain and servicing shop equipment such as hoists, lifts, safety stands, cranes, presses and grinders. The location and usage of personal protective equipment (PPE) and of common hand tools is included.

**DEM 113 Electrical/Electronic Systems (5)**
Systems studies the principles of electricity through operations and testing procedures and provides an introduction to electronics. Diagnostics and repair of starting and charging electrical systems are covered, in addition to practical applications of the principles of electricity. Electronic management programs are referenced and studied.

**DEM 116 Workplace Skills (1)**
Overview and practice of general workplace skills including personal effectiveness, time management, teamwork, and critical thinking in the workplace. The course incorporates skill development in the following three units: overview of diesel technology, workplace communication and customer service, and job application.

**DEM 123 Hydraulics (5)**
Principles of basic hydraulics, introduction to hydraulics systems: open center, closed center, and pressure and flow compensating type systems.

**DEM 134 Scanner Diagnostics (1)**
Scanner Diagnostics focuses on the hands-on application of aftermarket diagnostic equipment and tools such as the Snap-on Pro-link and Modis as well as OEM systems utilized by Cummins, CASE and others.

**DEM 138 Suspension and Steering (3)**
Suspension and Steering addresses the theory, operations and troubleshooting of various steering and suspension system components.

**DEM 142 Welding for Diesel (3)**
Introduction to basic concepts of general welding; hands-on lab activities to apply knowledge and develop skills in the following areas: shop safety, cutting (oxy/acetylene) SMAW (Shielded Metal Arc Welding).

**DEM 143 Brakes (3)**
Brakes will cover the theory and operations of hydraulic and air brake systems, teaching troubleshooting, disassembly, inspection and adjustments of hydraulic and air brake systems, including ABS.

**DEM 144 Brakes for Construction (2)**
Brakes will cover the theory and operations of hydraulic and air brake systems, teaching troubleshooting, disassembly, inspection and adjustments of hydraulic and air brake systems, including ABS. Common braking system utilized on construction equipment are highlighted.

**DEM 146 Welding for Diesel (4)**
Introduction to basic concepts of general welding; hands-on lab activities to apply knowledge and develop skills in the following areas: shop safety, cutting (oxy/acetylene) SMAW (Shielded Metal Arc Welding).

**DEM 147 Welding for Locomotive (2)**
The course includes basic oxy-acetylene heating, cutting, brazing and welding and basic shielded Metal Arc Welding (SMAW) typically used in the railroad industry. Safety and set-up are emphasized and the student will perform the fundamentals of the processes as they produce acceptable welds and cuts.

**DEM 148 Advncd Electrl/Electrnc Systms (5)**
Construction machine electrical schematic reading, troubleshooting, diagnosis, and repair of monitoring systems, instrumentation, and other specialized electronic and computer-controlled equipment on CASE Construction machinery and heavy equipment. Students will determine proper use of wiring schematics to troubleshoot electrical systems on light through heavy vehicles.

**DEM 150 EST Diagnostics (1)**
The CASE EST (Electronics Scan Tool) Diagnostics course on the hands-on application of CASE and aftermarket diagnostic equipment and tools such as the Snap-on Pro-link and Modis as well as OEM systems utilized by Cummins, CASE and others.

**DEM 202 Advanced Machine Electrical (3)**
Construction machine electrical schematic reading, troubleshooting, diagnosis, and repair of monitoring systems, instrumentation, and other specialized electronic and computer-controlled equipment on CASE Construction machinery and heavy equipment.

**DEM 203 Locomotive FRA (3)**
This course is the fourth in a series of four courses in Locomotive Mechanics. This course is designed to introduce the student to the Federal Railway Administration and Department of Transportation Code of Federal Regulations Title 49, Parts 209, 218, 229, 231, and 232.

**DEM 204 Advanced Machine Electrical (4)**
Knowledge and skills learned in DEM113 are the foundation for the study of CASE Construction equipment electrical systems such as monitoring systems, instrumentation, lighting and other specialized electronic and computer-controlled systems. Troubleshooting, diagnosis, and repair of these systems is performed utilizing electrical testers, meters, and scan tools such as the CASE EST (Electronic Service Tool). The use of wiring schematics and repair manuals in the diagnosis process is emphasized. Prerequisite: DEM113 Electrical Electronics Systems

**DEM 206 Basic GE Mechanical (3)**
This is the second in a series of four courses in Locomotive Mechanics. This course is designed to introduce the student to the basic operation, maintenance, repair requirements and trouble shooting for GE diesel engines and support systems.
DEM 208 Basic EMD Mechanical (3)
This is the first in a series of four courses in Locomotive Mechanics. This course is designed to introduce the student to the basic operation, maintenance, repair requirements and trouble shooting for EMD diesel engines and support systems.

DEM 212 EST & Telematic Systems (3)
Theoretical and practical application of CASE Construction EST (Electronic Service Tool) and telematic systems as related to construction equipment; emphasis on software, product information, calibration and hardware functions.

DEM 221 Drive Trains (3)
The Drive Trains 1 course will include classroom and/or shop exercises in: characteristics and principles of power trains units. Specific topics include introduction to diesel drive trains, drive shafts, power take-offs, and standard transmissions. Also the procedures in disassembly, wear analysis, and failure analysis. Instruction will be included in these types of transmissions and differentials: Mack, Rockwell Eaton and Dana Spicer. Students will be expected to observe and comply with all safety rules and regulations.

DEM 223 Advanced Hydraulic Systems (2)
This course includes instruction on Hydraulic and hydrostatic systems used on construction equipment; diagnosing and testing to solve system problems; interpretation of fluid hydraulic schematic and diagrams; and electronic and computer-controlled systems.

DEM 224 Advanced Hydraulic Systems (3)
Knowledge and skills learned in DEM223 are the foundation for the study of the hydraulic and hydrostatic systems used on CASE construction equipment. Diagnosing and testing to solve system problems; interpretation of fluid hydraulic schematic and diagrams; and electronic and computer-controlled systems are all covered. Prerequisite DEM123 Hydraulics

DEM 230 Brakes Service (2)
The focus of this course is hands-on work on common light, medium and heavy truck hydraulic and air brake systems and components. Basic operating theory is covered at the level required to understand or perform the operation, maintenance, inspection, diagnosis, wear pattern interpretation, failure analysis, reconditioning, disassembly, re-assembly of systems.

DEM 231 Diesel Engines I (5)
Diesel Engines I introduces the theory of operation and the use of the engine's mechanical components; disassembling, inspecting, measuring, reassembling and performing maintenance procedures on diesel engines.

DEM 232 Service Departmnt Implemnttn (3)
Simulation of a service department including diagnostic work, disassembly work, repair work and assembly work on CASE CONSTRUCTION equipment. Students will practice accurate and precise labor documentation.

DEM 233 Locomotive Air Brake (3)
This course is the third in a series of four courses in Locomotive Mechanics. It is designed to provide the student an introduction to the operation, testing, maintenance, and troubleshooting for 26L and 30 ACDW locomotive air brake systems. This course also emphasizes FRA air brake requirements applicable to locomotives.

DEM 238 Suspension & Steering Service (2)
The focus of this course is hands-on work on common light, medium and heavy truck suspension and steering systems and components. Basic operating theory is covered at the level required to understand or perform the operation, maintenance, inspection, diagnosis, wear pattern interpretation, failure analysis, reconditioning, disassembly, re-assembly of systems including a basic alignment. Basic usage of Oxyacetylene equipment is also covered.

DEM 241 Advanced Diesel Engines (5)
Advanced Diesel Engines course will include classroom and/or shop exercises: basic principles of the various engine systems, the disassembly and inspection, reconditioning of component parts to include various fuel systems. In addition, engine diagnosis and maintenance will be discussed and performed in various engine systems. Students will be expected to observe and comply with all safety rules.

DEM 242 Heavy Equipment I (4)
Introduction to heavy highway trade of trucks and heavy equipment. Content includes: Setup, repair and operational field testing of new and used construction equipment; procedures and components of trucks, heavy equipment, below grade construction, earthmoving, plant operations, paving, and structures.

DEM 243 BNSF Worksite Observation (1)
This one hour Locomotive-Mechanic worksite observation is designed to allow the Locomotive Diesel students to view the engine components at the worksite to coincide with the courses for EMD and GE diesel engines and support systems in the NARS curriculum.

DEM 244 Heavy Equipment Operation (2)
Operation and operator-level service and inspection of typical heavy construction equipment such as bulldozers, backhoes, loaders, track hoes, uni-loaders, and off road trucks. Pre-operation inspections, setup, and operational field testing of new and used construction equipment.

DEM 248 Drive Trains II (3)
Drive Trains II builds on the knowledge, skills and abilities obtained in DEM221. Systems utilized in light, medium and heavy truck drive trains including: automatic transmissions, drive axles, procedures in disassembly/assembly, wear analysis, and failure analysis in drive trains, pressure and flow testing of drive train systems, timing of drive train systems, and theory and operation of final drives and shuttles are included. Prerequisite: DEM221 Drive Trains

DEM 250 Engine Performance (2)
Engine Performance covers the engine control and emission control systems such as fuel injection, air induction, exhaust, exhaust gas treatments/filters utilized on light, medium and heavy diesel trucks. Students are introduced to diagnostic equipment and tools such as the Snap-on Pro-link and Modis as well as OEM systems utilized by Cummins, CASE and others.

DEM 252 Power Trains for Construction (3)
Drive trains and components of construction equipment, clutch systems, transaxles, differentials, axles; emphasis on disassembly, reassembly and component identification; pressure and flow testing of powertrains used in construction equipment; calibrations of transmissions, theory and operations of final drives and shuttles. Emphasis: Understanding of operation of mechanical, power shift, power shuttle, S type power shift, and hydrostatic transmissions to include tracking and adjustments.
DEM 255 Engine Performance (3)
Provides theory, diagnosis, and service of diesel fuel and emission systems. Included are opportunities to analyze fuel and emission components and systems with emphasis on practical application of computer controlled fuel and emission systems.

DEM 258 Drive Trains II (2)
The Power Trains 2 course will include classroom and/or shop exercises in the following courses in the Power Trains unit: automatic transmission and torque converters, clutches, drive axles, special drives; and procedures in disassembly, wear analysis, and failure analysis in power trains. Instruction will include these types of transmissions and differentials: Mack, Rockwell Eaton, Arvin Meritor, and Dana Spicer. Students will be expected to observe and comply with all safety rules and regulations.

DEM 268 Aux Power Units/Refrigeration (2)
The function and purpose of Auxiliary Power Units (APUs) that power system when the primary engine is not in use, such as refrigeration units on tractor-trailers, are covered. This course includes basic air conditioning service, diagnostic, and repair on applications used in the diesel field and Section 509 Refrigeration certification by the Mobile Air Condition Society (MACS).

DEM 272 Auxiliary Power Units (2)
Course emphasizes the study and practices of additional and exterior units that are crucial to the diesel industry, such as machine hydraulics and auxiliary power units and trailers.

Information System Technology

The Information System Technology program prepares students to be computer service and network technicians for small office/home office networks and provides the foundation for enterprise level computer network technicians. Students will install and configure desktop computers, desktop operating systems, Novell NetWare, Microsoft Server, and Linus network operating systems. Students will learn to set up and configure routers, switches, wireless access points, and wireless bridges. This program will offer students preparation to test for the industry-recognized credentials listed below.

Program Information
- Required Math Score: Level 5
- Required Reading Score: Level 5
- Program Start (semesters): August
- Financial Aid available (for post-secondary students only): Yes
- Veteran Benefits Eligible (for post-secondary students only): Yes
- Industry-recognized credentials: CompTIA A+; CCNA

Program Requirements

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>CRN 115</td>
<td>PC Hardware Fundamentals</td>
<td>4</td>
</tr>
<tr>
<td>CRN 125</td>
<td>PC Troubleshooting &amp; Maintenance</td>
<td>4</td>
</tr>
<tr>
<td>CRN 135</td>
<td>PC Software Fundamentals</td>
<td>4</td>
</tr>
<tr>
<td>CRN 156</td>
<td>Network Operating Systems I</td>
<td>4</td>
</tr>
<tr>
<td>CRN 166</td>
<td>Network Operating Systems II</td>
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<tr>
<td>or CRN 176</td>
<td>Desktop Operating Systems</td>
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</tr>
<tr>
<td>CRN 146</td>
<td>Fund of Computer Networking</td>
<td>4</td>
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<tr>
<td>CRN 221</td>
<td>Intro to Enterprise Networking</td>
<td>2</td>
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<tr>
<td>CRN 226</td>
<td>Intro Enterprise Networking Lab</td>
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<tr>
<td>CRN 231</td>
<td>Routing &amp; Switching Essentials</td>
<td>2</td>
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<td>CRN 236</td>
<td>Routing/Switching Essentials Lab</td>
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<td>CRN 240</td>
<td>Workplace Skills I</td>
<td>2</td>
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<tr>
<td>CRN 241</td>
<td>Scaling Networks</td>
<td>2</td>
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<td>CRN 246</td>
<td>Scaling Networks Lab</td>
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<td>CRN 251</td>
<td>Connecting Networks</td>
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<td>CRN 256</td>
<td>Connecting Networks Lab</td>
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<td>CRN 265</td>
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<tr>
<td>Total Hours</td>
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</table>

CRN 115 PC Hardware Fundamentals (4)
PC Hardware Fundamentals provides an introduction to the computer hardware skills needed to help meet the requirement for entry-level information and communication technology professionals. The curriculum covers the fundamentals of PC hardware technology, networking, laptop, and printer, operational procedures, and also provides an introduction to advanced concepts in ever growing Computer Technology. Students who complete this course will be able to describe the internal components of a computer, assemble a computer system, install an operating system, and troubleshoot using system tools and diagnostic software. Hands-on labs help students develop critical thinking and complex problem-solving skills.

CRN 125 PC Troubleshooting & Maintenance (4)
PC Troubleshooting & Maintenance provides an introduction to the computer hardware skills needed to help meet the requirement for entry-level information and communication technology professionals. The curriculum covers the fundamentals of PC hardware and software troubleshooting and maintenance. Students who complete this course will be able to describe the internal components of a computer, assemble a computer system, install an operating system, and troubleshoot using system tools and diagnostic software. Hands-on labs help students develop critical thinking and complex problem-solving skills.

CRN 135 PC Software Fundamentals (4)
PC Software provides a comprehensive overview of the computer operating system and introduction to advanced concepts. Students who complete this course will be able to install and trouble shoot an operating system using system tools and diagnostic software. Practical application will include connecting computers to the Internet and share resources in a networked environment.

CRN 146 Fund of Computer Networking (4)
This course prepares students with the knowledge and skills to install and configure Windows desktop operating system. The course focus is in four areas: installing, securing, networking, and browsing. At the completion of the course, the student will have installed and configured a Windows 7 desktop OS that is secure, on the network, and ready for browsing.

CRN 156 Network Operating Systems I (4)
This course introduces students to a broad range of Network Operating System (NOS) concepts, including installation and maintenance. The course focus is on Microsoft Windows 2008/2012 operating system concepts, management, maintenance, and the required resources.

CRN 165 Network Operating Systems II (3)
This course introduces students to a broad range of Network Operating System (NOS) concepts, including installation and maintenance. The course focus is on Linux Network Operating System concepts, management, maintenance, and the required resources.
CRN 166  Network Operating Systems II (4)
This course introduces students to a broad range of Network Operating System (NOS) concepts, including installation and maintenance. The course focus is on Linux Network Operating System concepts, management, maintenance, and the required resources.

CRN 176  Desktop Operating Systems (4)
This course provides an introduction to operating system basics with the intent of giving a student a deeper understanding of various operating systems. Operating systems covered include Windows 7 through Windows 10 desktop operating systems, Windows Server, UNIX/Linux, and Mac OS X operating systems. Students will learn some networking basics and information involving how to create mixed environments. Advanced configuration and troubleshooting will also be part of this course.

CRN 221  Intro to Enterprise Networking (2)
These concurrent courses introduce the architecture, structure, functions, components, and models of the Internet and other computer networks. The principles and structure of IP addressing and the fundamentals of Ethernet concepts, media, and operations are introduced to provide a foundation for the curriculum. By the end of these courses, students will be able to build simple LANs, perform basic configurations for routers and switches, and implement IP addressing schemes.

CRN 226  Intro Enterprise Networking Lab (3)
These concurrent courses introduce the architecture, structure, functions, components, and models of the Internet and other computer networks. The principles and structure of IP addressing and the fundamentals of Ethernet concepts, media, and operations are introduced to provide a foundation for the curriculum. By the end of these courses, students will be able to build simple LANs, perform basic configurations for routers and switches, and implement IP addressing schemes.

CRN 231  Routing & Switching Essentials (2)
These concurrent courses describe the architecture, components, and operations of routers and switches in a small network. Students learn how to configure a router and a switch for basic functionality. By the end of this course, students will be able to configure and troubleshoot routers and switches and resolve common issues with standard access control lists and Network Address Translation for IPv4 and static and dynamic routing, virtual LANs, inter-VLAN routing, and Dynamic Host Configuration Protocol for both IPv4 and IPv6 networks. Prerequisite: Successful completion of CRN221 and CRN 226.

CRN 236  Routing/ Switching Essentials Lab (3)
These concurrent courses describe the architecture, components, and operations of routers and switches in a small network. Students learn how to configure a router and a switch for basic functionality. By the end of this course, students will be able to configure and troubleshoot routers and switches and resolve common issues with standard access control lists and Network Address Translation for IPv4 and static and dynamic routing, virtual LANs, inter-VLAN routing, and Dynamic Host Configuration Protocol for both IPv4 and IPv6 networks. Prerequisite: Successful completion of CRN221 and CRN 226.

CRN 240  Workplace Skills I (2)
This course prepares students to write and present documents often found in technical settings. Students will create technical summary documents, sets of instructions, technical illustrations, and technical presentations. Students will develop and enhance appropriate workplace appearance and behavior. Prerequisite: Concurrent enrollment in CCNA I and CCNA II.

CRN 241  Scaling Networks (2)
These concurrent courses describe the architecture, components, and operations of routers and switches in a larger and more complex network. Students learn how to configure routers and switches for advanced functionality. By the end of this course, students will be able to configure and troubleshoot routers and switches and resolve common issues with OSPF, EIGRP, STP, EtherChannel, and HSRP in both IPv4 and IPv6 networks. Prerequisite: Successful completion of CRN231 and CRN 236 or valid CCENT certification.

CRN 245  CCNA III (2)
CRN 246  Scaling Networks Lab (3)
These concurrent courses describe the architecture, components, and operations of routers and switches in a larger and more complex network. Students learn how to configure routers and switches for advanced functionality. By the end of this course, students will be able to configure and troubleshoot routers and switches and resolve common issues with OSPF, EIGRP, STP, EtherChannel, and HSRP in both IPv4 and IPv6 networks. Prerequisite: Successful completion of CRN231 and CRN 236 or valid CCENT certification.

CRN 250  CCNA III Lab (3)

CRN 251  Connecting Networks (2)
These concurrent courses discuss the WAN technologies and network services required by converged applications in a complex network. The courses enable students to understand the selection criteria of network devices and WAN technologies to meet network requirements. Students learn how to configure and troubleshoot network devices and resolve common issues with data link protocols, extended and IPv6 access control lists, and Quality of Service (QoS). Students will also develop the knowledge and skills needed to implement common security and monitoring techniques in complex networks. Prerequisite: Successful completion of CRN241 and CRN246.

CRN 255  CCNA IV (2)

CRN 256  Connecting Networks Lab (3)
These concurrent courses discuss the WAN technologies and network services required by converged applications in a complex network. The courses enable students to understand the selection criteria of network devices and WAN technologies to meet network requirements. Students learn how to configure and troubleshoot network devices and resolve common issues with data link protocols, extended and IPv6 access control lists, and Quality of Service (QoS). Students will also develop the knowledge and skills needed to implement common security and monitoring techniques in complex networks. Prerequisite: Successful completion of CRN241 and CRN246.

CRN 265  Workplace Skills II (2)
This course prepares students for the documents and skills needed to enter the competitive technical field job market. Students will create and enhance their cover letter and résumé. Interview techniques and job application skills will be developed. Students will learn to identify available professional resources and levels of professional certification. Students will develop and enhance appropriate workplace appearance and behavior. Prerequisite: Concurrent enrollment in Enterprise Networking and Network Technology Application.

Legal Office Professional

The Legal Office Professional program prepares students for entrance into a support staff position in the field of law. Instruction includes legal office projects, legal terminology and transcription, legal research, professional standards and ethics, and extensive training in computer
software. Written and oral communication skills, including grammar, are emphasized as well as workplace skills. Attorneys and judges demand accuracy and excellence; therefore, students must have excellent attendance, work diligently on assignments, learn and perform problem solving skills, and meet deadlines. This program will offer students preparation to test for the industry-recognized credentials listed below.

**Program Information**

- Required Math Score: Level 4
- Required Reading Score: Level 5
- Program Start (semesters): August; January
- Financial Aid available (for post-secondary students only): Yes
- Veteran Benefits Eligible (for post-secondary students only): Yes
- Industry-recognized credentials: Microsoft Specialist Excel; Microsoft Specialist Word; Microsoft Specialist Access

**Certificate Requirements**

<table>
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<tr>
<th>Code</th>
<th>Title</th>
<th>Hours</th>
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<tbody>
<tr>
<td>BAT 113</td>
<td>Intro Acct and Acct Software</td>
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<tr>
<td>BAT 122</td>
<td>Business Communications</td>
<td>4</td>
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<tr>
<td>BAT 130</td>
<td>Word Processing</td>
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<td>BAT 140</td>
<td>Document Processing</td>
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<tr>
<td>BAT 172</td>
<td>Spreadsheet Management</td>
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<td>BAT 180</td>
<td>Human Relations</td>
<td>4</td>
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<tr>
<td>BAT 200</td>
<td>Business Law</td>
<td>4</td>
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<tr>
<td>BAT 212</td>
<td>Professional Skills &amp; Ethics</td>
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<tr>
<td>LOP 240</td>
<td>Legal Terminology</td>
<td>5</td>
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<tr>
<td>LOP 250</td>
<td>Legal Office Projects</td>
<td>3</td>
</tr>
<tr>
<td>LOP 260</td>
<td>Legal Transcription</td>
<td>4</td>
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<tr>
<td>BAT 215</td>
<td>Database Management</td>
<td>4</td>
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<tr>
<td><strong>Total Hours</strong></td>
<td></td>
<td><strong>48</strong></td>
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</tbody>
</table>

**LOP 240 Legal Terminology (5)**

Students will attain knowledge and understanding of terms commonly used in the legal profession. Students will learn to define the terms, correctly pronounce them, and use them in legal context. Keyboard practice is used to solidify definitions and correct spelling of legal terms and terminology will be used in correspondence and legal pleadings.

**LOP 250 Legal Office Projects (3)**

The law office environment is somewhat different from the traditional business world. Legal Office Procedures is designed to present an overview of the structure and functions of the law office and provide the student with an opportunity to learn about different specialty areas of the law and to prepare real life documents and pleadings required in this profession.

**LOP 260 Legal Transcription (4)**

Legal Transcription teaches students to transcribe from sound common legal pleadings, correspondence, and recorded sessions to reinforce the correct pronunciation of legal terminology. Transcribed dictation is evaluated with written copy to increase rate typing speed in transcription and produce error free documents from sound.

**Certificate Requirements**

**Machine Tool Technology**

The Machine Tool Technology program prepares individuals to apply technical knowledge and skills to plan, manufacture, assemble, test, and repair parts, mechanisms, and machines. Instruction includes technical information in blueprint reading, sketching, angles, tapers, gearing, and precision measuring; it also includes training in the operation of machine tools—engine lathes, milling machines, surface grinders, drill presses, computerized numerical control milling machines, and computerized numerical control lathes. This program will offer students preparation to test for the industry-recognized credentials listed below.

**Program Information**

- Required Math Score: Level 4
- Required Reading Score: Level 4
- Program Start (semesters): August
- Financial Aid available (for post-secondary students only): Yes
- Veteran Benefits Eligible (for post-secondary students only): Yes
- Industry-recognized credentials: OSHA

**Certificate Requirements**

<table>
<thead>
<tr>
<th>Code</th>
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<th>Hours</th>
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<tbody>
<tr>
<td>MTT 106</td>
<td>Safety (OSHA 10)</td>
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<tr>
<td>MTT 112</td>
<td>Print Reading</td>
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<tr>
<td>MTT 114</td>
<td>Machining I</td>
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<tr>
<td>MTT 116</td>
<td>Machine Tool Processes</td>
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</tr>
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<td>MTT 118</td>
<td>Lathe/Mill/Grind I</td>
<td>4</td>
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<tr>
<td>MTT 115</td>
<td>Print Reading/Math II</td>
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<td>MTT 123</td>
<td>Machining II</td>
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<td>MTT 124</td>
<td>Lathe/Mill/Grind II</td>
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<td>MTT 131</td>
<td>Quality Control &amp; Inspection</td>
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<td>MTT 151</td>
<td>Workplace Ethics</td>
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<td>MTT 210</td>
<td>Print Reading/Math III</td>
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<td>MTT 218</td>
<td>Metallurgy</td>
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<td>MTT 219</td>
<td>Lathe/Mill/Grind III</td>
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<td>MTT 221</td>
<td>Bench Work</td>
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<td>MTT 232</td>
<td>Bench/Saw/Drill</td>
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<tr>
<td>MTT 238</td>
<td>Print Reading/Math IV</td>
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<tr>
<td>MTT 241</td>
<td>CNC Operations</td>
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<td>MTT 244</td>
<td>Lathe/Mill/Grind IV</td>
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<tr>
<td>MTT 250</td>
<td>Workplace Skills II</td>
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<tr>
<td><strong>Total Hours</strong></td>
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</tr>
</tbody>
</table>

**MTT 106 Safety (OSHA 10) (1)**

Through a variety of classroom and/or lab learning and assessment activities, students in this course will explain job/site safety and precautions for job/site hazards; determine the uses of personal protective equipment (PPE); identify the safety equipment and procedures related to safe work practices and environment; identify fire prevention and protection techniques; explore Hazardous Communications (HazCom) including Material Safety Data Sheets (MSDS).

**MTT 112 Print Reading (3)**

Students will learn to identify basic lines, views and abbreviations used in blueprints, determine dimensions of features of simple parts, sketch simple parts with dimensional measurements, determine dimensions of multi-feather part, interpret GDT symbols, frame, and datums.
MTT 114 Machining I (3)
Student will learn to conduct job hazard analysis for conventional mills and lathes, develop math skill for machine tool operation, perform preventive maintenance and housekeeping on conventional mills and lathes, select work holding devices for mills, lathes and other machine tools, calculate feed and speeds, remove material using milling and turning processes, align milling head, use a vertical mill to center drill, drill and ream holes, change tools and tool holders on milling machines, and maintain saws and grinders.

MTT 115 Print Reading/Math II (1)
Students learn to perform basic trigonometric functions, and perform other procedures such as I.D. boring and facing operations, planning a sequence for machining operations, aligning work pieces, use work holding devices, jigs and fixtures, performing threading operations on lathes, machining keyways on a vertical mill, inspecting and dressing grinding wheels, performing O.D. & I.D. threading operations, performing O.D. & I.D. tapering operations, machining parts using milling cutters and milling machines, and tapping holes on a vertical mill.

MTT 116 Machine Tool Processes (1)
Students will learn to conduct a job hazard analysis for a machine tool group, analyze blueprints to layout parts and materials, select hand tools and common machine shop mechanical hardware for specific applications, prescribe cutting tools for assigned operations, calculate stock size to minimize drop, machine parts to specification outlined in machine handbooks, summarize preparations for machining operations, and apply precautions to minimize hazards for work with lathes, mills, drills, and grinders.

MTT 118 Lathe/Mill/Grind I (4)
Instruction will be given in the form of lectures, hand-outs, video tapes, shop demonstrations, shop assignment and text book assignments. Students will perform required set-ups and operations of lathes, milling machines, and grinders in a timely manner. Students are required to practice all shop safety rules. Calculate feed and speeds using the math formulas taught. Math will also be used to calculate hole pattern layouts, gear cutting, threading information, inspecting and quality control, and programming. Students will be required to perform machine operations to the satisfaction of the instructor. Students may be required to work in two or three person teams, but all students will be given the opportunity to demonstrate their competency level and ability by means of written test, verbal communications, and demonstrating hands-on.

MTT 123 Machining II (3)
Students learn to perform basic trigonometric functions and perform other procedures such as I.D. boring and facing operations, planning a sequence for machining operations, aligning work pieces, use work holding devices, jigs and fixtures, performing threading operation on lathes, machining key ways on a vertical mill, inspection and dressing grinding wheels, performing O.D. and I.D. threading operations, performing O.D. and I.D. tapering operations, machining parts using milling cutters and milling machines.

MTT 124 Lathe/Mill/Grind II (5)
Instruction will be given in the form of lectures, hands-on video tapes, shop demonstrations, shop assignments, and text book assignments. Students will perform required set-ups and operations of lathes, milling machines, and grinders in a timely manner. Students are required to practice all shop safety rules. Calculate feed and speeds using the math formulas taught. Math will also be used to calculate hole pattern layouts, gear cutting, threading information, inspecting and quality control, and programming. Students will be required to perform machine operations to the satisfaction of the instruction. Student may be required to work in two or three person teams, but all students will be given the opportunity to demonstrate their competency level and ability by means of written tests, verbal communications, and demonstrating hands-on abilities.

MTT 131 Quality Control & Inspection (1)
Students are introduced to the science of dimensional metrology and its applications to ensure form and function of machined parts and assemblies using semi-precision and precision measuring instruments.

MTT 151 Workplace Ethics (2)
Students study human relations and professional development that exists in today’s rapidly changing world so that they become better prepared for living and working in a complex society. Topics include human relations, job acquisition, job retention, job advancement, and professional image skills.

MTT 210 Print Reading/Math III (1)
Student learn to perform basic trigonometric functions, and perform other procedures such as I.D. boring and facing operations, planning a sequence for machining operations, aligning work pieces, use work holding devices, jigs and fixtures, performing threading operations on lathes, machining keyways on a vertical mill, inspecting and dressing grinding wheels, performing O.D. & I.D. threading operations, performing O.D. & I.D. tapering operations, machining parts using milling cutters and milling machines, and tapping holes on a vertical mill.

MTT 218 Metallurgy (1)
Students learn the metallurgical terms and definitions in an effort to understand the behavior and service of metals in industry. Characteristics during heating, cooling, shaping, forming, and the stress related to their mechanical properties are covered, as well as the theory behind alloys, heat treatment processes and wear resistance.

MTT 219 Lathe/Mill/Grind III (6)
Instruction will be given in the form of lectures, hands-on video tapes, shop demonstrations, shop assignments, and text book assignments. Students will perform required set-ups and operations of lathes, milling machines, and grinders in a timely manner. Students are required to practice all shop safety rules. Calculate feed and speeds using the math formulas taught. Math will also be used to calculate hole pattern layouts, gear cutting, threading information, inspecting and quality control, and programming. Students will be required to perform machine operations to the satisfaction of the instruction. Student may be required to work in two or three person teams, but all students will be given the opportunity to demonstrate their competency level and ability by means of written tests, verbal communications, and demonstrating hands-on abilities.

MTT 221 Bench Work (1)
Students will be provided the opportunity to learn and practice bench work skills such as filing, drilling, tapping, deburring and layout for projects. They will gain valuable practical experience in the use of various hand tools by producing basic bench work projects. Topics will include safety, print reading, job planning, and quality control.
MTT 232 Bench/Saw/Drill (3)
Students learn to conduct job hazard analysis for conventional mills and lathes, develop math skills for machine tool operations, perform preventive maintenance and housekeeping on conventional mills and lathes, select work holding devices for mills, lathes and other machine tools, calculate feeds and speeds, remove material using milling and turning processes, align milling head, use a vertical mill to center drill, drill and ream holes, change tools and tool holders on milling machines, and maintain saws and grinders.

MTT 238 Print Reading/Math IV (2)
Students learn to perform basic trigonometric functions, and perform other procedures such as I.D. boring and facing operations, planning a sequence for machining operations, aligning work pieces, use work holding devices, jigs and fixtures, performing threading operations on lathes, machining keyways on a vertical mill, inspecting and dressing grinding wheels, performing O.D. & I.D. threading operations, performing O.D. & I.D. tapering operations, machining parts using milling cutters and milling machines, and tapping holes on a vertical mill.

MTT 241 CNC Operations (3)
Students will become acquainted with the history of Numerical Control (NC) and Computer Numerical Control (CNC) machines and will be introduced to a CNC machine used in the precision machining trades. They will gain practical experience in the application of "G" codes and "M" codes, writing CNC machine programs, and machine setup and operation.

MTT 244 Lathe/Mill/Grind IV (6)
Instruction will be given in the form of lectures, hands-on video tapes, shop demonstrations, shop assignments, and text book assignments. Students will perform required set-ups and operations of lathes, milling machines, and grinders in a timely manner. Students are required to practice all shop safety rules. Calculate feed and speeds using the math formulas taught. Math will also be used to calculate hole pattern layouts, gear cutting, threading information, inspecting and quality control, and programming. Students will be required to perform machine operations to satisfaction of the instruction. Student may be required to work in two or three person teams, but all students will be given the opportunity to demonstrate their competency level and ability by means of written tests, verbal communications, and demonstrating hands-on abilities.

MTT 250 Workplace Skills II (1)
This course is the final preparation for the exit assessment by using Key Train software for Applied Math, Reading for Information, and Locating Information. A student will be required to attend remaining seminars that were not attended in Workplace Skills I through the Career Resource Center.

Certificate Requirements

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>MTT 106</td>
<td>Safety (OSHA 10)</td>
<td>1</td>
</tr>
<tr>
<td>MTT 112</td>
<td>Print Reading</td>
<td>3</td>
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<tr>
<td>MTT 114</td>
<td>Machining I</td>
<td>3</td>
</tr>
<tr>
<td>MTT 116</td>
<td>Machine Tool Processes</td>
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<tr>
<td>MTT 118</td>
<td>Lathe/Mill/Grind I</td>
<td>4</td>
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<tr>
<td>MTT 123</td>
<td>Machining II</td>
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<tr>
<td>MTT 131</td>
<td>Quality Control &amp; Inspection</td>
<td>1</td>
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<tr>
<td>MTT 151</td>
<td>Workplace Ethics</td>
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<tr>
<td>MTT 218</td>
<td>Metallurgy</td>
<td>1</td>
</tr>
<tr>
<td>MTT 221</td>
<td>Bench Work</td>
<td>1</td>
</tr>
<tr>
<td>MTT 241</td>
<td>CNC Operations</td>
<td>3</td>
</tr>
</tbody>
</table>

Total Hours 23

MTT 106 Safety (OSHA 10) (1)
Through a variety of classroom and/or lab learning and assessment activities, students in this course will explain job/site safety and precautions for job/site hazards; determine the uses of personal protective equipment (PPE); identify the safety equipment and procedures related to safe work practices and environment; identify fire prevention and protection techniques; explore Hazardous Communications (HazCom) including Material Safety Data Sheets (MSDS).

MTT 112 Print Reading (3)
Students will learn to identify basic lines, views and abbreviations used in blueprints, determine dimensions of features of simple parts, sketch simple parts with dimensional measurements, determine dimensions of multi-feather part, interpret GDT symbols, frame, and datums.

MTT 114 Machining I (3)
Student will learn to conduct job hazard analysis for conventional mills and lathes, develop math skill for machine tool operation, perform preventive maintenance and housekeeping on conventional mills and lathes, select work holding devices for mills, lathes and other machine tools, calculate feed and speeds, remove material using milling and turning processes, align milling head, use a vertical mill to center drill, drill and ream holes, change tools and tool holders on milling machines, and maintain saws and grinders.

MTT 115 Print Reading/Math II (1)
Students learn to perform basic trigonometric functions, and perform other procedures such as I.D. boring and facing operations, planning a sequence for machining operations, aligning work pieces, use work holding devices, jigs and fixtures, performing threading operations on lathes, machining keyways on a vertical mill, inspecting and dressing grinding wheels, performing O.D. & I.D. threading operations, performing O.D. & I.D. tapering operations, machining parts using milling cutters and milling machines, and tapping holes on a vertical mill.

Program Information
MTT 116 Machine Tool Processes (1)
Students will learn to conduct a job hazard analysis for a machine tool group, analyze blueprints to layout parts and materials, select hand tools and common machine shop mechanical hardware for specific applications, prescribe cutting tools for assigned operations, calculate stock size to minimize drop, machine parts to specification outlined in machine handbooks, summarize preparations for machining operations, and apply precautions to minimize hazards for work with lathes, mills, drills, and grinders.

MTT 118 Lathe/Mill/Grind I (4)
Instruction will be given in the form of lectures, hands-out, video tapes, shop demonstrations, shop assignment and text book assignments. Students will perform required set-ups and operations of lathes, milling machines, and grinders in a timely manner. Students are required to practice all shop safety rules. Calculate feed and speeds using the math formulas taught. Math will also be used to calculate hole pattern layouts, gear cutting, threading information, inspecting and quality control, and programming. Students will be required to perform machine operations to the satisfaction of the instructor. Students may be required to work in two or three person teams, but all students will be given the opportunity to demonstrate their competency level and ability by means of written test, verbal communications, and demonstrating hands-on.

MTT 123 Machining II (3)
Students learn to perform basic trigonometric functions and perform other procedures such as I.D. boring and facing operations, planning a sequence for machining operations, aligning work pieces, use work holding devices, jigs and fixtures, performing threading operation on lathes, machining key ways on a vertical mill, inspection and dressing grinding wheels, performing O.D. & I.D. threading operations, performing O.D. & I.D. tapering operations, machining parts using milling cutters and milling machines.

MTT 124 Lathe/Mill/Grind II (5)
Instruction will be given in the form of lectures, hands-on video tapes, shop demonstrations, shop assignments, and text book assignments. Students will perform required set-ups and operations of lathes, milling machines, and grinders in a timely manner. Students are required to practice all shop safety rules. Calculate feed and speeds using the math formulas taught. Math will also be used to calculate hole pattern layouts, gear cutting, threading information, inspecting and quality control, and programming. Students will be required to perform machine operations to the satisfaction of the instruction. Student may be required to work in two or three person teams, but all students will be given the opportunity to demonstrate their competency level and ability by means of written tests, verbal communications, and demonstrating hands-on abilities.

MTT 131 Quality Control & Inspection (1)
Students are introduced to the science of dimensional metrology and its applications to ensure form and function of machined parts and assemblies using semi-precision and precision measuring instruments.

MTT 151 Workplace Ethics (2)
Students study human relations and professional development that exists in today’s rapidly changing world so that they become better prepared for living and working in a complex society. Topics include human relations, job acquisition, job retention, job advancement, and professional image skills.

MTT 210 Print Reading/Math III (1)
Student learn to perform basic trigonometric functions, and perform other procedures such as I.D. boring and facing operations, planning a sequence for machining operations, aligning work pieces, use work holding devices, jigs and fixtures, performing threading operations on lathes, machining keyways on a vertical mill, inspecting and dressing grinding wheels, performing O.D. & I.D. threading operations, performing O.D. & I.D. tapering operations, machining parts using milling cutters and milling machines, and tapping holes on a vertical mill.

MTT 218 Metallurgy (1)
Students learn the metallurgical terms and definitions in an effort to understand the behavior and service of metals in industry. Characteristics during heating, cooling, shaping, forming, and the stress related to their mechanical properties are covered, as well as the theory behind alloys, heat treatment processes and wear resistance.

MTT 219 Lathe/Mill/Grind III (6)
Instruction will be given in the form of lectures, hands-on video tapes, shop demonstrations, shop assignments, and text book assignments. Students will perform required set-ups and operations of lathes, milling machines, and grinders in a timely manner. Students are required to practice all shop safety rules. Calculate feed and speeds using the math formulas taught. Math will also be used to calculate hole pattern layouts, gear cutting, threading information, inspecting and quality control, and programming. Students will be required to perform machine operations to the satisfaction of the instruction. Student may be required to work in two or three person teams, but all students will be given the opportunity to demonstrate their competency level and ability by means of written tests, verbal communications, and demonstrating hands-on abilities.

MTT 221 Bench Work (1)
Students will be provided the opportunity to learn and practice bench work skills such as filing, drilling, tapping, deburring and layout for projects. They will gain valuable practical experience in the use of various hand tools by producing basic bench work projects. Topics will include safety, print reading, job planning, and quality control.

MTT 232 Bench/Saw/Drill (3)
Students will learn to conduct job hazard analysis for conventional mills and lathes, develop math skills for machine tool operations, perform preventive maintenance and housekeeping on conventional mills and lathes, select work holding devices for mills, lathes and other machine tools, calculate feeds and speeds, remove material using milling and turning processes, align milling head, use a vertical mill to center drill, drill and ream holes, change tools and tool holders on milling machines, and maintain saws and grinders.

MTT 238 Print Reading/Math IV (2)
Students learn to perform basic trigonometric functions, and perform other procedures such as I.D. boring and facing operations, planning a sequence for machining operations, aligning work pieces, use work holding devices, jigs and fixtures, performing threading operations on lathes, machining keyways on a vertical mill, inspecting and dressing grinding wheels, performing O.D. & I.D. threading operations, performing O.D. & I.D. tapering operations, machining parts using milling cutters and milling machines, and tapping holes on a vertical mill.

MTT 241 CNC Operations (3)
Students will become acquainted with the history of Numerical Control (NC) and Computer Numerical Control (CNC) machines and will be introduced to a CNC machine used in the precision machining trades. They will gain practical experience in the application of "G" codes and "M" codes, writing CNC machine programs, and machine setup and operation.
MTT 244 Lathe/Mill/Grind IV (6)
Instruction will be given in the form of lectures, hands-on video tapes, shop demonstrations, shop assignments, and text book assignments. Students will perform required set-ups and operations of lathes, milling machines, and grinders in a timely manner. Students are required to practice all shop safety rules. Calculate feed and speeds using the math formulas taught. Math will also be used to calculate hole pattern layouts, gear cutting, threading information, inspecting and quality control, and programming. Students will be required to perform machine operations to satisfaction of the instruction. Student may be required to work in two or three person teams, but all students will be given the opportunity to demonstrate their competency level and ability by means of written tests, verbal communications, and demonstrating hands-on abilities.

MTT 250 Workplace Skills II (1)
This course is the final preparation for the exit assessment by using Key Train software for Applied Math, Reading for Information, and Locating Information. A student will be required to attend remaining seminars that were not attended in Workplace Skills I through the Career Resource Center.

Medical Office Assistant

The Medical Office Assistant program prepares students to join a medical office team. Topics include medical terminology, medical records management, and medical office procedures in addition to basic computer skills.

Program Information
• Required Math Score: Level 4
• Required Reading Score: Level 5
• Program Start (semesters): August; January
• Financial Aid available (for post-secondary students only): Yes
• Veteran Benefits Eligible (for post-secondary students only): No
• Industry-recognized credentials: N/A

Program Requirements

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<tr>
<th>Code</th>
<th>Title</th>
<th>Hours</th>
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<tr>
<td>BAT 130</td>
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<td>BAT 200</td>
<td>Business Law</td>
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<td>BAT 113</td>
<td>Intro Acct and Acct Software</td>
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<tr>
<td>MOS 250</td>
<td>Medical Terminology</td>
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<td>MOS 255</td>
<td>Medical Records Management</td>
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<td>MOS 260</td>
<td>Medical Office Procedure</td>
<td>3</td>
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<td>Total Hours</td>
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MOS 150 Medical Terminology (1)
This course familiarizes students to basic medical terminology and medical abbreviations used in a nursing care setting. The course is a component of and incorporated into the semester long program.

MOS 240 Medical Transcription (4)
This course will acquaint the student with transcription equipment and techniques. The student will transcribe a variety of medical documents and reports typically dictated in physicians’ offices, hospitals, and other settings. Emphasis is placed on accuracy of information within the documents and will require use of medical terminology.

MOS 250 Medical Terminology (5)
Designed to give the student a background in basic medical terminology, this course covers prefixes, suffixes, combining forms, and word roots to compose medical terms. The student learns to spell, pronounce, define, and interpret terminology related to body structure, disease, diagnosis, and treatment.

MOS 255 Medical Records Management (4)
This course will acquaint the student with processing, maintaining and filing medical records. Students will also gain hands-on practice in creating, editing and generating medical reports. Emphasis is placed on confidentiality, appropriate documentation, accuracy and comprehension of information within the documents, and will require the use of medical terminology.

MOS 260 Medical Office Procedure (3)
This course provides hands-on practice of front office skills in a medical setting, both on paper and electronically, using medical office software. The student will also practice entry-level diagnosis coding, procedure coding, and medical claims billing.

Medical Office Specialist

The Medical Office Specialist program prepares students for entrance into a support staff position as part of a medical team. Instruction includes medical terminology and transcription, medical office procedures, preparation of medical documents, professional standards and ethics, and extensive training in computer software. The program is best suited for students with strong skills in English, reading and comprehension, vocabulary, problem solving, and critical thinking. This program will offer students preparation to test for the industry-recognized credentials listed below.

Program Information
• Required Math Score: Level 4
• Required Reading Score: Level 5
• Program Start (semesters): August; January
• Financial Aid available (for post-secondary students only): Yes
• Veteran Benefits Eligible (for post-secondary students only): Yes
• Industry-recognized credentials: Microsoft Specialist Word; Microsoft Specialist Excel; Microsoft Specialist Access

Certificate Requirements

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<thead>
<tr>
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<tbody>
<tr>
<td>BAT 113</td>
<td>Intro Acct and Acct Software</td>
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<tr>
<td>BAT 122</td>
<td>Business Communications</td>
<td>4</td>
</tr>
<tr>
<td>BAT 130</td>
<td>Word Processing</td>
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<td>BAT 140</td>
<td>Document Processing</td>
<td>4</td>
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<tr>
<td>BAT 172</td>
<td>Spreadsheet Management</td>
<td>4</td>
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<tr>
<td>BAT 180</td>
<td>Human Relations</td>
<td>4</td>
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<td>BAT 200</td>
<td>Business Law</td>
<td>4</td>
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<tr>
<td>BAT 215</td>
<td>Database Management</td>
<td>4</td>
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<td>MOS 250</td>
<td>Medical Terminology</td>
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<td>MOS 260</td>
<td>Medical Office Procedure</td>
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<td>BAT 212</td>
<td>Professional Skills &amp; Ethics</td>
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<td>Medical Records Management</td>
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MOS 150 Medical Terminology (1)
This course familiarizes students to basic medical terminology and medical abbreviations used in a nursing care setting. The course is a component of and incorporated into the semester long program.

MOS 240 Medical Transcription (4)
This course will acquaint the student with transcription equipment and techniques. The student will transcribe a variety of medical documents and reports typically dictated in physicians' offices, hospitals, and other settings. Emphasis is placed on accuracy of information within the documents and will require use of medical terminology.

MOS 250 Medical Terminology (5)
Designed to give the student a background in basic medical terminology, this course covers prefixes, suffixes, combining forms, and word roots to compose medical terms. The student learns to spell, pronounce, define, and interpret terminology related to body structure, disease, diagnosis, and treatment.

MOS 255 Medical Records Management (4)
This course will acquaint the student with processing, maintaining and filing medical records. Students will also gain hands-on practice in creating, editing and generating medical reports. Emphasis is placed on confidentiality, appropriate documentation, accuracy and comprehension of information within the documents, and will require the use of medical terminology.

MOS 260 Medical Office Procedure (3)
This course provides hands-on practice of front office skills in a medical setting, both on paper and electronically, using medical office software. The student will also practice entry-level diagnosis coding, procedure coding, and medical claims billing.

Medical Scribe
The Medical Scribe program is designed to prepare students for work in the health care field. This program will offer students preparation to test for the industry-recognized credentials listed below.

Program Information
- Required Math Score: Level 4
- Required Reading Score: Level 4
- Program Start (semesters): August, January
- Financial Aid available (for post-secondary students only): Yes
- Veteran Benefits Eligible (for post-secondary students only): No
- Industry-recognized credentials: CNA

Program Requirements

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<td>MOS 250</td>
<td>Medical Terminology</td>
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<tr>
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<td><strong>Total Hours</strong></td>
<td><strong>21</strong></td>
</tr>
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</table>

MOS 150 Medical Terminology (1)
This course familiarizes students to basic medical terminology and medical abbreviations used in a nursing care setting. The course is a component of and incorporated into the semester long program.

MOS 240 Medical Transcription (4)
This course will acquaint the student with transcription equipment and techniques. The student will transcribe a variety of medical documents and reports typically dictated in physicians' offices, hospitals, and other settings. Emphasis is placed on accuracy of information within the documents and will require use of medical terminology.

MOS 250 Medical Terminology (5)
Designed to give the student a background in basic medical terminology, this course covers prefixes, suffixes, combining forms, and word roots to compose medical terms. The student learns to spell, pronounce, define, and interpret terminology related to body structure, disease, diagnosis, and treatment.

MOS 255 Medical Records Management (4)
This course will acquaint the student with processing, maintaining and filing medical records. Students will also gain hands-on practice in creating, editing and generating medical reports. Emphasis is placed on confidentiality, appropriate documentation, accuracy and comprehension of information within the documents, and will require the use of medical terminology.

MOS 260 Medical Office Procedure (3)
This course provides hands-on practice of front office skills in a medical setting, both on paper and electronically, using medical office software. The student will also practice entry-level diagnosis coding, procedure coding, and medical claims billing.

Office Careers Technology
The Office Careers Technology program prepares students for entry-level administrative office positions that enhance their ability for promotion to advanced positions. The program provides extensive training in computer software including Microsoft Office and QuickBooks. Skills are enhanced through application and simulations using the Gregg Reference Manual, transcription, 10-key entry, and desktop publishing.

Program Information
- Required Math Score: Level 4
- Required Reading Score: Level 4
- Program Start (semesters): August; January
- Financial Aid available (for post-secondary students only): Yes
- Veteran Benefits Eligible (for post-secondary students only): Yes
- Industry-recognized credentials: N/A

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<td></td>
<td><strong>Total Hours</strong></td>
<td><strong>24</strong></td>
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</tbody>
</table>
BAT 113 Intro Acct and Acct Software (4)
This course develops a foundation for accounting skills and assists students attain an understanding of accounting concepts and the importance of accounting for funds in a business. Students get an introduction to the accounting equation, journal entries, t-accounts, Trial Balances, Financial Statements, adjusting entries, closing entries, and financial statement analysis. Students also use a comprehensive, hands-on training manual for QuickBooks Desktop to learn computer accounting practices through sample companies.

BAT 116 Intro to Business Accounting (2)
This course develops a foundation for accounting skills and assists students attain an understanding of accounting concepts and the importance of accounting for funds in a business. Students build on their foundation of knowledge one topic at a time with repetition of key concepts to ensure an understanding of the basic financial accounting cycle, including checkbook reconciliation, through lecture and comprehensive exercises using work papers, as well as spreadsheets.

BAT 117 Intro to Acct & Acct Software (4)
This course develops a foundation for accounting skills and assists students attain an understanding of accounting concepts and the importance of accounting for funds in a business. Students get an introduction to the accounting equation, journal entries, t-accounts, Trial Balances, Financial Statements, adjusting entries, closing entries, and financial statement analysis. Students also use a comprehensive, hands-on training manual for QuickBooks Desktop to learn computer accounting practices through sample companies.

BAT 118 Business Accounting I (2)
This course develops a foundation for accounting skills and assists students attain an understanding of accounting concepts and the importance of accounting for funds in a business. Students build on their foundation of knowledge one topic at a time with repetition of key concepts to ensure an understanding of the basic financial accounting cycle, including checkbook reconciliation, through lecture and comprehensive exercises using work papers, as well as spreadsheets.

BAT 122 Business Communications (4)
This course includes the identification and use of the parts of speech, punctuation, capitalization, and numbers correctly in writing effective sentences and paragraphs. Basic spelling rules will be covered and implemented.

BAT 126 Intro to Accounting Software (2)
This course provides an introduction to accounting software program using a comprehensive, hands-on training manual to learn computer accounting practices through sample companies. Prerequisites: Introduction to Business Accounting or Business Accounting I

BAT 128 Business Accounting II (2)
Building on Business Accounting I, this course will lead the student to thoroughly study concepts relating to financial accounting and reporting, including accounting for payroll, accounting for a merchandising business, the use of special ledgers, and accounting for merchandise inventory. Prerequisites: Introduction to Business Accounting or Business Accounting I

BAT 130 Word Processing (4)
Students will use Microsoft Office Word software to create and edit basic-to-advanced documents, including tables and charts. This is an instructor-guided lab course.

BAT 140 Document Processing (4)
This course continues the development of basic typing skills and emphasizes the formatting of various kinds of business correspondence, reports, tables, electronic forms, and desktop publishing projects from arranged, unarranged, and rough-draft sources.

BAT 172 Spreadsheet Management (4)
This course is designed to familiarize the student with various basic and advanced spreadsheet functions. These include creating and maintaining spreadsheets, displaying information, adding and changing formulas, applying formatting, creating charts and tables, inserting graphics, and customizing the appearance and functions of spreadsheets.

BAT 180 Human Relations (4)
This course is designed for students to learn skills to compete in an increasingly competitive work environment. Skills stressed will be the production of documents and resources needed to obtain employment. Issues addressed will include appropriate communication, conflict resolution, teamwork, accountability, and business ethics.

BAT 200 Business Law (4)
This course provides a basic knowledge of the law and regulations to anyone contemplating a successful career in business. Students will attain knowledge of the nature, concepts and function of the law and the changes technology has brought within the legal system and business law.

BAT 205 Business Research & Writing (4)
A successful and productive member of any office team will write business correspondence, electronic mail and business documents using the correct grammar, style and content. This course is designed to ensure students will have the knowledge to produce effective business communications in written form.

BAT 212 Professional Skills & Ethics (4)
Business leaders in our society are faced with daily decisions, involving ethical decisions and professional comportment. Students will learn the basics of negotiation, conflict resolution, and trust building in the office and with clients. Students will demonstrate awareness and effective application of professional skills including teamwork, productivity, and employee retention and client relations. This course introduces students to important elements of moral theory as well as main topics in business ethics, including the fiduciary duty of managers, outsourcing, corporate responsibility, whistle-blowing, income smoothing, insider trading, sole-source procurements and kickbacks, conflicts of interest, deception in advertising and marketing, responsibility to the environment, pay for corporate personnel, confidentiality and duties to clients.

BAT 215 Database Management (4)
This course covers basic database management skills including creating, maintaining, and editing records, files, and tables and creating queries, forms, and reports. In addition, skills such as modifying database objects, creating advanced types of tables, calculating fields, and importing and exporting data from other software are covered.

BAT 220 Intro Business & Office Mgmt (4)
This course will offer the advanced student knowledge and skills used in business offices, accounting departments and professional firms. The student will learn the necessary skills to manage employees and materials as an office manager. Additionally, the student will become well versed in basic business principals, economic systems, management and organization and management information systems. Additionally, the student will understand business ethics and the importance of good business ethics. Students will gain a general understanding of human resources, marketing, product life cycle, finance and investment.
BAT 252 Payroll Accounting (4)
Building on Business Accounting, this course will have two units. The first unit will cover all aspects of payroll accounting and provides an innovative, hands-on approach with unique blend of theory and practical exercises, enabling students to get a thorough understanding of the most widely used payroll accounting functions. This unit ends with a comprehensive capstone project. The second unit will cover various accounting topics as accounts receivable, inventory costing, depreciation of long-term assets, bond amortization, financial statements, financial ratios, and budgeting. Students will incorporate knowledge gained from BAT172 Spreadsheet Management to build Excel spreadsheets to handle accounting functions.

BAT 255 Advanced Business Accounting (4)
Building on Business Accounting I and II, this course will lead the student to thoroughly study concepts relating to financial accounting and reporting, including preparing financial statements and year-end accounting of a merchandise business. In addition, this course covers specialized accounting procedures for accounts receivable, promissory notes and interest, long-term assets, partnerships, corporate bonds, capital stock, and for corporations. Prerequisites: Business Accounting II

BAT 265 Advanced Accounting Software (4)
This course is a comprehensive survey of QuickBooks Pro 2014 that culminates with sitting for the QuickBooks Pro 2014 certification exam. Prerequisites: Business Accounting

Phlebotomy

The Phlebotomy program was created in response to high area demand for trained phlebotomists. This one-semester program provides training in venipuncture, sterile technique, patient safety, and documentation through didactic instruction, lab skills and a clinical experience. Students must be 18 years of age and must pass a national exam upon completion of the program to be eligible for certification. This program will offer students preparation to test for the industry-recognized credentials listed below.

Program Information

- Required Math Score: Level 4
- Required Reading Score: Level 4
- Program Start (semesters): August, January, Summer
- Financial Aid available (for post-secondary students only): No
- Veteran Benefits Eligible (for post-secondary students only): Yes
- Industry-recognized credentials: OSHA; Phlebotomy Technician

Course Offerings

Certificate Requirements

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<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Hours</th>
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<tbody>
<tr>
<td>HCT 105</td>
<td>First Aid &amp; CPR</td>
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<td>MOS 150</td>
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<tr>
<td>HCT 162</td>
<td>Fundamentals of Phlebotomy</td>
<td>3</td>
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<tr>
<td>HCT 164</td>
<td>Phlebotomy Lab</td>
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<tr>
<td>HCT 166</td>
<td>Phlebotomy Clinical Practicum</td>
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<tr>
<td>HCT 168</td>
<td>Phlebotomy National Exam Rev.</td>
<td>1</td>
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HCT 100 Intro to Human Body (4)
This course introduces HealthCare Technology students to the basic science of body structure and function. It will familiarize the students to the human body and its levels of organization. Intro to Human Body is a component of and incorporated into the semester long program.

HCT 105 First Aid & CPR (1)
This course is an introduction to basic first aid and included CPR certification. The course provides the basic information and skills needed to meet the AMercian Heart Association standards. Participants will be allowed to practice the skills in a real life based environment that will test their learned skills.

HCT 108 Health Occupations I (4)
This course introduces Health Care Technology students to the basic science of body structure and function. It will familiarize the students to the human body and its levels of organization. Health Occupations I is a component of and incorporated into the semester long program.

HCT 118 Medical Math (1)
This course familiarizes the HealthCare Technology student to basic mathematical used in a nursing care setting. It is a component of and incorporated into the semester long program.

HCT 122 Medical Terminology (2)
The course introduces the student to the language of the medical field. Medical prefixes, suffixes, and combining forms are introduced to the student so they may have a thorough knowledge and understanding of what they are reading and writing in the medical field. An emphasis is placed on terms, pathological conditions, and diagnostic terms.

HCT 124 Lab Skills & Patient Care (2)
This course provides the student with knowledge and practical application of basic laboratory skills with a focus on patient care. Students learn and practice basic skills in personal care, sterile technique, patient safety, documentation, and medication administration. There is major emphasis on the critical elements of laboratory procedures and the scientific rationale for performing the procedures correctly.

HCT 125 Lab Skills & Patient Care (3)
This course provides the student with knowledge and practical application of basic laboratory skills with a focus on patient care. students learn and practice basic skills in personal care, sterile technique, patient safety, documentation, and medication administration. There is major emphasis on the critical elements of laboratory procedures and the scientific rationale for performing the procedures correctly.

HCT 128 Nurse Aide (5)
This course provides the student with the knowledge and skills necessary to secure employment as a CNA in the workplace through a combination of classroom instruction, nursing lab skill demonstration/practice, and the opportunity to gain instructor supervised experience in a work setting. This program meets state guidelines for the Kansas Nurse Aide certification testing through Kansas Department of Aging and Disability Services.
HCT 131 Human Development (3)
This course provides an introduction to physical, cognitive, emotional, and social aspects of human development throughout the life span. It emphasizes developmental processes beginning with conception and continuing throughout childhood, adolescence, adulthood, later life and death. The course focuses on developmental processes, cultural influences, and other factors that make each individual unique. This course takes an inter-disciplinary approach toward human development that is based on science and applied toward the goal of solving important human problems.

HCT 132 Anatomy & Physiology (4)
This course is designed to introduce the student to the structure and function of the following body systems: skeletal, muscular, nervous, sensory, circulatory, respiratory, digestive, and urinary systems. This class offers information concerning normal human structures and functions and the developmental changes that occur during an individual’s life span. Students will learn specific information about factors associated with expected and abnormal anatomical and physiological changes associated with the body’s major organ systems. This course is designed for students who are interested in pursuing a career in a health occupation.

HCT 133 Anatomy & Physiology Lab (2)
This course provides opportunities to observe various anatomical parts and to investigate physiological phenomena. The student will relate specimens, models, microscope slides, and whole body information learned in lecture and read about in the textbook. Study of anatomy of major organ systems includes use of anatomical models and selected preserved animals and organs.

HCT 134 Human Growth & Development (3)
This course provides an introduction to physical, cognitive, emotional, and social aspects of human development throughout the life span. It emphasizes developmental processes beginning with conception and continuing throughout childhood, adolescence, adulthood, later life and death. The course focuses on developmental processes, cultural influences, and other factors that make each individual unique. This course takes an inter-disciplinary approach toward human development that is based on science and applied toward the goal of solving important human problems.

HCT 135 CPR (0)
This course is an introduction to basic first aid and included CPR certification. The course provides the basic information and skills needed to meet the American Heart Association standards. Participants will be allowed to practice the skills in a real life-based environment that will test their learned skills.

HCT 136 Human Anatomy & Physiology (4)
This course is designed to introduce the student to the structure and function of the following body systems: skeletal, muscular, nervous, sensory, circulatory, respiratory, digestive, and urinary systems. This class offers information concerning normal human structures and functions and the developmental changes that occur during an individual’s life span. Students will learn specific information about factors associated with expected and abnormal anatomical and physiological changes associated with the body’s major organ systems. This course is designed for students who are interested in pursuing a career in a health occupation.

HCT 137 Human Anatomy & Physiology Lab (2)
This course provides opportunities to observe various anatomical parts and to investigate physiological phenomena. The student will relate specimens, models, microscope slides, and whole body information learned in lecture and read about in the textbook. Study of anatomy of major organ systems includes use of anatomical models and selected preserved animals and organs.

HCT 138 Home Health Aide (2)
This course is designed for the person seeking to provide direct care services to clients in their home. Home Health Aides assist other health care professionals in maintaining and restoring the client to optimum levels of physical and emotional well-being while allowing the client to remain at home. Upon completion of the course students are eligible to receive a certificate after passing the Kansas Department of Aging and Disability Services exam. Prerequisites: CNA certification

HCT 141 Nutrition (3)
This introductory course provides a basic knowledge of human nutrition. Students will learn the sources and functions of the various nutrients. They will also explore the interaction of diet, disease, prevention, and treatment. Through the use of computerized nutrition program, students will analyze their diets for nutritional deficiencies and excesses.

HCT 148 Medication Aide (5)
The Certified Medication Aide (CMA) course is designed for the person seeking work in a long-term care facility. The CMA course introduces the student to basic concepts of medication administration including drug classification, drug action, and nursing implications for specific drugs. Student’s participation in hands-on experience in a clinical setting is an integral part of the course. Upon completion of the course, students are eligible to receive a Medication Aide certificate after passing the Kansas Department of Aging and Disability Services exam. Prerequisite: CNA certification

HCT 152 Phlebotomy (3)
The Phlebotomy course is designed to train individuals to properly collect and process blood and other clinical specimens for laboratory testing and to interact with health care personnel, clients, and the general public. Presentation includes equipment and additives, basic anatomy, and techniques for safe and effective venipuncture. Emphasis will be placed on collection techniques, specimen processing, work flow practices, referrals, and utilizing laboratory information systems.

HCT 154 Phlebotomy Clinical (3)
Phlebotomy Clinical is a health-related, work-based learning experience that enables the student to apply specialized occupational theory, skills, and concepts. Direct supervision is provided by the clinical laboratory professional. This course provides opportunities to practice phlebotomy skills in a clinical setting. Safety, quality control, and interpersonal communications will be stressed. The student will be eligible to apply for a national certifying examination upon successful completion.

HCT 155 Phlebotomy Clinical (2)
Phlebotomy Clinical is a health-related, work-based learning experience that enables the student to apply specialized occupational theory, skills, and concepts. Direct supervision is provided by the clinical laboratory professional. This course provides opportunities to practice phlebotomy skills in a clinical setting. Safety, quality control, and interpersonal communications will be stressed. The student will be eligible to apply for a national certifying examination upon successful completion.
HCT 162 Fundamentals of Phlebotomy (3)
This course is designed to train individuals to properly collect and process blood and other clinical specimens for laboratory testing and to interact with health care personnel, clients, and the general public. Presentation includes equipment and additives, basic anatomy, and techniques for safe and effective venipuncture. Emphasis will be placed on collection techniques, specimen processing, Order of Draw, departments in the clinical laboratory, the tests analyzed in each department, and work flow practices.

HCT 164 Phlebotomy Lab (2)
This course provides the student with knowledge and practical application of basic laboratory skills with a focus on patient care. Students learn and practice basic skills in venipuncture, sterile technique, patient safety, and documentation. There is major emphasis on the critical elements of laboratory procedures and the scientific rationale for performing the procedures correctly.

HCT 166 Phlebotomy Clinical Practicum (2)
A health-related, work-based learning experience that enables the student to apply specialized occupational theory, skills and concepts; direct supervision is provided by the clinical laboratory professional; course provides opportunities to practice phlebotomy skills in a clinical setting; safety, quality control and interpersonal communications will be stressed.

HCT 168 Phlebotomy National Exam Rev. (1)
This course is designed to prepare the student for the ASCP or NHA National Exam. The course will include practice test questions over the topics covered in the didactic course Fundamentals of Phlebotomy.

Practical Nursing

The Washburn Tech Practical Nursing program is designed to provide graduates with the knowledge, skills, attitudes, and abilities needed to practice safely and effectively as an entry level practical nurse and eligibility to take the NCLEX-PN licensure exam.

Entrance requirements include:

• a current Kansas Nurse Aide certification or the equivalent
• an approved Anatomy and Physiology course of 6 credit hours, including lab from an accredited college within the last 5 years with a grade of "C" or better
• approved courses of Nutrition and Human Development, 3 credit hours each from an accredited college with a "C" or better

Anatomy & Physiology, Nutrition, and Human Development classes are available at Washburn Tech. Other recommended prior course work to enhance a student's success and ability to articulate include: Psychology, Biology, Pharmacology, English, and Algebra. Taking a Medication Aide course (CMA) helps to prepare applicants for nursing school. Work experience in the health field is highly recommended.

This program will offer students preparation to test for the industry-recognized credentials listed below.

Program Information

• Required Math Score: Level 5
• Required Reading Score: Level 6
• Program Start (semesters): August; January; Summer (Prerequisites)
• Financial Aid available (for post-secondary students only): Yes

Certificate Requirements

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<td>HCT 134</td>
<td>Human Growth &amp; Development</td>
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<td>HCT 136</td>
<td>Human Anatomy &amp; Physiology</td>
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Prerequisite Courses

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<td>2</td>
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<td>5</td>
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<tr>
<td>PNS 212</td>
<td>KSPN Nursing Care of Adults II</td>
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</tr>
<tr>
<td>PNS 215</td>
<td>KSPN Nursing Care Ad II Clinic</td>
<td>3</td>
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<tr>
<td>PNS 232</td>
<td>KSPN Care of Aging Adults</td>
<td>2</td>
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<tr>
<td>PNS 221</td>
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<td>KSPN Mental Health Nursing</td>
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</tr>
<tr>
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<td>KSPN Leadership,Roles &amp; Issues</td>
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Required Courses

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<tbody>
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<td>PNS 101</td>
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<td>PNS 152</td>
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<td>PNS 232</td>
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<td>Maternal Child Nursing</td>
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<td>Total Hours</td>
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• Veteran Benefits Eligible (for post-secondary students only): Yes
• Industry-recognized credentials: Licensed Practical Nurse

PNS 101 Foundations of Nursing (4)
This course utilizes the nursing standards of practice based on principles of biology, psychosocial, spiritual, and cultural to meet the needs of clients throughout the lifespan. Emphasis is placed on basic nursing skills, patient safety, and therapeutic communication. Concepts and skills are enhanced in subsequent courses.

PNS 111 Pharmacology (3)
This course introduces the principles of pharmacology, drug classifications, and the effects of selected medications on the human body. The nursing process is used as the framework for ensuring safe and effective nursing care for clients across the life span.

PNS 115 Foundation of Nursing Clinical (2)
This course explores the art and science of nursing. In this clinical course emphasis is placed on the nursing process, cultural and spiritual awareness, communication, data collection, performance of basic nursing skills, and documentation. Principles of safe medication administration are introduced.

PNS 121 Strategies for Success (2)
This course is the first in a sequence of practical nursing courses and is designed as an introduction to the many facets of the college experience. Emphasis is placed on affecting student success including orientation to the academic arena, study skills, computer proficiency, skills procedures, and basic mathematic skills.
PNS 145  KSPN Fund of Pharm&Safe Med Ad (2)
This course provides an introduction to the principles of pharmacology. Emphasis is placed on nursing care related to the safe calculation and administration of medications to clients across the lifespan.

PNS 152  KSPN Nursing Care of Adults I (5)
This course focuses on the care of adult clients experiencing common medical/surgical health alterations with predictable outcomes. Emphasis is placed on the care of clients with alterations in cardiac output and tissue perfusion, oxygenation, regulation and metabolism, and integument. Principles of pre-and post-operative care and IV therapy are also addressed.

PNS 155  KSPN Nursing Care Ad I Clinic (2)
This course focuses on the care of adult clients with common medical/surgical health alterations. The clinical laboratory experience provides the student an opportunity to apply the theoretical concepts from Nursing Care of Adults I and implement safe client care in selected settings.

PNS 161  Medical Surgical Nursing I (4)
This course focuses on the effect of disorders of selected systems throughout the lifespan and applies the nursing process in meeting basic needs. Health promotion and maintenance, rehabilitation, and continuity of care are emphasized. The role of the practical nurse is incorporated throughout.

PNS 166  Med Surg Nursing I Clinical (3)
Simulated and actual care situation of selected systems throughout the lifespan, utilizing acute and long-term care setting. An emphasis is placed on critical thinking and clinical decision-making skills.

PNS 211  Medical Surgical Nursing II (4)
This course focuses on the effect of disorders of selected systems throughout the lifespan using the nursing process in meeting basic needs. Prevention, rehabilitation, and continuity of care are emphasized. The role of the practical nurse is incorporated throughout.

PNS 212  KSPN Nursing Care of Adults II (5)
This course focuses on the care of adult clients experiencing common medical/surgical health alterations with predictable outcomes. Emphasis is placed on the care of clients with alterations in cognition and sensation, mobility, elimination, immunity and hematologic, and reproduction. Principles related to emergency preparedness are also addressed.

PNS 215  KSPN Nursing Care Ad II Clinic (3)
This course focuses on the care of adult clients with common medical/surgical health problems. The clinical laboratory experience provides the student an opportunity to build on the theoretical concepts from Nursing Care of Adults I and II and implement safe client care in selected settings. Students are given the opportunity to practice leadership skills while managing a caseload of clients.

PNS 216  Med Surg Nursing II Clinical (3)
This experience uses simulated and actual care situations of selected systems throughout the lifespan, and utilizing acute and long-term care settings. An emphasis is placed on critical thinking and clinical decision-making skill development. Principles of leadership for the practical nurse will be implemented, as well as multi-task management skills for transition as a practical nurse.

PNS 221  Maternal Child Nursing (2)
This course focuses on pre-and post-natal maternal nursing care, as well as the care of children from infancy to adolescence. Emphasis is given to normal reproduction and frequently occurring biological, cultural, spiritual, and psychosocial needs of the child bearing and child rearing family.

PNS 226  Maternal Child Nurs Clinical (1)
This clinical course applies concepts from Maternal Child I. Emphasis is placed on the nursing process and meeting the basic needs of the maternal child client.

PNS 230  Gerontology (2)
This course is designed to explore issues related to the aging adult using the nursing process as the organizing framework. Also discussed are the impact of aging, alterations in physiological and psychosocial functioning, and the role of the practical nurse in caring for older adult clients.

PNS 232  KSPN Care of Aging Adults (2)
This course is designed to explore issues related to the aging adult. Course content addresses the impact of ageism, alterations in physiological and psychosocial functioning, and the role of the practical nurse in caring for older adult clients across a continuum of care.

PNS 235  KSPN Mental Health Nursing (2)
This course explores basic concepts and trends in mental health nursing. Therapeutic modalities and client behavior management are discussed. Emphasis is placed on using the nursing process and meeting the basic human needs of the client with a mental health disorder.

PNS 240  Mental Health (2)
This course explores basic concepts and trends in mental health nursing. Therapeutic modalities and client behavior management are discussed. Emphasis is placed on using the nursing process and meeting the basic human needs of the mental health client.

PNS 242  KSPN Leadership, Roles & Issues (2)
This course provides orientation to leadership roles of the LPN and related responsibilities. It will introduce issues to the student they will encounter in the workplace.

PNS 245  NCLEX-PN (1)
This course is designed to provide a structured review of key content in the PN program. Test-taking strategies for NCLEX and requirements for NCLEX exam registration will be covered in this course. Review materials will be focused on foundations of nursing, care of the adult, mental health, pharmacology, maternal-child nursing, and leadership. The course will end with a comprehensive predictor to determine the student’s readiness for the NCLEX exam.

PNS 250  Role Development (2)
This course includes expansion of the leadership and management skills necessary for personal and career growth and development, emphasizing assignments delegation, and conflict management. This course also provides an opportunity to acquire additional knowledge in areas of concern and to build on areas of strength to improve the chances of being successful in the NCLEX-PN.

PNS 255  Role Development Clinical (2)
This course applies concepts of leadership and management skills necessary for personal, career growth and development, emphasizing assignments delegation, and conflict management. Importance is placed on critical thinking and clinical decision making. The student applies knowledge and understanding of content gained in all previous and concurrent didactic and clinical courses in various clinical environments.

Surgical Technology
The Surgical Technology program provides an opportunity for the students to learn the basic skills necessary to become an integral member of the surgical team. Surgical technologists maintain the operating room by selecting and opening supplies, assembling equipment for surgical procedures, and by providing the necessary sterile items.
to the surgeon in an efficient manner. Upon satisfactory completion of the program the student may earn the “CST” certification credential by passing a nationally-administered exam.

Prospective students must have a high school diploma or GED.

Prerequisites for program admission include a grade of “C” or better in an approved Anatomy and Physiology course with lab (6 credit hours or more) from an HLC-accredited college within the past 5 years and current CPR certification. Other recommended college-level courses are medical terminology and microbiology.

This program will offer students preparation to test for the industry-recognized credentials listed below.

Note: The 2020-2021 Academic Year will be the last year that the Surgical Technology program will be solely a tech certificate. Starting with the 2021-2022 Academic Year, the profession will require that students earn an Associate Degree at Washburn University through the School of Applied Studies prior to finishing work required for the Surgical Technology certificate.

Program Information

• Required Math Score: Level 5
• Required Reading Score: Level 6
• Program Start (semesters): August
• Financial Aid available (for post-secondary students only): Yes
• Veteran Benefits Eligible (for post-secondary students only): Yes
• Industry-recognized credentials: Certified Surgical Technologist

Certificate Requirements

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<td>SUR 110</td>
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<td>SUR 125</td>
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SUR 105 Introduction to Surgical Tech (4)
The course introduces the student to professional responsibilities, duties, and general functions of the operating room. It also introduces the student to the rest of the operating room team and their functions, responsibilities for safety of the patient and themselves, organization of the hospital and the operating room, legal and ethical issues, and the importance of communication in the operating room, credentialing, and professionalism. The use of electricity and lasers in the operating room are also covered as are the pre-op routines of the circulator prior to the patient entering the operating room.

SUR 110 Microbiology (2)
The course introduces the student to basic micro-organisms and how they relate to the operating room and sterile technique.

SUR 120 Medical Terminology (3)
The course introduces the student to the language of the medical field. Medical prefixes, suffixes, and combining forms are introduced to the student so they may have a thorough knowledge and understanding of what they are reading and writing in the medical field. An emphasis is placed on terms, pathological conditions, and diagnostic terms that relate to surgery.

SUR 125 Surgical Medical Terminology (3)
The course introduces the student to the language of the medical field. Medical prefixes, suffixes, and combining forms are introduced to the student so they may have a thorough knowledge and understanding of what they are reading and writing in the medical field. An emphasis is placed on terms, pathological conditions, and diagnostic terms that relate to surgery.

SUR 135 Principles & Practices of ST (5)
The course introduces the student to basic care practices of the operating room and will include aseptic technique and surgical case management. It covers a multitude of duties and concepts of both the scrub and circulating roles of the operating room. This also includes scrubbing, gowned, and gloved; preparing and maintaining the sterile field for surgery; methods of sterilization; all operating room (OR) equipment and its use, sponge, sharp, and instrument counts; specialty instruments and their care; surgical dressings; catheters, tubes and drains; pre-op, intra-op, and post-op duties of the surgical tech and circulating nurse like positioning prepping and draping and more.

SUR 145 Principles & Practices ST Lab (3)
The course allows the student to apply the knowledge that he/she learned in SUR140 (Principles and Practices). Repeated practice is designed to get the student ready for the clinical area to assure proper patient care. The student must pass the lab in order to continue in the program.

SUR 155 Surgical Procedures I (4)
The course instructs the student in the basic general, gynecological, and genitourinary surgical procedures. Besides the procedure itself the student will learn the instrumentation needed, pathology, sutures used, and special considerations.

SUR 165 Surg Procedures I (3)
The course instructs the student in the basic general, gynecological, and genitourinary surgical procedures. Besides the procedure itself the student will learn the instrumentation needed, pathology, sutures used, and special considerations.
SUR 175 Clinical I (3)
The student will start to apply the basic skills they have learned for the operating room in the actual operating room of a clinical facility. They will also pick up experience in the instrument room and pre-operative area of the hospital. Clinical proficiency at our facilities prepares the student with a minimum of 120 cases, 80 of which are in the first scrub role and comprise a variety of surgical scrub experiences.

SUR 245 Surgical Procedures II (5)
This course will expand ENT, maxillofacial, orthopedic, vascular, plastic surgery, and neuro surgical procedures. Besides the procedure itself, included in this course is pathology involved, surgical instruments needed, positioning of the patient, and special considerations for each surgical procedure.

SUR 250 Surgical Pharmacology (2)
This course begins with weights and measurements using the metric system and its application in the medical field. A review of basic math skills and figuring ratios is included. Medications used in the operating room during surgery both for the surgeon and the anesthesia provider will be discussed. Pre-operative and post-operative medications for anxiety, pain, emergencies, and other operating room (OR) related health issues will be discussed. Anesthetic agents used including IV, inhalation, regional, and local will be presented to the student.

SUR 265 Surgical Procedures III (5)
The course will introduce students to vascular, thoracic, plastic, ophthalmic, pediatric surgical procedures and trauma surgery. Included in this is pathology involved, surgical instruments needed, positioning the patient, and special considerations for each surgical procedure. Students will also learn basic physics and robotics as applied to the operating room.

SUR 270 Clinical II (4)
In the surgical suite students will apply knowledge and skills learned in Surgical Procedures II and Principles and Practices Lab to the operating room on all surgical procedures. This course is designed to increase the student's self-confidence as a surgical tech and allow them to become more aware of their sterile technique and preparedness for each surgical procedure. Anticipation of the surgeon is critical. Clinical proficiency at our facilities prepares the student with the required 120 surgical cases, 80 of those in the 'first scrub' role.

SUR 285 Clinical III (6)
In the surgical suite students will apply knowledge and skills learned in Surgical Procedures and Principles and Practices to the operating room on more advanced procedures. This course is designed to increase the student's self-confidence and have them know instruments needed and general preparedness for each surgical procedure. Anticipatory skills are enhanced. Clinical proficiency at our facilities prepares the student with the required 120 surgical cases, 80 of these will be in the 'first scrub' role.

SUR 290 Clinical III (4)
Comprehensive review of surgical technology concepts and practical preparation for the national certification examination including but not limited to: Preoperative preparation of the surgical patient, Intra-operative procedures, Post-operative procedures, Administrative and personnel, Equipment sterilization and maintenance, Anatomy and physiology, Microbiology, and Surgical pharmacology.

SUR 295 ST Certification Review (1)
Comprehensive review of surgical technology concepts and practical preparation for the national certification examination including but not limited to: a. Preoperative preparation of the surgical patient; b. Intra-operative procedures; c. Post-operative procedures; d. Administrative and personnel; e. Equipment sterilization and maintenance; f. Anatomy and physiology; g. Microbiology; and h. Surgical pharmacology.

Technical Drafting
The Technical Drafting program provides related and hands-on experience in the proper use of drafting tools and equipment, preparing drawings and reproductions, and developing skills, knowledge, and techniques for use in a variety of areas in the drafting field. Related theory and technical instruction includes the study of applied algebra, geometry, and trigonometry, as well as scientific and physical principles of numerous construction and manufacturing materials and techniques. Students will learn the fundamentals of computer-aided drafting (CAD), emphasizing the use of computer hardware and software in processing and retrieving drawing and data files. This program will offer students preparation to test for the industry-recognized credentials listed below.

Program Information
- Required Math Score: Level 5
- Required Reading Score: Level 4
- Program Start (semesters): August
- Financial Aid available (for post-secondary students only): Yes
- Veteran Benefits Eligible (for post-secondary students only): Yes
- Industry-recognized credentials: AutoCAD User Certification

Certificate Requirements

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<tr>
<td>TED 100</td>
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<td>TED 110</td>
<td>Drafting Standards</td>
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TED 100 General Drafting (4)
Introduces the application of fundamental drawing types which includes geometric construction, orthographic views, sections, auxiliary views, and development. Students are instructed in the care and use of the tools and equipment.

TED 110 Drafting Standards (1)
Drafting standards is a course in time keeping, filing, drawing logs, and drawing cross references. Developmental skills in organization, accuracy, neatness, attendance policies, dress codes, and safety in the workplace are taught.
TED 120 Technical Math I (2)
This course is a math review of practical skill as related to the drafting workplace where the students utilize fractions, decimals, simple equations, powers and roots, ratios and proportion, plane geometry, right triangles, oblique triangles, computation of areas and volumes, and use of charts and graphs.

TED 125 Technical Math II (3)
This course is a math review of practical skill as related to the drafting workplace where the students utilize plane geometry, right triangles, oblique triangles, trigonometric natural and co-functions, solutions of triangles right and oblique, computation of areas and volumes, and use of charts and graphs. Prerequisite: Technical Math I

TED 130 CAD I (5)
First course in a three-term sequence introducing AutoCAD software as a drafting tool. Instruction will be given in file handling, basic commands function, drafting techniques, presentation, and plotting. Architectural and mechanical applications will be used in lab exercises to demonstrate AutoCAD commands. Work will be completed with AutoCAD.

TED 135 CAD II (3)
Second course in a three-term sequence covering intermediate AutoCAD commands including attribute blocks, external references, object linking/ embedding, advanced drawing set-up, and user coordinate systems. Work will be completed with AutoCAD. Recommended prerequisite: CAD I

TED 140 Machine Design (6)
This course is an introductory to fundamentals, theory, terminology, and practical construction methods in the machine disciplines. Use of actual working drawing used as reference to industry standards. Students will use a combination of drawing board and CAD in this segment. Practical skills refinement in methods, materials identification and labeling, and drafting techniques and standards used in various types of drawings used in the machine industries are taught. Recommended prerequisite or co-requisites: General Drafting; CAD II

TED 200 Architect Design (5)
Introduces fundamental aspects of architectural drafting. Covers drafting of residential and light commercial buildings, sections and elevations, schedules, design lay-outs, details, and working drawings. Recommended prerequisite or co-requisite: CAD II

TED 210 Industrial Design (6)
Introduces mechanical drafting utilizing Autodesk’s INVENTOR software through parametric 3D-design tools for assembly centered modeling and collaborative engineering. Students develop fundamental knowledge in the areas of part and assembly modeling, using adaptive features, utilizing work groups, surfacing basics, data management, and layout presentation. Recommended prerequisites or recommended co-requisites: Machine Design; CAD III

TED 220 Civil Design (6)
Introduces civil drafting applications using civil, mapping, and survey products. Drawings will be developed to include plats, related civil infrastructure, public utilities, contours, and roads. Recommended prerequisite or recommended co-requisite: CAD II

TED 230 CAD III (5)
Third course in a three-term sequence covering advanced AutoCAD commands including advanced plotting, plotter, CAD standards, modeling 3-D wire frame, surfaces, solids, and 3-D presentation. Work will be completed with AutoCAD. Recommended prerequisite: CAD II

TED 250 Workplace Skills I (2)
Students that have completed all course objectives and criteria plus having an opportunity for employment related to the drafting field may utilize On-the-Job Training (OJT) with instructor and administrative permission.

Welding
The Welding program prepares individuals to apply technical knowledge and skills to join or cut metal surfaces.

Instruction includes: Shielded Metal Arc Welding (SMAW); Gas Metal Arc Welding (GMAW), Flux Cored Arc Welding (FCAW), and cutting processes. Related technical instruction also includes quality assurance and control, print reading, safety, and workplace skills. This program will offer students preparation to test for the industry-recognized credentials listed below.

Program Information
- Required Math Score: Level 4
- Required Reading Score: Level 4
- Program Start (semesters): August
- Financial Aid available (for post-secondary students only): Yes
- Veteran Benefits Eligible (for post-secondary students only): Yes
- Industry-recognized credentials: AWS 1F; AWS 1G; AWS 2F; OSHA

Certificate Requirements

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<td>Total Hours</td>
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</table>

WEL 101 Welding Safety/OSHA 10 (2)
Through a variety of classroom and/or lab learning and assessment activities, students in this course will explain job/site safety and precautions for job/site hazards, determine the uses of personal protective equipment (PPE), identify the safety equipment and procedures related to safe work practices and environment, identify fire prevention and protection techniques, and explore Hazardous Communications (HazCom) including Material Safety Data Sheets (MSDS).
WEL 110 Print Reading/Math I (3)
This course is designed to teach a basic understanding of welder’s math and the symbols used on blueprints. The symbols used on blueprints give the designer a way to relay information to the fitter and welder. The graphic language on blueprints uses various symbols, lines, and notes to convey information. A blueprint is used by a welder to visualize the parts final form, to position and align various members, and to determine the type of joint preparation. It tells the welder what type of filler metal to use, where the weld metal is to be placed, the extent of welding and the size, contour, and finish method for the welds.

WEL 120 Oxy-Fuel/Cutting Procedures (3)
This course will include cutting of ferrous and non-ferrous materials with manual, motor driven, and oxy-fuel shape cutting equipment. Also included are plasma-arc cutting (PAC) and carbon-arc cutting (CAC-A). Safety, equipment, and the basic fundamentals of cutting processes will be introduced. Student will be expected to produce acceptable oxy-fuel, PAC, and CAC-A cuts. This unit follows ANSI / AWS C4.2-90 an American National Standard.

WEL 131 SMAW I (3)
Through classroom and/or lab/shop learning and assessment activities, students in this course will describe the shielded metal arc welding (SMAW) process, demonstrate the safe and correct set-up of the SMAW work station, associate SMAW electrode classifications with base metals and joint criteria, demonstrate proper electrode selection and use based on metal types and thicknesses, build pads of weld beads with selected electrodes in the flat position, build pads of weld beads with selected electrodes in the horizontal position, perform basic SMAW welds on selected weld joints, and perform visual inspection of welds.

WEL 135 SMAW I (3)
This course is a continuation of SMAW. Additional positions, metals, and metal alloys will be introduced providing the student additional experience with Shielded Metal Arc Welding.

WEL 141 GMAW (3)
Through classroom and/or lab/shop learning and assessment activities, students in this course will explain gas metal arc welding (GMAW) process, demonstrate the safe and correct set-up of the GMAW work station, correlate GMAW electrode classifications with base metals and joint criteria, demonstrate proper electrode selection and use based on metal types and thicknesses, building pads of weld beads with selected electrodes in the flat position, build pads of weld beads with selected electrodes in the horizontal position, produce basic GMAW welds on selected weld joints, and conduct visual inspection of GMAW welds. Prerequisites: Welding Safety/OSHA 10 ; SMAW I

WEL 145 GMAW Welding (3)
This course is a continuation of GMAW. Additional positions, metals, and metal alloys will be introduced providing the student additional experience with gas metal arc welding.

WEL 150 Workplace Skills I (2)
This course teaches some of the skills needed to get a job in any field. This course utilizes Work Keys assessments which include Applied Math (basic word problem-solving), Reading for Information, and Locating Information. This course also introduces some of the testing methods used in the welding industry. Destructive and non-destructive testing methods will be discussed.

WEL 160 Oxy-Fuel Welding (4)
This course teaches basic welding using and oxy-fuel welding set-up. A student will learn how to set-up and torch and become proficient in the start-up and shut down procedures. Basic welding skill and understanding of the process is needed in this area. This will lead into gas tungsten arc welding (GTAW) at a later date.

WEL 170 Fabrication Measuring & Layout (3)
This course focuses on understanding proper measurement tools and application along with using mathematics to determine exact locations of required additional items and penetrations associated to each Fabrication job. Using tape measure squares and other tools to layout reference lines and grids to meet specs and tolerances required.

WEL 180 Blueprint & Estimation (3)
This course focuses on reading, interpreting, and creating blueprints. Students will learn how to sketch out designs by hand and use them to create a print showing multiple views, measurement along with welding symbols, materials needed and their cost.

WEL 190 CNC Cutting & Brake Processes (3)
This course introduces Computer Numerical Control (CNC) and will be introduced to a CNC machine used in the precision cutting and bending applications. They will gain practical experience in the application of creating and using CNC programs, and machine setup and operation.

WEL 195 CAD Systems & Drafting (3)
This course introduces CAD software as a Layout and drafting tool. Instruction will be given in file handling, basic commands function, drafting techniques, programming, and plotting. Fabrication applications will be used in lab exercises to demonstrate CAD programs and commands. Work will be completed with CAD systems.

WEL 210 Print Reading/Math II (2)
This course is designed to teach a basic understanding of blueprints. The symbols used on blueprints give the designer a way to relay information to the fitter and welder. The graphic language on blueprints uses various symbols, lines, and notes to convey information. A blueprint is used by a welder to visualize the parts final form, to position and align various members, and to determine the type of joint preparation. It tells the welder what type of filler metal to use, where the weld metal is to be placed, the extent of welding and the size, and the contour and finish method for the welds. Prerequisite: Print Reading/Math I.

WEL 220 FCAW Welding (5)
The Flux Cored Arc Welding Unit (FCAW) is designed to teach the student the correct techniques to weld in all positions. Safety is stressed in the shop. Practice and training in the welding shop will develop the basic skill level necessary to produce quality welds in all positions and in different joint configurations. Prerequisites: Welding Safety/OSHA 10 ; SMAW I ; GMAW.

WEL 221 FCAW (3)
The Flux Cored Arc Welding Unit (FCAW) is designed to teach the student the correct techniques to weld in flat and horizontal positions along with operational procedures. Practice and training in the welding shop will develop the basic skill level necessary to produce quality welds in flat and horizontal positions and different joint configurations.

WEL 222 FCAW I (2)
The Flux Cored Arc Welding Unit (FCAW) is designed to teach the student the correct techniques to weld in flat and horizontal positions along with operational procedures. Practice and training in the welding shop will develop the basic skill level necessary to produce quality welds in flat and horizontal positions and different joint configurations.
WEL 230 SMAW II (5)
The Shielded Metal Arc Welding II (SMAW) unit is designed to teach the student the correct techniques to weld in the vertical up and overhead position. Safety is stressed in the shop. Practice and training in the welding shop will develop the basic skill level necessary to produce quality welds in these positions using lap joints and tee joints.

WEL 241 Welding Special Topics (5)
The Gas Metal Arc Welding (GMAW) unit is designed to teach the student the correct techniques to weld in all positions. Safety is stressed in the shop. Practice and training in the welding shop will develop the basic skill level necessary to produce quality welds in all positions and in different joint configurations. Prerequisites: Welding Safety/OSHA 10; GMAW.

WEL 242 GMAW - Aluminum (5)
The Gas Metal Arc Welding Aluminum (GMAW) unit is designed to teach the student the correct techniques to weld in all positions. Safety is stressed in the shop. Practice and training in the welding shop will develop the basic skill level necessary to produce quality welds in all positions and in different joint configurations. Prerequisites: Welding Safety/OSHA 10; GMAW.

WEL 246 GTAW (3)
Through classroom and/or lab/shop learning and assessment activities, students in this course will explain the gas tungsten arc welding (GTAW) process, demonstrate the safe and correct set-up of the GTAW work station, relate GTAW electrode and filler metal classifications with base metals and joint build pads of weld beads with selected electrodes and filler material in the flat position, build pads of weld beads with selected electrodes and filler material in the horizontal position, perform basic GTAW welds on selected weld joints, and perform visual inspection of GTAW welds.

WEL 250 Workplace Skills II (2)
Workplace skills include writing a resume and job search technique. This section is at the very end of the program and if a student is going directly into the work force then resumes should be sent to prospective employers. Any job searches and possible job interviews will take place during this section. This is also final preparation for the exit assessment by using Key Train software for Applied Math and Reading for Information.

WEL 267 GTAW I (2)
This course is a continuation of GTAW. Additional positions, metals, and metal alloys will be introduced providing the student additional experience with gas tungsten arc welding.

WEL 270 Fabrication Equip/Procedures (3)
This course focuses on identifying and using proper equipment and hand tools used for fixturing and fitting material along with fabricating materials to complete jobs. Students will learn how to use various clamps, guides, and squares along with other measuring tools and power tools from lay-out to completion.

WEL 280 Rigging Lifting & Handling (3)
This course focuses on determining the correct size and type of rigging equipment required to safely perform lifting operation. Proper Rigging Hardware Selections, Weight Calculations, and Handling procedures will be covered to show students how to properly transport and relocate heavy and uneven materials to perform layout task and complete jobs.

WEL 290 Fixturing Fit & Pre-Assembly (3)
This course focuses on fixturing materials into proper position along with securing materials to reduce warpage to meet location tolerances and welding codes. Students will learn how to tack materials in locations required to be ready for inspection so they can be approved for completion.

WEL 295 Job Completion & Inspection (3)
In this course students will learn how to be given a pre-assembled job, job sheet, and blueprint to interpret stopping points along with what is left until completion. Students will weld together pre-assembled projects while following welding code guidelines, print requirements, manufacturers directions and critical path flow charts while also maintaining weld size tolerances and clearance tolerances. Students will learn to inspect completed jobs to confirm their completion.

Welding Fabrication
The Welding Fabrication program starts with a basic introduction to safety and welding, but then goes on to fabrication processes involved in metal projects.

Program Information
- Required Math Score: Level 4
- Required Reading Score: Level 4
- Program Start (semesters): August; January
- Financial Aid available (for post-secondary students only): Yes
- Veteran Benefits Eligible (for post-secondary students only): Yes
- Industry-recognized credentials: N/A

Program Requirements

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<td>WEL 295</td>
<td>Job Completion &amp; Inspection</td>
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Total Hours 48
WEL 101 Welding Safety/OSHA 10 (2)
Through a variety of classroom and/or lab learning and assessment activities, students in this course will explain job/site safety and precautions for job/site hazards, determine the uses of personal protective equipment (PPE), identify the safety equipment and procedures related to safe work practices and environment, identify fire prevention and protection techniques, and explore Hazardous Communications (HazCom) including Material Safety Data Sheets (MSDS).

WEL 110 Print Reading/Math I (1)
This course is designed to teach a basic understanding of welder’s math and the symbols used on blueprints. The symbols used on blueprints give the designer a way to relay information to the fitter and welder. The graphic language on blueprints uses various symbols, lines, and notes to convey information. A blueprint is used by a welder to visualize the parts final form, to position and align various members, and to determine the type of joint preparation. It tells the welder what type of filler metal to use, where the weld metal is to be placed, the extent of welding and the size, contour, and finish method for the welds.

WEL 120 Oxy-Fuel/Cutting Procedures (3)
This course will include cutting of ferrous and non-ferrous materials with manual, motor driven, and oxy-fuel shape cutting equipment. Also included are plasma-arc cutting (PAC) and carbon-arc cutting (CAC-A). Safety, equipment, and the basic fundamentals of cutting processes will be introduced. Student will be expected to produce acceptable oxy-fuel, PAC, and CAC-A cuts. This unit follows ANSI / AWS C4.2-90 an American National Standard.

WEL 131 SMAW (3)
Through classroom and/or shop learning and assessment activities, students in this course will describe the shielded metal arc welding (SMAW) process, demonstrate the safe and correct set-up of the SMAW work station, associate SMAW electrode classifications with base metals and joint criteria, demonstrate proper electrode selection and use based on metal types and thicknesses, build pads of weld beads with selected electrodes in the flat position, build pads of weld beads with selected electrodes in the horizontal position, perform basic SMAW welds on selected weld joints, and perform visual inspection of welds.

WEL 135 SMAW I (3)
This course is a continuation of SMAW. Additional positions, metals, and metal alloys will be introduced providing the student additional experience with Shielded Metal Arc Welding.

WEL 141 GMAW (3)
Through classroom and/or shop learning and assessment activities, students in this course will explain gas metal arc welding (GMAW) process, demonstrate the safe and correct set-up of the GMAW work station, correlate GMAW electrode classifications with base metals and joint criteria, demonstrate proper electrode selection and use based on metal types and thicknesses, building pads of weld beads with selected electrodes in the flat position, build pads of weld beads with selected electrodes in the horizontal position, produce basic GMAW welds on selected weld joints, and conduct visual inspection of GMAW welds. Prerequisite: Welding Safety/OSHA 10; SMAW I

WEL 145 GMAW Welding (3)
This course is a continuation of GMAW. Additional positions, metals, and metal alloys will be introduced providing the student additional experience with gas metal arc welding.

WEL 150 Workplace Skills I (2)
This course teaches some of the skills needed to get a job in any field. This course utilizes Work Keys assessments which include Applied Math (basic word problem-solving), Reading for Information, and Locating Information. This course also introduces some of the testing methods used in the welding industry. Destructive and non-destructive testing methods will be discussed.

WEL 160 Oxy-Fuel Welding (4)
This course teaches basic welding using and oxy-fuel welding set-up. A student will learn how to set-up and torch and become proficient in the start-up and shut down procedures. Basic welding skill and understanding of the process is needed in this area. This will lead into gas tungsten arc welding (GTAW) at a later date.

WEL 170 Fabrication Measuring & Layout (3)
This course focuses on understanding proper measurement tools and application along with using mathematics to determine exact locations of required additional items and penetrations associated to each Fabrication job. Using tape measure squares and other tools to layout reference lines and grids to meet specs and tolerances required.

WEL 180 Blueprint & Estimation (3)
This course focuses on reading, interpreting, and creating blueprints. Students will learn how to sketch out designs by hand and use them to create a print showing multiple views, measurement along with welding symbols, materials needed and their cost.

WEL 190 CNC Cutting & Brake Processes (3)
This course introduces Computer Numerical Control (CNC) and will be introduced to a CNC machine used in the precision cutting and bending applications. They will gain practical experience in the application of creating and using CNC programs, and machine setup and operation.

WEL 195 CAD Systems & Drafting (3)
This course introduces CAD software as a Layout and drafting tool. Instruction will be given in file handling, basic commands function, drafting techniques, programming, and plotting. Fabrication applications will be used in lab exercises to demonstrate CAD programs and commands. Work will be completed with CAD systems.

WEL 210 Print Reading/Math II (2)
This course is designed to teach a basic understanding of blueprints. The symbols used on blueprints give the designer a way to relay information to the fitter and welder. The graphic language on blueprints uses various symbols, lines, and notes to convey information. A blueprint is used by a welder to visualize the parts final form, to position and align various members, and to determine the type of joint preparation. It tells the welder what type of filler metal to use, where the weld metal is to be placed, the extent of welding and the size, and the contour and finish method for the welds. Prerequisite: Print Reading/Math I

WEL 220 FCAW Welding (5)
The Flux Cored Arc Welding Unit (FCAW) is designed to teach the student the correct techniques to weld in all positions. Safety is stressed in the shop. Practice and training in the welding shop will develop the basic skill level necessary to produce quality welds in all positions and in different joint configurations. Prerequisites: Welding Safety/OSHA 10; SMAW I; GMAW.

WEL 221 FCAW (3)
The Flux Cored Arc Welding Unit (FCAW) is designed to teach the student the correct techniques to weld in flat and horizontal positions along with operational procedures. Practice and training in the welding shop will develop the basic skill level necessary to produce quality welds in flat and horizontal positions and different joint configurations.
WEL 222 FCAW I (2)
The Flux Cored Arc Welding Unit (FCAW) is designed to teach the student the correct techniques to weld in flat and horizontal positions along with operational procedures. Practice and training in the welding shop will develop the basic skill level necessary to produce quality welds in flat and horizontal positions and different joint configurations.

WEL 230 SMAW II (5)
The Shielded Metal Arc Welding II (SMAW) unit is designed to teach the student the correct techniques to weld in the vertical up and overhead position. Safety is stressed in the shop. Practice and training in the welding shop will develop the basic skill level necessary to produce quality welds in these positions using lap joints and tee joints.

WEL 241 Welding Special Topics (5)
The Gas Metal Arc Welding Aluminum (GMAW) unit is designed to teach the student the correct techniques to weld in all positions. Safety is stressed in the shop. Practice and training in the welding shop will develop the basic skill level necessary to produce quality welds in all positions and in different joint configurations. Prerequisites: Welding Safety/OSHA 10; GMAW.

WEL 242 GMAW - Aluminum (5)
The Gas Metal Arc Welding Aluminum (GMAW) unit is designed to teach the student the correct techniques to weld in all positions. Safety is stressed in the shop. Practice and training in the welding shop will develop the basic skill level necessary to produce quality welds in all positions and in different joint configurations. Prerequisites: Welding Safety/OSHA 10; GMAW.

WEL 246 GTAW (3)
Through classroom and/or lab/shop learning and assessment activities, students in this course will explain the gas tungsten arc welding (GTAW) process, demonstrate the safe and correct set-up of the GTAW work station, relate GTAW electrode and filler metal classifications with base metals and joint build pads of weld beads with selected electrodes and filler material in the flat position, build pads of weld beads with selected electrodes and filler material in the horizontal position, perform basic GTAW welds on selected weld joints, and perform visual inspection of GTAW welds.

WEL 250 Workplace Skills II (2)
Workplace skills include writing a resume and job search technique. This section is at the very end of the program and if a student is going directly into the work force then resumes should be sent to prospective employers. Any job searches and possible job interviews will take place during this section. This is also final preparation for the exit assessment by using Key Train software for Applied Math and Reading for Information.

WEL 267 GTAW I (2)
This course is a continuation of GTAW. Additional positions, metals, and metal alloys will be introduced providing the student additional experience with gas tungsten arc welding.

WEL 270 Fabrication Equip/Procedures (3)
This course focuses on identifying and using proper equipment and hand tools used for fixturing and fitting material along with fabricating materials to complete jobs. Students will learn how to use various clamps, guides, and squares along with other measuring tools and power tools from lay-out to completion.

WEL 280 Rigging Lifting & Handling (3)
This course focuses on determining the correct size and type of rigging equipment required to safely perform lifting operation. Proper Rigging Hardware Selections, Weight Calculations, and Handling procedures will be covered to show students how to properly transport and relocate heavy and uneven materials to perform layout task and complete jobs.

WEL 290 Fixturing Fit & Pre-Assembly (3)
This course focuses on fixturing materials into proper position along with securing materials to reduce warpage to meet location tolerances and welding codes. Students will learn how to tack materials in locations required to be ready for inspection so they can be approved for completion.

WEL 295 Job Completion & Inspection (3)
In this course students will learn how to be given a pre-assembled job, job sheet, and blueprint to interpret stopping points along with what is left until completion. Students will weld together pre-assembled projects while following welding code guidelines, print requirements, manufacturers directions and critical path flow charts while also maintaining weld size tolerances and clearance tolerances. Students will learn to inspect completed jobs to confirm their completion.

**Welding Fast Track**
The Fast Track Welding program introduces students to welding. Formal and self-paced instruction includes: Shielded Metal Arc Welding (SMAW), Gas Metal Arc Welding (GMAW), an introduction to Gas Tungsten Arc Welding (GTAW), and cutting processes. Related technical instruction also includes quality assurance and control, print reading, safety, and workplace skills. This program will offer students preparation to test for the industry-recognized credentials listed below.

**Program Information**
- Required Math Score: Level 4
- Required Reading Score: Level 4
- Program Start (semesters): August; January; Summer
- Financial Aid available (for post-secondary students only): Yes
- Veteran Benefits Eligible (for post-secondary students only): Yes
- Industry-recognized credentials: AWS 1F; AWS 1G; OSHA 10; GMAW

**Certificate Requirements**

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>WEL 101</td>
<td>Welding Safety/OSHA 10</td>
<td>2</td>
</tr>
<tr>
<td>WEL 110</td>
<td>Print Reading/Math I</td>
<td>1</td>
</tr>
<tr>
<td>WEL 120</td>
<td>Oxy-Fuel/Cutting Procedures</td>
<td>3</td>
</tr>
<tr>
<td>WEL 131</td>
<td>SMAW</td>
<td>3</td>
</tr>
<tr>
<td>WEL 141</td>
<td>GMAW</td>
<td>3</td>
</tr>
<tr>
<td>WEL 135</td>
<td>SMAW I</td>
<td>3</td>
</tr>
<tr>
<td>WEL 145</td>
<td>GMAW Welding</td>
<td>3</td>
</tr>
<tr>
<td>WEL 221</td>
<td>FCAW</td>
<td>3</td>
</tr>
<tr>
<td>WEL 246</td>
<td>GTAW</td>
<td>3</td>
</tr>
</tbody>
</table>

Total Hours 24
WEL 101 Welding Safety/OSHA 10 (2)
Through a variety of classroom and/or lab learning and assessment activities, students in this course will explain job/site safety and precautions for job/site hazards, determine the uses of personal protective equipment (PPE), identify the safety equipment and procedures related to safe work practices and environment, identify fire prevention and protection techniques, and explore Hazardous Communications (HazCom) including Material Safety Data Sheets (MSDS).

WEL 110 Print Reading/Math I (1)
This course is designed to teach a basic understanding of welder’s math and the symbols used on blueprints. The symbols used on blueprints give the designer a way to relay information to the fitter and welder. The graphic language on blueprints uses various symbols, lines, and notes to convey information. A blueprint is used by a welder to visualize the parts final form, to position and align various members, and to determine the type of joint preparation. It tells the welder what type of filler metal to use, where the weld metal is to be placed, the extent of welding and the size, contour, and finish method for the welds.

WEL 120 Oxy-Fuel/Cutting Procedures (3)
This course will include cutting of ferrous and non-ferrous materials with manual, motor driven, and oxy-fuel shape cutting equipment. Also included are plasma-arc cutting (PAC) and carbon-arc cutting (CAC-A). Safety, equipment, and the basic fundamentals of cutting processes will be introduced. Student will be expected to produce acceptable oxy-fuel, PAC, and CAC-A cuts. This unit follows ANSI / AWS C4.2-90 an American National Standard.

WEL 131 SMAW (3)
Through classroom and/or lab/shop learning and assessment activities, students in this course will describe the shielded metal arc welding (SMAW) process, demonstrate the safe and correct set-up of the SMAW work station, associate SMAW electrode classifications with base metals and joint criteria, demonstrate proper electrode selection and use based on metal types and thicknesses, build pads of weld beads with selected electrodes in the flat position, build pads of weld beads with selected electrodes in the horizontal position, perform basic SMAW welds on selected weld joints, and perform visual inspection of welds.

WEL 135 SMAW I (3)
This course is a continuation of SMAW. Additional positions, metals, and metal alloys will be introduced providing the student additional experience with Shielded Metal Arc Welding.

WEL 141 GMAW (3)
Through classroom and/or lab/shop learning and assessment activities, students in this course will explain gas metal arc welding (GMAW) process, demonstrate the safe and correct set-up of the GMAW work station, correlate GMAW electrode classifications with base metals and joint criteria, demonstrate proper electrode selection and use based on metal types and thicknesses, building pads of weld beads with selected electrodes in the flat position, build pads of weld beads with selected electrodes in the horizontal position, produce basic GMAW welds on selected weld joints, and conduct visual inspection of GMAW welds. Prerequisites: Welding Safety/OSHA 10 ; SMAW I

WEL 145 GMAW Welding (3)
This course is a continuation of GMAW. Additional positions, metals, and metal alloys will be introduced providing the student additional experience with gas metal arc welding.

WEL 150 Workplace Skills I (2)
This course teaches some of the skills needed to get a job in any field. This course utilizes Work Keys assessments which include Applied Math (basic word problem-solving), Reading for Information, and Locating Information. This course also introduces some of the testing methods used in the welding industry. Destructive and non-destructive testing methods will be discussed.

WEL 160 Oxy-Fuel Welding (4)
This course teaches basic welding using and oxy-fuel welding set-up. A student will learn how to set-up and torch and become proficient in the start-up and shut down procedures. Basic welding skill and understanding of the process is needed in this area. This will lead into gas tungsten arc welding (GTAW) at a later date.

WEL 170 Fabrication Measuring & Layout (3)
This course focuses on understanding proper measurement tools and application along with using mathematics to determine exact locations of required additional items and penetrations associated to each Fabrication job. Using tape measure squares and other tools to layout reference lines and grids to meet specs and tolerances required.

WEL 180 Blueprint & Estimation (3)
This course focuses on reading, interpreting, and creating blueprints. Students will learn how to sketch out designs by hand and use them to create a print showing multiple views, measurement along with welding symbols, materials needed and their cost.

WEL 190 CNC Cutting & Brake Processes (3)
This course introduces Computer Numerical Control (CNC) and will be introduced to a CNC machine used in the precision cutting and bending applications. They will gain practical experience in the application of creating and using CNC programs, and machine setup and operation.

WEL 195 CAD Systems & Drafting (3)
This course introduces CAD software as a Layout and drafting tool. Instruction will be given in file handling, basic commands function, drafting techniques, programming, and plotting. Fabrication applications will be used in lab exercises to demonstrate CAD programs and commands. Work will be completed with CAD systems.

WEL 210 Print Reading/Math II (2)
This course is designed to teach a basic understanding of blueprints. The symbols used on blueprints give the designer a way to relay information to the fitter and welder. The graphic language on blueprints uses various symbols, lines, and notes to convey information. A blueprint is used by a welder to visualize the parts final form, to position and align various members, and to determine the type of joint preparation. It tells the welder what type of filler metal to use, where the weld metal is to be placed, the extent of welding and the size, and the contour and finish method for the welds. Prerequisite: Print Reading/Math I.

WEL 220 FCAW Welding (5)
The Flux Cored Arc Welding Unit (FCAW) is designed to teach the student the correct techniques to weld in all positions. Safety is stressed in the shop. Practice and training in the welding shop will develop the basic skill level necessary to produce quality welds in all positions and in different joint configurations. Prerequisites: Welding Safety/OSHA 10 ; SMAW I ; GMAW.

WEL 221 FCAW (3)
The Flux Cored Arc Welding Unit (FCAW) is designed to teach the student the correct techniques to weld in flat and horizontal positions along with operational procedures. Practice and training in the welding shop will develop the basic skill level necessary to produce quality welds in flat and horizontal positions and different joint configurations.
WEL 222 FCAW I (2)
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WEL 230 SMAW II (5)
The Shielded Metal Arc Welding II (SMAW) unit is designed to teach the student the correct techniques to weld in the vertical up and overhead position. Safety is stressed in the shop. Practice and training in the welding shop will develop the basic skill level necessary to produce quality welds in these positions using lap joints and tee joints.

WEL 241 Welding Special Topics (5)
The Gas Metal Arc Welding Aluminum (GMAW) unit is designed to teach the student the correct techniques to weld in all positions. Safety is stressed in the shop. Practice and training in the welding shop will develop the basic skill level necessary to produce quality welds in all positions and in different joint configurations. Prerequisites: Welding Safety/OSHA 10; GMAW.

WEL 242 GMAW - Aluminum (5)
The Gas Metal Arc Welding Aluminum (GMAW) unit is designed to teach the student the correct techniques to weld in all positions. Safety is stressed in the shop. Practice and training in the welding shop will develop the basic skill level necessary to produce quality welds in all positions and in different joint configurations. Prerequisites: Welding Safety/OSHA 10; GMAW.

WEL 246 GTAW (3)
Through classroom and/or lab/shop learning and assessment activities, students in this course will explain the gas tungsten arc welding (GTAW) process, demonstrate the safe and correct set-up of the GTAW work station, relate GTAW electrode and filler metal classifications with base metals and joint build pads of weld beads with selected electrodes and filler material in the flat position, build pads of weld beads with selected electrodes and filler material in the horizontal position, perform basic GTAW welds on selected weld joints, and perform visual inspection of GTAW welds.

WEL 250 Workplace Skills II (2)
Workplace skills include writing a resume and job search technique. This section is at the very end of the program and if a student is going directly into the work force then resumes should be sent to prospective employers. Any job searches and possible job interviews will take place during this section. This is also final preparation for the exit assessment by using Key Train software for Applied Math and Reading for Information.

WEL 267 GTAW I (2)
This course is a continuation of GTAW. Additional positions, metals, and metal alloys will be introduced providing the student additional experience with gas tungsten arc welding.

WEL 270 Fabrication Equip/Procedures (3)
This course focuses on identifying and using proper equipment and hand tools used for fixturing and fitting material along with fabricating materials to complete jobs. Students will learn how to use various clamps, guides, and squares along with other measuring tools and power tools from lay-out to completion.

WEL 280 Rigging Lifting & Handling (3)
This course focuses on determining the correct size and type of rigging equipment required to safely perform lifting operation. Proper Rigging Hardware Selections, Weight Calculations, and Handling procedures will be covered to show students how to properly transport and relocate heavy and uneven materials to perform layout task and complete jobs.

WEL 290 Fixturing Fit & Pre-Assembly (3)
This course focuses on fixturing materials into proper position along with securing materials to reduce warpage to meet location tolerances and welding codes. Students will learn how to tack materials in locations required to be ready for inspection so they can be approved for completion.

WEL 295 Job Completion & Inspection (3)
In this course students will learn how to be given a pre-assembled job, job sheet, and blueprint to interpret stopping points along with what is left until completion. Students will weld together pre-assembled projects while following welding code guidelines, print requirements, manufacturers directions and critical path flow charts while also maintaining weld size tolerances and clearance tolerances. Students will learn to inspect completed jobs to confirm their completion.

Program Affiliations with Washburn University

Affiliation with Washburn University

The School of Applied Studies in conjunction with Washburn University Institute of Technology, offers coursework, at a reduced rate, that leads to the completion of an associate degree, either an associate of science or associate of arts. This opportunity requires coursework at both Washburn University Institute of Technology and Washburn University. For information contact an advisor at Washburn University Institute of Technology or the Washburn University School of Applied Studies at 785-670-1282.

<table>
<thead>
<tr>
<th>Program</th>
<th>Certificate</th>
<th>Associate of Science or Arts Degree (AS/AA) Offered at Washburn University</th>
<th>Associate of Arts or Associate of Science</th>
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<tbody>
<tr>
<td>Advanced Systems Technology (Industrial Machine Mechanic)</td>
<td>48-credits</td>
<td>Industrial Technology (AS)</td>
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<tr>
<td>Automotive Collision &amp; Repair</td>
<td>51-credits</td>
<td>Industrial Technology (AS)</td>
<td>78-credits¹</td>
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<tr>
<td>Automotive Service Technician</td>
<td>52-credits</td>
<td>Industrial Technology (AS)</td>
<td>79-credits¹</td>
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<tr>
<td>Business Bookkeeping and Accounting</td>
<td>48-credits</td>
<td>Office Administration (AA)</td>
<td>75-credits¹</td>
</tr>
<tr>
<td>Cabinet and Millwork</td>
<td>48-credits</td>
<td>Industrial Technology (AS)</td>
<td>75-credits¹</td>
</tr>
</tbody>
</table>

¹ = certain courses can be completed for both technical and associate of arts or sciences degrees.
Additional Course Descriptions

General Technical Education

Anatomy & Physiology

Technical Mathematics

MAT 101 Technical Math I (3)
This course will enable the student to gain confidence with the use of basic math, measurements, and signed numbers. The concepts learned in this course will build problem solving skills that are critical in the workplace. These concepts develop a solid foundation for success in the use of technology.

MAT 102 Technical Math II (3)
This course is a continuation of Technical Mathematics I. The concepts learned in this course will build on problem solving skills using geometry, algebraic expressions and techniques for solving equations. These concepts develop a solid foundation for success in the use of technology.

Technical Courses Offered in Multiple Programs

Business Bookkeeping and Accounting

BAT 113 Intro Acct and Acct Software (4)
This course develops a foundation for accounting skills and assists students attain an understanding of accounting concepts and the importance of accounting for funds in a business. Students get an introduction to the accounting equation, journal entries, t-accounts, Trial Balances, Financial Statements, adjusting entries, closing entries, and financial statement analysis. Students also use a comprehensive, hands-on training manual for QuickBooks Desktop to learn computer accounting practices through sample companies.

BAT 122 Business Communications (4)
This course includes the identification and use of the parts of speech, punctuation, capitalization, and numbers correctly in writing effective sentences and paragraphs. Basic spelling rules will be covered and implemented.

BAT 130 Word Processing (4)
Students will use Microsoft Office Word software to create and edit basic-to-advanced documents, including tables and charts. This is an instructor-guided lab course.

BAT 140 Document Processing (4)
This course continues the development of basic typing skills and emphasizes the formatting of various kinds of business correspondence, reports, tables, electronic forms, and desktop publishing projects from arranged, unarranged, and rough-draft sources.

BAT 172 Spreadsheet Management (4)
This course is designed to familiarize the student with various basic and advanced spreadsheet functions. These include creating and maintaining spreadsheets, displaying information, adding and changing formulas, applying formatting, creating charts and tables, inserting graphics, and customizing the appearance and functions of spreadsheets.

BAT 180 Human Relations (4)
This course is designed for students to learn skills to compete in an increasingly competitive work environment. Skills stressed will be the production of documents and resources needed to obtain employment. Issues addressed will include appropriate communication, conflict resolution, teamwork, accountability, and business ethics.
BAT 200 Business Law (4)
This course provides a basic knowledge of the law and regulations to anyone contemplating a successful career in business. Students will attain knowledge of the nature, concepts and function of the law and the changes technology has brought within the legal system and business law.

BAT 205 Business Research & Writing (4)
A successful and productive member of any office team will write business correspondence, electronic mail and business documents using the correct grammar, style and content. This course is designed to ensure students will have the knowledge to produce effective business communications in written form.

BAT 215 Database Management (4)
This course covers basic database management skills including creating, maintaining, and editing records, files, and tables and creating queries, forms, and reports. In addition, skills such as modifying database objects, creating advanced types of tables, calculating fields, and importing and exporting data from other software are covered.

Business Bookkeeping and Accounting

BAT 113 Intro Acct and Acct Software (4)
This course develops a foundation for accounting skills and assists students attain an understanding of accounting concepts and the importance of accounting for funds in a business. Students get an introduction to the accounting equation, journal entries, t-accounts, Trial Balances, Financial Statements, adjusting entries, closing entries, and financial statement analysis. Students also use a comprehensive, hands-on training manual for QuickBooks Desktop to learn computer accounting practices through sample companies.

BAT 128 Business Accounting II (2)
Building on Business Accounting I, this course will lead the student to thoroughly study concepts relating to financial accounting and reporting, including accounting for payroll, accounting for a merchandising business, the use of special ledgers, and accounting for merchandise inventory. Prerequisites: Introduction to Business Accounting or Business Accounting I

BAT 180 Human Relations (4)
This course is designed for students to learn skills to compete in an increasingly competitive work environment. Skills stressed will be the production of documents and resources needed to obtain employment. Issues addressed will include appropriate communication, conflict resolution, teamwork, accountability, and business ethics.

BAT 212 Professional Skills & Ethics (4)
Business leaders in our society are faced with daily decisions, involving ethical decisions and professional comportment. Students will learn the basics of negotiation, conflict resolution, and trust building in the office and with clients. Students will demonstrate awareness and effective application of professional skills including teamwork, productivity, and employee retention and client relations. This course introduces students to important elements of moral theory as well as main topics in business ethics, including the fiduciary duty of managers, outsourcing, corporate responsibility, whistle-blowing, income smoothing, insider trading, sole-source procurements and kickbacks, conflicts of interest, deception in advertising and marketing, responsibility to the environment, pay for corporate personnel, confidentiality and duties to clients.

BAT 215 Database Management (4)
This course covers basic database management skills including creating, maintaining, and editing records, files, and tables and creating queries, forms, and reports. In addition, skills such as modifying database objects, creating advanced types of tables, calculating fields, and importing and exporting data from other software are covered.

BAT 140 Document Processing (4)
This course continues the development of basic typing skills and emphasizes the formatting of various kinds of business correspondence, reports, tables, electronic forms, and desktop publishing projects from arranged, unarranged, and rough-draft sources.

BAT 122 Business Communications (4)
This course includes the identification and use of the parts of speech, punctuation, capitalization, and numbers correctly in writing effective sentences and paragraphs. Basic spelling rules will be covered and implemented.

BAT 172 Spreadsheet Management (4)
This course is designed to familiarize the student with various basic and advanced spreadsheet functions. These include creating and maintaining spreadsheets, displaying information, adding and changing formulas, applying formatting, creating charts and tables, inserting graphics, and customizing the appearance and functions of spreadsheets.

BAT 200 Business Law (4)
This course provides a basic knowledge of the law and regulations to anyone contemplating a successful career in business. Students will attain knowledge of the nature, concepts and function of the law and the changes technology has brought within the legal system and business law.

BAT 130 Word Processing (4)
Students will use Microsoft Office Word software to create and edit basic-to-advanced documents, including tables and charts. This is an instructor-guided lab course.

BAT 255 Advanced Business Accounting (4)
Building on Business Accounting I and II, this course will lead the student to thoroughly study concepts relating to financial accounting and reporting, including preparing financial statements and year-end accounting of a merchandise business. In addition, this course covers specialized accounting procedures for accounts receivable, promissory notes and interest, long-term assets, partnerships, corporate bonds, capital stock, and for corporations. Prerequisites: Business Accounting II and Business Research & Writing.

BAT 265 Advanced Accounting Software (4)
This course is a comprehensive survey of QuickBooks Pro 2014 that culminates with sitting for the QuickBooks Pro 2014 certification exam. Prerequisites: Business Accounting

BAT 220 Intro Business & Office Mgmt (4)
This course will offer the advanced student knowledge and skills used in business offices, accounting departments and professional firms. The student will learn the necessary skills to manage employees and materials as an office manager. Additionally, the student will become well versed in basic business principals, economic systems, management and organization and management information systems. Additionally, the student will understand business ethics and the importance of good business ethics. Students will gain a general understanding of human resources, marketing, product life cycle, finance and investment.
Commercial & Heavy Construction

CHC 105 Introductory Craft Skills (3)
This course introduces the student to basic safety, construction math, hand and power tools of the trade, basic blueprint reading, communication skills, and basic employability skills. Math and reading will be embedded in the curriculum. Introductory Craft Skills is required for all students entering the Carpentry program. The intent if this course is to introduce the students to the construction trades. It is very important for every student to learn the proper way to conduct themselves while in the shop or on-the-job site. This course will cover shop and job site safety, tool safety, personal protective devices, protective railings, proper storage and handling of construction materials, and construction drawings. This course will follow the NCCER modules for: Basic Safety, Introduction to Construction Math, Introduction to Hand Tools, Introduction to Power Tools, Introduction to Blueprints, Basic Rigging, Basic Communication Skills, and Basic Employability Skills.

HC 195 Class A CDL (1)
This course will provide technical knowledge and skills for the student about various trucks in the 54,000 lb. tag weight and used in construction. Dump trucks will be the primary focus and the student will learn the components of the trucks as well as be instructed on safe operation of the vehicle. Math and reading will be embedded in the program. Pre-and post-trip inspections will be taught along with proper paperwork required in such vehicle. Optional: the student may complete the assessment to obtain the Class A CDL.

Health Care Technology

HCT 105 First Aid & CPR (1)
This course is an introduction to basic first aid and included CPR certification. The course provides the basic information and skills needed to meet the AMercian Heart Association standards. Participants will be allowed to practice the skills in a real life based environment that will test their learned skills.

HCT 122 Medical Terminology (2)
The course introduces the student to the language of the medical field. Medical prefixes, suffixes, and combining forms are introduced to the student so they may have a thorough knowledge and understanding of what they are reading and writing in the medical field. An emphasis is placed on terms, pathological conditions, and diagnostic terms.

HCT 124 Lab Skills & Patient Care (2)
This course provides the student with knowledge and practical application of basic laboratory skills with a focus on patient care. Students learn and practice basic skills in personal care, sterile technique, patient safety, documentation, and medication administration. There is major emphasis on the critical elements of laboratory procedures and the scientific rationale for performing the procedures correctly.

HCT 125 Lab Skills & Patient Care (3)
This course provides the student with knowledge and practical application of basic laboratory skills with a focus on patient care. Students learn and practice basic skills in personal care, sterile technique, patient safety, documentation, and medication administration. There is major emphasis on the critical elements of laboratory procedures and the scientific rationale for performing the procedures correctly.

HCT 128 Nurse Aide (5)
This course provides the student with the knowledge and skills necessary to secure employment as a CNA in the workplace through a combination of classroom instruction, nursing lab skill demonstration/practice, and the opportunity to gain instructor supervised experience in a work setting. This program meets state guidelines for the Kansas Nurse Aide certification testing through Kansas Department of Aging and Disability Services.

HCT 131 Human Development (3)
This course provides an introduction to physical, cognitive, emotional, and social aspects of human development throughout the life span. It emphasizes developmental processes beginning with conception and continuing throughout childhood, adolescence, adulthood, later life and death. The course focuses on developmental processes, cultural influences, and other factors that make each individual unique. This course takes an inter-disciplinary approach toward human development that is based on science and applied toward the goal of solving important human problems.

HCT 141 Nutrition (3)
This introductory course provides a basic knowledge of human nutrition. Students will learn the sources and functions of the various nutrients. They will also explore the interaction of diet, disease, prevention, and treatment. Through the use of computerized nutrition program, students will analyze their diets for nutritional deficiencies and excesses.

HCT 152 Phlebotomy (3)
The Phlebotomy course is designed to train individuals to properly collect and process blood and other clinical specimens for laboratory testing and to interact with health care personnel, clients, and the general public. Presentation includes equipment and additives, basic anatomy, and techniques for safe and effective venipuncture. Emphasis will be placed on collection techniques, specimen processing, work flow practices, referrals, and utilizing laboratory information systems.

HCT 155 Phlebotomy Clinical (2)
Phlebotomy Clinical is a health-related, work-based learning experience that enables the student to apply specialized occupational theory, skills, and concepts. Direct supervision is provided by the clinical laboratory professional. This course provides opportunities to practice phlebotomy skills in a clinical setting. Safety, quality control, and interpersonal communications will be stressed. The student will be eligible to apply for a national certifying examination upon successful completion.

Industrial Maintenance (Advanced Systems)

IND 103 OSHA 10-Hr Healthcare (1)
Safety Orientation/OSHA 10 provides the student with an overview of the OSHA standards relevant to the construction industry. Various topics are presented in a 15-hour format. Among the subjects covered in the course are: an introduction to OSHA, electrical safety, fall protection, and excavation and trenching safety.
IND 105 OSHA - 10 Hr Gen Industry Cert (1)
This course is offered in an online or face-to-face format. For the online course, all course activities are completed through an interactive self-paced website. In the face-to-face format, a variety of classroom and/or lab learning and assessment activities are used to present the material. In both formats students in this course will: explain job/site safety and precautions for job/site hazards; determine the uses of personal protective equipment (PPE); identify the safety equipment and procedures related to safe work practices and environment; identify fire prevention and protection techniques; explore Hazardous Communications (HazCom) including Material Safety Data Sheets (MSDS).

IND 111 OSHA - 30 Hour Const Ind Cert (3)
This course provides an overview of the Occupational Safety and Health Administration Construction Training Topics. This course is intended to provide entry level construction workers a broad awareness on recognizing and preventing hazards on a construction site. This course will also address real world challenges that electrical workers face on a daily bases. It will introduce avoiding oversights that could result in shock and arc flash accidents. The material presented will emphasize the rules specified by the National Fire Protection Association (NFPA) using NFPA 70E standards. After taking this course, students will be able to take the arc flash certification test.

Medical Office Specialist
MOS 250 Medical Terminology (5)
Designed to give the student a background in basic medical terminology, this course covers prefixes, suffixes, combining forms, and word roots to compose medical terms. The student learns to spell, pronounce, define, and interpret terminology related to body structure, disease, diagnosis, and treatment.

MOS 255 Medical Records Management (4)
This course will acquaint the student with processing, maintaining and filing medical records. Students will also gain hands-on practice in creating, editing and generating medical reports. Emphasis is placed on confidentiality, appropriate documentation, accuracy and comprehension of information within the documents, and will require the use of medical terminology.

MOS 260 Medical Office Procedure (3)
This course provides hands-on practice of front office skills in a medical setting, both on paper and electronically, using medical office software. The student will also practice entry-level diagnosis coding, procedure coding, and medical claims billing.

Welding Technology
WEL 131 SMAW (3)
Through classroom and/or lab/shop learning and assessment activities, students in this course will describe the shielded metal arc welding (SMAW) process, demonstrate the safe and correct set-up of the SMAW work station, associate SMAW electrode classifications with base metals and joint criteria, demonstrate proper electrode selection and use based on metal types and thicknesses, build pads of weld beads with selected electrodes in the flat position, build pads of weld beads with selected electrodes in the horizontal position, perform basic SMAW welds on selected weld joints, and perform visual inspection of welds.
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AC 224  Financial Accounting (3)
The study of accounting as a means of communicating financial information about the activities of business enterprises. Emphasis is placed on concepts and principles underlying the measurement of income and financial position and how this information may be used to evaluate the progress of a firm. Prerequisites: EN 101 and MA 116 (recommended) or MA 112.

AC 225  Managerial Accounting (3)
The development and use of information in the accounting system as a management decision tool. Prerequisites: AC 224, MA 116 (recommended) or MA 112, BU 248 and BU 250 or concurrent enrollment.

AC 303  The Role of Accounting in Business and Society (3)
Role of accounting in society, including public and private sector organizations. Information needed for external reporting to investors and creditors, internal management planning and control decisions, assessment of risks and controls critical to reliable financial and non-financial data, and regulatory oversight. Overarching themes include decision-making related to recognition and valuation of economic events, effective communication related to accounting and economic information, as well as the importance of diversity, a global mindset, and good professional judgment by accounting professionals. Prerequisites: AC 224 and AC 225 with a grade of C or better, and consent of instructor.

AC 321  Intermediate Financial Accounting I (3)
Financial theory and problems. Emphasis is on valuation and measurement problems of income determination and balance sheet presentation. Prerequisites: AC 225 and BU 250. May not be taken A/Pass/Fail.

AC 322  Intermediate Financial Accounting II (3)
A continuation of financial accounting theory and problems. Prerequisite: AC 321. May not be taken A/Pass/Fail.

AC 325  Cost Accounting (3)
A study of inventory valuation procedures in manufacturing concerns and the processing, analysis and interpretation of data for use by management in the planning and control of operations. Prerequisites: AC 225 and BU 250. May not be taken A/Pass/Fail.

AC 330  Accounting Information Systems (3)
The study of the development and design of an accounting system. Emphasis on procedures necessary to meet generally accepted auditing standards and methods and techniques to evaluate internal control of an accounting system. Prerequisites: AC 225 and BU 250. May not be taken A/Pass/Fail.

AC 403  Special Topics/Accounting (3)
Selected topics announced in advance. May be taken more than one semester. Prerequisite: Admission to the School of Business. Other prerequisites will be specified for each topic. May not be taken A/Pass/Fail.

AC 404  Independent Study - Accounting (3)
Individual study of a topic in accounting. Activity must be supervised by a full-time School of Business faculty member with professorial rank. Prerequisites: Admission to the School of Business and consent of directing faculty member prior to enrollment. May not be taken A/Pass/Fail.

AC 421  Advanced Financial Accounting (3)
Accounting methods and procedures related to partnerships, branches, business combinations, and foreign exchange. Prerequisites: Admission to the School of Business and AC 322. May not be taken A/Pass/Fail.

AC 423  Federal Income Taxation - Individual (3)
Income tax laws, regulations, and procedures pertinent to individual taxpayer reporting. Prerequisites: Admission to the School of Business and AC 224, AC 225, and BU 250 completed with grades of "C" or better. May not be taken A/Pass/Fail.

AC 424  Federal Income Taxation - Business Entities (3)
Income tax laws, regulations, and procedures pertinent to partnership, corporation, and fiduciary reporting. Prerequisites: Admission to the School of Business and AC 225 and BU 250. May not be taken A/Pass/Fail.

AC 425  Auditing (3)
The course covers essential processes of auditing including specific procedures and techniques usable in the public and private sectors. Technical standards of these sectors receive attention with an emphasis on ethics related to the profession of auditing. The course includes operational and compliance auditing in addition to auditing of financial statements. Other content areas are the auditor’s role in society, the application of internal control concepts, the understanding of accounting information systems, the methods of statistical sampling and the use of auditing software. Prerequisites: Admission to the School of Business and AC 321, AC 322, and AC 330 completed with grades of "C" or better. (AC 322 may be taken concurrently.) May not be taken A/Pass/Fail.
AC 427 Governmental and Institutional Accounting (3)
Methods and procedure used in fund accounting with emphasis on governmental units and not-for-profit organizations. Prerequisites: Admission to the School of Business and AC 225 and BU 250. May not be taken A/Pass/Fail.

AC 428 Fraud Examination (3)
Theory, techniques, methods and procedures for the detection, investigation, and deterrence of fraud. Prerequisites: Admission to the School of Business and AC 224, AC 225, and BU 250 or equivalent. May not be taken A/Pass/Fail.

AC 431 Contemporary Issues in Accounting (3)
Current issues in accounting with emphasis on the releases of the American Institute of Certified Public Accountants and the Financial Accounting Standards Board. Includes accounting theory to solving accounting problems. Prerequisites: Admission to the School of Business and AC 322. May not be taken A/Pass/Fail.

AC 499 Internship In Accounting (3)
Professional work experience with a business firm or governmental agency in some phase of public, private, or governmental accounting. The work situation must create a new learning experience for the student. Credit hours in this course may be used only as elective business hours and will not count toward the minimum 63 hours of accounting, business, and economics hours required of the BBA candidate nor will they count toward the minimum twenty-four hours of accounting required of accounting majors. Internship credit hours will be counted in the maximum School of Business hours an accounting major may earn within a 120-hour program. The student's grade will be awarded on a pass-fail basis, as determined by the supervising faculty member. Prerequisites: Admission to the School of Business, consent of the accounting faculty, appropriate academic background, at least 75 semester credit hours, at least a 2.5 overall grade average, and meet the general qualifications specified by the sponsoring business firm or governmental agency.

AC 524 Accounting Concepts (3)
Accelerated and in-depth introduction to conceptual accounting foundations. Presents accounting as a dynamic information system for communicating and measuring use of financial data for planning and control purposes. Primary focus is to provide background for upper-level graduate courses. Prerequisite: College Algebra

AC 616 Commercial Transactions (3)
Nature and sources of commercial law, legal process, common, and statutory law as they pertain to sales, negotiable instruments, secured transactions, suretyship, insurance and bankruptcy. (Not available to those who have taken BU 416.) Prerequisite: Admission to the Master of Accountancy program and BU 315.

AC 621 Advanced Financial Accounting (3)
Concepts and procedures related to business combinations - domestic and foreign, foreign currency transactions, partnerships, and other related financial reporting topics. Prerequisite: Admission to the Master of Accountancy program and AC 321 and AC 322.

AC 624 Tax for Business Entities (3)
Income tax laws, regulations, and procedures pertinent to partnership, corporation, and fiduciary reporting. Prerequisite: Admission to the Master of Accountancy program and AC 224, AC 225, and BU 250.

AC 625 Advanced Auditing (3)
Concepts of, and approaches to, auditing & assurance services in a computerized environment, including skill development to apply the underlying concepts and approaches to these professional services. Development of professional judgment through analysis and discussion of real company cases covering complex topics in assurance services. Prerequisite: Admission to the Master of Accountancy program and AC 425.

AC 626 Contemporary Issues Accounting (3)
Current and emerging issues in accounting and accounting standards from theoretical and accounting practice perspectives. Topics vary by semester. May be repeated for credit. Prerequisite: Admission to the Master of Accountancy and AC 321 and AC 322.

AC 627 Advanced Managerial Accounting (3)
Assignment and control of organizational costs including decision making and reward structures. Application of concepts in academic readings to organizational case scenarios. Prerequisite: Admission to the Master of Accountancy program AC 325.

AC 628 Government/Not for Profit Accounting (3)
Methods and procedures used in fund accounting with emphasis on state and local governmental units and not-for-profit organizations. Prerequisite: Admission to the Master of Accountancy program and AC 224, AC 225, and BU 250.

AC 629 Accounting Research Seminar (3)
Based on review of research literature in the diverse areas of accounting, the development and design of an accounting research project in the student's area of choice employing relevant technology and statistical analysis. Prerequisite: Admission to the Master of Accountancy program and AC 621, AC 624, and AC 627.

AC 630 Advanced Accounting Information Systems (3)
Integration of accounting systems in support of organizations in global business environments including end-to-end cross-functional business processes. Application and extension to the professional environment of technology knowledge and skills in Microsoft computer operating systems and applications. Prerequisite: Admission to the Master of Accountancy program and BU 250 and AC 330.

AC 639 Accounting Theory and Ethics (3)
Major and alternative ethical models and the historical development of financial accounting theory. Analysis of cases that illustrate ethical failures and dilemmas in accounting practice. Current and proposed accounting standards. Prerequisite: Admission to the Master of Accountancy program and AC 621.

AC 654 Management Accounting Analysis (3)
In-depth study of the uses of management accounting tools and their impact on the contemporary business organization. Includes evolution of cost and decision models and the management accounting function, as well as the application of fundamental methods. Emphasis on case studies and research and the development of written and oral communication skills in a management accounting context. Prerequisite: BU 250 and AC 524 or consent of instructor.

AC 699 Internship in Accounting (3)
Professional work experience in accounting with a business firm, governmental agency, or not-for-profit organization. The work experience must create a new learning experience for the student. Credit hours may only be used as elective hours and will not count toward the minimum 21 hours of accounting and economic hours required of the MAcc candidate. Grades for this class are awarded on a pass-fail basis. Prerequisite: Admission to the Master of Accountancy program, Consent, and AC 425.
African American and African Diaspora Studies (AD)

AD 200 Introduction to Critical Race & Ethnic Studies (3)
This course provides students with foundational knowledge of Critical Race Theory as a lens to understand race and ethnicity as socially, culturally, and historically constructed realities that sustain unequal distribution of political and socioeconomic power and inform constructions of identity and community. Students will gain skills to work toward an anti-racist and socially just society. Prerequisite: None. (General Ed Social Science. Global Citizenship Ethics Div.)

Allied Health (AL)

AL 101 Foundations of Healthcare (3)
An overview of the role of various health care professions, ethical and legal responsibilities, patient communication methods, cultural competence, patient assessment techniques, medical terminology, electronic health records and preventative health care. Through role playing and case studies, students learn how the various members of the health care team interact and communicate with one another in order to provide the most efficient and effective delivery of patient care. Additional technical competencies included in this course are: assessment of vital signs, safe body mechanics, patient transfers and safety, basic first aid, standard and transmission-based infection precautions.

AL 120 Radiographic Procedures & Patient Care I (3)
Focuses on the principles of producing and evaluating radiographs of the skeletal and urinary systems. Discusses patient care procedures such as vital signs, infection control, medical emergencies and aseptic techniques. Prerequisite: Admission to the Radiologic Technology program and concurrent with AL 120A.

AL 120A Procedures Lab I (0)
Required laboratory demonstrations will include chest, KUB, upper extremity, lower extremity, spine, and contrast studies. A one hour weekly session is held on campus. Concurrent with AL 120.

AL 121 Radiographic Procedures & Patient Care II (3)
Explores those procedures employed in the more complicated investigation of the human body. Continues to examine present techniques necessary for the assessment and care of the ill and injured patient. Prerequisites: AL 120, AL 130, AL 134, and concurrent with AL 121A.

AL 121A Procedures Lab II (0)
Required laboratory demonstrations include spine, contrast studies, cranium, bony thorax, and miscellaneous positions. A one hour session is held each week. Concurrent with AL 121.

AL 130 Radiographic Exposure I (3)
Principles of radiographic image formation related to digital imaging. Physics of x-ray production and influences on image creation. The course provides an understanding and analysis of the radiographic image. Prerequisite: Admission to the Radiologic Technology program and concurrent with AL 130A.

AL 130A Exposure Lab I (0)
Demonstrations will be directed towards the primary factors of radiograph (image) production. An energized x-ray unit will be available for the one hour weekly session. Concurrent with AL 130.

AL 131 Radiographic Exposure II (3)
A continuation of AL 130 emphasizing imaging principles. Problem solving through mathematical application. Techniques of quality control. An additional fee is associated with this course. Prerequisites: AL 120, AL 130, AL 134, and concurrent with AL 131A or consent.

AL 131A Exposure Lab II (0)
Demonstrations will involve the imaging systems, computation of radiation dosages, and quality control techniques. The one hour weekly session will utilize an energized x-ray unit. Concurrent with AL 131.

AL 134 Radiology Clinical I (3)
This course requires a specific number of hours of limited radiographic assistance in a healthcare setting. Students will achieve competency in simple procedures under direct supervision. Prerequisite: Admission to the Radiologic Technology program.

AL 135 Radiology Clinical II (3)
This course requires a specific number of hours of limited radiographic assistance in a healthcare setting. This course builds on competencies achieved in AL 134. Students will achieve competency in more complex procedures with direct and/or indirect supervision. Prerequisite: AL 134 or consent.

AL 141 Medical Terminology (3)
This course covers word elements that form the base on which the medical language is constructed, including commonly used abbreviations. Emphasis on competency in spelling, pronunciation, correct usage and meaning of terminology related to all body systems, medical science and medical specialties.

AL 150 Principles of Health Information Technology (3)
This course covers the organization, analysis, and evaluation of health records, methods of storage, retrieval and preservation, an introduction to computer and information systems in health care, and an overview of health information department management. Prerequisites: AL 101, Admission to HIT Program.

AL 157 Specialized Records & Registries for Health Information Technology (2)
This course explores health information requirements in non-hospital settings including long-term and ambulatory care, & functions and procedures for specialized health information registries. Prerequisite: AL 150, AL 366 or concurrent.

AL 161 Foundations of Occupational Therapy (2)
This course is an introduction to the history and philosophical base of occupational therapy. Areas of instruction include: models of practice; frames of reference; the role of the Occupational Therapist/Occupational Therapy Assistant; Code of Ethics; Core Values; Standards of Practice and the Delivery of Occupational Therapy Services. Prerequisite: Formal Admission to the Occupational Therapy Assistant Program.

AL 162 Occupational Therapy Interventions I (3)
This lecture and lab course will discuss the dynamics of the occupation to include the activity, performance skills, and performance patterns from conception to age 18. The student will exhibit the ability to analyze tasks and implement an intervention plan for the occupational therapy client. Prerequisite: AL 161.

AL 163 Foundations of Occupational Therapy II (3)
This lecture/lab course is a continuation of AL 161 and will allow the student to develop the ability to select and implement occupational therapy interventions related to the activities of daily living. Prerequisite: AL 161 and concurrent with AL 164.
AL 164 Level I Occupational Therapy Fieldwork (1)  
This course requires a specific number of hours of limited occupational therapy assistant exposure in the healthcare setting. Prerequisite: AL 161 and Concurrent with AL 163.

AL 165 Occupational Therapy Assistants - Psychosocial Disorders (1)  
This course will provide the student with the knowledge and understanding of the concepts of psychiatric disorders and human behavior as it relates to the role of occupational therapy services. This course will focus on psychosocial mental health disorders with dementia, physical injury, trauma, or neurological dysfunction. Prerequisite: AL 164.

AL 166 Occupational Therapy Interventions II (3)  
This lecture lab course is a continuation of AL 162 and will discuss the dynamics of the occupation to include the activity, performance skills, and performance from early adulthood to later maturity. Prerequisite: AL 162.

AL 167 Foundations of Occupational Therapy III (3)  
This course is a continuation of AL 163 and will allow the student to develop the ability to administer selected assessments, screening, evaluation tools, and skilled observations and to develop skills that relate to analysis of movement, orthotic devices, superficial thermal and mechanical modalities. Prerequisite: AL 163.

AL 170 Physical Therapy Procedures (3)  
This class features the development of early Physical Therapy skills and the understanding of basic procedures. Specific emphasis is placed on range of motion, measurement of range of motion, therapeutic exercise basics, aseptic and isolation techniques, proper bed positioning, massage, transfers, wheelchair management, architectural barriers, locomotion training, documentation, vital signs and safety. All skills are reinforced and practiced in supervised scheduled laboratories and open lab sessions. Prerequisite: Admission to PTA Program.

AL 171 Musculoskeletal Assessment in Physical Therapy (3)  
This course follows AL 170 PT Procedures in the curriculum sequence and is designed to provide the Physical Therapist Assistant student with a foundation for musculoskeletal assessment and treatment. Emphasis is on orthopedic physical therapy assessment, including manual muscle testing, cranial nerve testing, dermatomal and myotomal assessment, special tests, joint mobilization therapy, therapeutic exercise, motor control theory, clinical decision making according to the Physical Therapist Plan of Care, identification of red flags, specific orthopedic protocols and implementation of specific physical therapy programs for various rehab clients. Prerequisite: AL 170 and concurrent enrollment in AL 261.

AL 185 Principles of Respiratory Therapy I (2)  
Specific modes of respiratory care are examined to understand principles of application to patients, indications, hazards, contraindications, and evaluation of therapy. Emphasis is placed on detailed knowledge of equipment used in these modes. Modes of care include medical gas therapy, humidity and aerosol therapy, lung expansion techniques and basic diagnostic studies. An additional fee is associated with this course. Prerequisite: Consent and concurrent with AL 185L.

AL 185L Principles of Respiratory Therapy Lab (0)  
Explores the procedures for specific respiratory therapies. Students will practice skills and complete required competencies. Concurrent with AL 185.

AL 186 Cardiopulmonary Assessment (2)  
This course is for Allied Health students and is designed to provide the student with an understanding of the cardiopulmonary systems. Areas of study will include a review and assessment of the anatomy and physiology of the pulmonary, cardiac, and renal systems. Prerequisites: OTA-AL 167; RT-AL 185; PTA-concurrent with AL 265 and AL 272 or consent.

AL 187 Respiratory Therapy Clinical I (3)  
An introduction to basic respiratory therapy procedures. Orientation to clinical practice, charting of records, infection control, emergency procedures, therapeutic procedures and diagnostic procedures are emphasized. The student will be introduced to routine respiratory care and equipment. Prerequisite: AL 185.

AL 220 Radiographic Procedures III (2)  
Presents cross-sectional anatomy as a background for radiographic related imaging modalities. Develops an awareness of related areas including venipuncture, computed tomography, sonography, nuclear medicine, radiation therapy, magnetic resonance, mammography, and interventional procedures. The investigation of alternative methods of radiography of the atypical patient is included. Prerequisite: AL 121 or consent.

AL 230 Radiologic Equipment Operation (2)  
Focuses on radiography physics, electromagnetic radiation, and x-ray production. Emphasizes electrical concepts including electrodynamics, circuitry, electromagnetism, rectification and the application of these principles to radiography. A working knowledge of basic algebraic equations is required. Prerequisite: AL 131 or consent.

AL 231 Radiation Protection & Biological Effects (2)  
Provides the knowledge and serves to develop the attitude necessary to intelligently protect the patient, themselves, and others from the potentially harmful effects of radiation. Includes an in-depth discussion of biological effects, cell and organism sensitivity, and somatic and genetic effects of ionizing radiation. Prerequisite: AL 121 or AL 131 or consent.

AL 236 Radiology Clinical III (3)  
This course requires a specific number of hours of direct radiographic assistance in a healthcare setting. Students will demonstrate competence in a variety of procedures with indirect supervision. Prerequisite: AL 121, AL 131, AL 135, or consent.

AL 237 Radiology Clinical IV (4)  
This course requires a specific number of hours of direct radiographic assistance in a healthcare setting. Students demonstrate competence in special procedures utilizing positioning techniques covered in AL 220 with direct supervision. Rotations through specialized areas of radiology will begin. Prerequisite: AL 236 and concurrent with AL 220 or consent.

AL 238 Radiology Clinical V (4)  
Additional experience and expertise in routine and non-routine examinations is gained. Rotations through the specialized areas of radiology will continue. Students are under indirect supervision. Prerequisites: AL 237 and AL 220 or consent.

AL 240 Professional Practice I for Health Information Technology (2)  
This course includes simulated projects completed independently, and supervised clinical experience in the technical aspects of health records in approved health care facilities and agencies. Prerequisites: Admission to Health Information Technology Program, AL 150 or concurrent enrollment.

AL 241 Professional Practice II for Health Information Technology (3)  
Continuation of AL 240. Prerequisite: AL 240.
AL 243  Coding Professional Practice for Health Information Technology (2)  
Simulated projects performed independently, and supervised clinical including inpatient and outpatient coding in approved health care facilities and agencies. Prerequisites: AL 245, AL 246, or concurrent.

AL 244  Healthcare Statistics - Health Information Technology (2)  
This course covers the collection, computation, analysis, presentation and use of healthcare statistical data. Prerequisite: AL 150.

AL 245  Health Information Coding I (3)  
This course covers coding principles for diseases and operations using the International Classification of Diseases. Focus is on the identification, coding & sequencing of inpatient medical diagnosis and procedures. Prerequisites: BI 230, BI 250, AL 320 or concurrent.

AL 246  Health Information Coding II (3)  
This course covers coding principles for outpatient services using the International Classification of Diseases and Current Procedure Terminology manuals. Focus is on the identification, coding & sequencing of outpatient diagnosis & procedures. Prerequisite: AL 245.

AL 247  Healthcare Reimbursement Methods (3)  
This course covers healthcare reimbursement methodologies and advanced coding skills for inpatient and outpatient settings. Prerequisite: AL 250, AL 246 or concurrent.

AL 250  Seminar in Health Information Technology (1)  
This course includes an analysis of major trends and issues affecting health information, review of the fundamental principles of health information technology & successful completion of a simulated certification examination. Concurrent with AL 241.

AL 252  Psychosocial Occupational Therapy (3)  
This lecture lab course discusses the role of occupational therapy concerning therapeutic use of self, including one's personality, insights, perceptions and judgments as part of the therapeutic process in individual and group interactions. Prerequisite: AL 165.

AL 253  Level I Occupational Therapy Fieldwork I (1)  
This course requires a specific number of hours in the health care setting to allow the student to employ logical thinking, critical analysis, problem solving and creativity as it relates to the occupational therapy clinical setting. Prerequisites: AL 164, AL 167.

AL 254  Current Topics Occupational Therapy (2)  
This course will allow the student to obtain the knowledge and understanding of the systems and structures that create federal and state legislation and regulation for occupational therapy. Topics include reimbursement, national, international and state regulations for licensure, certification and/or registration for occupational therapy. Prerequisite: AL 167.

AL 255  Level II Occupational Therapy Fieldwork (8)  
This fieldwork placement consists of two, full time, eight week rotations and provides the student with the opportunity to develop into competent, entry-level occupational therapy assistants. The student will be exposed to a variety of clients across the life span and a variety of settings. Prerequisite: Satisfactory completion of all previous coursework.

AL 257  Applied Neurophysiology - Occupational Therapy (3)  
This course is designed to provide the Occupational Therapy Assistant with a foundation in applied neurophysiology concepts. This includes, but is not limited to, specific assessment and treatment techniques for patients in special populations, such as spinal cord injury, pediatrics, amputees, traumatic head injury, cerebrovascular accidents, as well as other neurological or cardiovascular disorders. Prerequisite: AL 167 and BI 230.

AL 260  Independent Study (1-3)  
Allied Health majors may pursue an independent research project if approved by the Program Director in consultation with the Department Chair. Independent Study may not be used in place of any courses required in the major. Independent Study courses must meet equivalencies to Federal definition of a credit hour. Prerequisites: Consent

AL 261  Therapeutic Modalities in Physical Therapy (3)  
This course follows AL 170 Physical Therapy Procedures in the curriculum sequence and is designed to provide the student with a foundation for the use of therapeutic modalities. This course includes instruction on the various modalities of heat, cold, electrical stimulation, hydrotherapy, diathermy, ultrasound, traction, ultraviolet/infrared light and other physical agent modalities and treatments. Prerequisites: AL 170 and concurrent enrollment in AL 171.

AL 264  Physical Therapy Clinical I and Lab (3)  
This course involves observation and supervised hands-on treatment of various types of patients in different clinical settings with the practicum of skills learned in AL 170 Procedures and AL 171 Musculoskeletal Assessment in Physical Therapy, and AL 261 Therapeutic Modalities in Physical Therapy. This course will include an on-going communication between the clinical instructor (CI), the student and the academic coordinator. The student is given the opportunity to work with a variety of patients and to begin developing competence as a medical team member. The student also attends 6 clinical labs prior to the start of the clinical rotation to further develop his/her skills with patients and department procedures. Prerequisites: AL 261 and AL 171.

AL 265  Applied Neurophysiology - Physical Therapist Assistant (3)  
This lecture/lab course is designed to provide the Physical Therapist Assistant with a foundation in applied neurophysiology concepts and common neurologic disease processes, physical therapy assessment and intervention techniques. This includes, but is not limited to, specific assessment and treatment techniques for patients in special populations, such as spinal cord injury, pediatrics, traumatic head injury, cerebrovascular accidents, as well as other neurological or cardiovascular disorders. Prerequisite: AL 264, AL 268, AL 271 and concurrent enrollment in AL 272 and AL 186.

AL 268  Integumentary Assessment in Physical Therapy (2)  
Therapy management of various wounds and integumentary disorders. Specific emphasis will be placed on proper identification/staging of wounds, assessment and measurement, treatment protocols including selection of proper debridement techniques and dressings, along with other topics regarding integumentary assessment and wound care. Prerequisite: AL 261 and AL 171.

AL 271  Health Policy & Systems in Physical Therapy (2)  
This course emphasizes professional aspects of the Physical Therapist Assistant. Included in that realm are topics such as professional behavior with colleagues and patients, health care history, policy, and systems, reimbursement guidelines, legislative issues, continuing education and plan for professional advancement, code of ethics, cultural sensitivity and competence, current developments in Physical Therapy, professional relationships, research, evidence based practice, employment, etc. This course is designed to broaden the student's understanding of professional responsibility and motivate them towards personal improvement, commitment and continuing competence in the Physical Therapy profession. Prerequisite: AL 261, AL 171, and concurrent enrollment in AL 264 and AL 268.
AL 272 Current Rehabilitation Techniques in Physical Therapy (2)
This course emphasizes the characteristics, clinical problems, and physical therapy treatment of various rehabilitation patients, including the physical, psychological, sexual and vocational problems encountered. Specialized areas of Physical Therapy such as Aquatics, Geriatrics, Oncology, Women's Health Issues, Prosthetics/Orthotics, Sports Physical Therapy and Pediatrics are included in this course. Prerequisite: Satisfactory completion of all previous coursework. AL 264, AL 268, AL 271 and concurrent enrollment in AL 279.

AL 273 Physical Therapy Issues (1)
In consultation with a faculty member, the student is assigned for intensive study a specific area of concern related to physical therapy. This may include intensive reading and the preparation of patient and/or practitioner educational materials related to the subject. This will give the student an opportunity to develop an area or topic of expertise by exploring various avenues of information and compiling those into one document. During this course the student will also be reviewing for the Program Comprehensive Final to be given during the second or third week of the spring semester. Prerequisites: AL 265, AL 272, AL 186, AL 265, AL 272 and concurrent enrollment in AL 279.

AL 279 Physical Therapy Clinical II & III (6)
This course is clinical in nature and consists of two six-week full-time rotation following the completion of all didactic course work. The student will be involved in practicing all Physical Therapist Assistant skills in an assigned healthcare facility. The course will entail either on-site or phone/skype communication between the clinical instructor, the student and the academic coordinator (at least once during each rotation). The student is given the opportunity to practice advanced applications with direct supervision on a variety of patients and to develop competence as a full-time member of the medical team. Prerequisites: AL 265, AL 272, AL 186, AL 265, AL 272 and concurrent enrollment in AL 279.

AL 289 Respiratory Therapy Clinical II (5)
Students are assigned to various clinical settings designed to allow the student to complete procedural evaluations in basic respiratory care. The student will also be introduced to critical care medicine. Prerequisite: AL 187.

AL 290 Special Topics/Allied Health (1-3)
Selected topics related to one of the Allied Health programs, which vary from semester to semester. Announced in advance. Prerequisite: Specified on each topic.

AL 291 Respiratory Therapy Principles and Procedures I (3)
Lectures and laboratory topics on cardiopulmonary resuscitation, airway care and management, emergency care, mechanical ventilation and care of the critically ill patient. Prerequisite: AL 289.

AL 292 Respiratory Therapy Principles and Procedures II (5)
Lectures, simulation and group discussion of diagnostic procedures used by the pulmonary physician in evaluating patients with respiratory disease. Special emphasis will be placed on etiology, pathophysiology, clinical manifestations, and treatment of obstructed and restricted pulmonary diseases. Prerequisite: Consent.

AL 293 Respiratory Therapy Clinical III (5)
An in-depth exploration of critical care medicine. The student will execute procedures relating to care of the patient being mechanically ventilated. The student will also be given clinical experience in EKG’s and pulmonary function studies. The student will also be introduced to neonatal critical care medicine. An additional fee is associated with this course. Prerequisite: AL 289.

AL 294 Respiratory Therapy Clinical Topics II (3)
An introduction to medical microbiology. Special emphasis on pathogens related to the cardiopulmonary systems. Students will also be exposed to new, current and advanced clinical respiratory therapy topics. Prerequisite: AL 292.

AL 295 Respiratory Therapy Clinical IV (5)
Clinical rotations in pulmonary rehabilitation/home care, advanced ventilation techniques, hemodynamic monitoring, and specialty rotations that the student is concerned with related to respiratory therapy. Students will also receive clinical experience in pediatrics and neonatology. Prerequisite: AL 293.

AL 296 Respiratory Therapy Clinical Topics III (3)
Instruction in fields of obstetrics, neonatology and pediatrics as related to respiratory care. Includes sections on medical ethics. Prerequisite: AL 382.

AL 300 Introduction to Diagnostic Medical Sonography (3)
An introduction to the Diagnostic Medical Sonography profession. Topics include discussion of sonographic terminology, basic theories of equipment operation, body imaging, seminars in patient care, professionalism, and information concerning clinical education. Prerequisite: Admission to Diagnostic Medical Sonography Program or consent.

AL 301 Clinical Radiation Therapy I (4)
In this course the student therapist will participate in the daily activities of the radiation oncology department while under direct supervision at affiliated clinical education sites. The student therapist will work to develop skills to achieve competency and learn to interact professionally and ethically with staff and patients.

AL 302 Radiation Therapy Principles I (3)
This course is designed to provide a basic overview of radiation therapy treatment planning and delivery concepts as well as foundational knowledge related to patient assessment, pharmacology, ethics, and law.

AL 303 Radiation Therapy Physics I (3)
This course is designed to establish knowledge of basic physics concepts relevant to fundamental physical units, principles, atomic structure, types of radiation, x-ray production, interactions with matter, measurement devices, and x-ray generating equipment.

AL 304 Therapeutic Radiobiology (3)
This course is designed to explore the biological, chemical, and physical effects of radiation on cells, tissues, and the body as a whole.

AL 305 Radiation Therapy Physics II (3)
This course is designed to examine factors that influence and govern the optimal planning of external beam radiation therapy and brachytherapy. Topics include isodose distributions, compensating factors, methods of dosimetric calculations, and clinical applications of treatment beams.

AL 307 Oncology, Simulation, and Treatment Procedures I (3)
This course is designed to examine and evaluate the management of neoplastic disease. The epidemiology, etiology, diagnosis, treatment approaches, sequelae, and prognosis are discussed.

AL 308 Allied Health Portfolio (3)
This is a required course for Bachelor of Health Science majors who are requesting credit for a radiographer, sonographer or radiation therapist accredited program which was not completed at a University/College. Students will develop a portfolio demonstrating completion of appropriate education and registry examinations in addition to retrospective and prospective self-evaluation.
AL 309 Foundations of Radiation Therapy (2)
This course is designed to provide an introduction to radiation oncology and the role of the professional radiation therapist. Radiation therapy medical terminology, patient assessment, radiation protection, and safety are explored. Students are oriented to the policies and procedures of the educational program.

AL 310 Radiation Therapy Procedures II (3)
This course is designed to provide instruction regarding radiation therapy quality management.

AL 311 Imaging in Radiation Therapy (3)
This course is designed to introduce crosssectional anatomy as it relates to the practice of radiation therapy with a focus on location of normal gross anatomy and relationship to other structures. Anatomy will be identified in axial (transverse), sagittal, coronal planes. Radiation oncology imaging and simulation equipment/components, and related devices

AL 315 Allied Health Pharmacology (3)
This course is for allied health students and is designed to familiarize the student with general classification of drugs, the mechanism of action, indications, contraindications, and major adverse effects. Principles of drug administration and pharmacokinetic are also presented.

AL 320 Human Disease (3)
A study of diseases, their causes and complications, and the modern practices of diagnosis and treatment. Prerequisite: BI 230 or BI 250 or BI 255 or BI 275.

AL 321 Advanced Radiographic Imaging (2)
A continuation of disease concepts with a direct application to patient assessment, patient care, selection of radiation exposure factors and radiologic procedures. Prerequisite: Consent.

AL 330 Sonography Principles and Instrumentation I (3)
This course provides information concerning the basic physical principles of sound waves, their applications to the human body, the operation and physical characteristics of the transducer, the method by which the sound waves are converted into an image. In-depth instruction on physics principles and instrumentation will be presented. Prerequisite: Admission to Diagnostic Medical Sonography program or consent.

AL 331 Sonography Principles and Instrumentation II (3)
This course is a continuation through the physics of sonography. It will continue the exploration of the basic physical principles of sound waves, their applications to the human body, the operation and physical characteristics of the transducer, the method by which the sound waves are converted into an image. An in-depth instruction on physics principles and instrumentation will be presented. Prerequisite: Admission to Diagnostic Medical Sonography program or consent.

AL 332 Sonography Principles and Instrumentation III and Registry Review (2)
This course will review all of the curriculum related to the physics of sonography and sonography instrumentation to prepare the student for the national credentialing examinations. Prerequisite: Admission to Diagnostic Medical Sonography program or consent.

AL 340 Clinical Radiation Therapy II (4)
This course is a continuation of AL301. The student therapist will participate in the daily activities of the radiation oncology department while under direct supervision at affiliated clinical education sites. The student therapist will work to develop skills to achieve competency and learn to interact professionally and ethically with staff and patients.

AL 341 Sectional Anatomy & Imaging Applications (4)
Detailed study of gross anatomical structures will be conducted systematically for location, relationship to other structures and function. Gross anatomical structures are located and identified in axial (transverse), sagittal, coronal and orthogonal (oblique) planes. Illustrations and anatomy images will be compared with magnetic resonance (MR) and computed tomography (CT) images in the same imaging planes and at the same level when applicable. The characteristic appearance of each anatomical structure as it appears on CT and MR, when applicable, will be stressed. Prerequisite: Consent.

AL 347 Magnetic Resonance (MR) Physics I (3)
Content is intended to impart an understanding of theories of magnetic resonance properties. Additional concepts such as pulse sequencing, coils, gradient usage and signal production will be covered. Prerequisite: Consent.

AL 348 Magnetic Resonance (MR) Imaging I (3)
Content is designed to provide a review of anatomy involving selected body regions with an understanding of MR tissue characteristics. Routine imaging of the abdomen, pelvis, thorax, musculoskeletal system and central nervous system will be discussed. Common pathology as demonstrated through MR imaging will be presented. Prerequisite: Consent.

AL 349 Magnetic Resonance Clinical Experience I (1-3)
Assignment to a MR facility for application of theory and development of competency in routine imaging. Establish eligibility for certification through the American Registry of Radiologic Technologists. Prerequisite: Consent.

AL 350 Magnetic Resonance (MR) Physics II (3)
A continuation of Physics I concepts including pulse sequencing application, coil selection relating to scans, calculation of scan times as well as scan parameters and image factors. Prerequisite: AL 347 or consent.

AL 351 Magnetic Resonance (MR) Imaging II (3)
A continuation of imaging methods with a focus on non-routine or specialized protocols of the abdomen, pelvis, thorax, musculoskeletal system, central nervous system and vascular system. Prerequisite: AL 348 or consent.

AL 352 Magnetic Resonance Clinical Experience II (1-3)
Assignment to a MR facility for application of theory and development of competency in specialized imaging. Establish eligibility for certification through the American Registry of Radiologic Technologists. Prerequisite: AL 349 or consent.

AL 354 International Health Care Experience (3)
This course will offer students the opportunity to experience the culture of countries other than the United States while engaging in meaningful healthcare services or studies. In addition to completing their studies or service project, students will learn about the history, political systems, healthcare systems and culture of the country they visit. Prerequisite: Permission of the course instructor.

AL 355 Basic Concepts Health Services Administration (3)
This course is designed primarily for students who are new to the Bachelor of Health Science program and do not possess an allied health or other healthcare certification. This course will consist of introductory information and examines the health profession, health care administration and the organization of health care. Prerequisite: None.
AL 360 Independent Study/Allied Health (1-3)
Allied Health majors may pursue an independent research project if approved by the Program Director in consultation with the Department Chair. Independent Study may not be used in place of any courses required in the major. Independent Study courses must meet equivalencies to Federal definition of a credit hour. Prerequisites: Consent.

AL 361 General Sonography Clinical I (6)
Students are assigned to various clinical settings to allow the student to begin developing the technical skills necessary to become an entry-level sonographer. Students receive supervision, training, and feedback from a registered sonographer. Prerequisite: Admission to Diagnostic Medical Sonography program or consent.

AL 362 General Sonography Clinical II (6)
Students are assigned to various clinical settings to allow the continuation of developing the technical skills necessary to become an entry-level sonographer. Students receive supervision, training, and feedback from a registered sonographer. Prerequisite: Admission to the Diagnostic Medical Sonography program or consent.

AL 363 General Sonography Clinical III (3)
Students are assigned to various clinical settings to allow the continuation of developing the technical skills necessary to become an entry-level sonographer. Students receive supervision, training, and feedback from a registered sonographer. Prerequisite: Admission to the Diagnostic Medical Sonography program or consent.

AL 366 Legal & Regulatory Issues for the Health Care Professional (3)
This course is an overview of the legal and regulatory issues that impact the delivery of health care. Emphasis will be placed on the management of a health care organization from a leadership perspective. Prerequisite: Admission to the Bachelor of Health Science major/minor or HIT program.

AL 367 Foundations of Quality Improvement in Health Care (3)
The course introduces the student to key quality and process improvement issues impacting the administrators of today's health care organizations and explores how those issues affect the delivery of care. Data-driven process and quality improvement is a central theme in the exploration of a variety of health care topics. This course provides basic knowledge of process improvement to be used in later courses. Prerequisite: Admission to the Bachelor of Health Science major/minor or HIT program.

AL 370 Oncology, Simulation and Treatment Procedures II (3)
This course is designed to examine and evaluate the management of neoplastic disease. The epidemiology, etiology, diagnosis, treatment approaches, sequelae, and prognosis are discussed.

AL 371 Abdomen Sonography Procedures I (3)
This course will introduce introductory topics concerning abdominal sonography including but not limited to anatomy, pathophysiology, anatomical disease processes, patient care applications and sonographic principles and practices. Prerequisite: Admission to the Diagnostic Medical Sonography program or consent.

AL 372 Abdomen Sonography Procedures II (3)
This course will continue to explore general abdominal sonography and general small parts sonography topics. Topics will include but not limited to anatomy, pathophysiology, anatomical disease processes, patient care applications and sonographic principles and practices. Additionally special topics, pediatrics and interventional sonography practices will be explored. Prerequisite: Admission to the Diagnostic Medical Sonography program or consent.

AL 375 Health Care Policy (3)
This course focuses on government and private policy and how it impacts the delivery of health care. Students will learn how a health care leader can be an advocate for change. Prerequisite: Admission to the Bachelor of Health Science major/minor or HIT program.

AL 379 General Sonography Procedures III and Registry Review (2)
This course will combine all information concerning general sonography procedures and OB/GYN sonography procedures courses. This course will serve as a review course with mock board review exams tailored to the requirements of the National Registry exams of the Abdominal and OB/GYN specialty board exams. Prerequisite: Admission to the Diagnostic Medical Sonography program or consent.

AL 380 Clinical Radiation Therapy III (3)
This course is a continuation of AL340. The student therapist will participate in the daily activities of the radiation oncology department while under direct supervision at affiliated clinical education sites. The student therapist will work to develop skills to achieve competency and learn to interact professionally and ethically with staff and patients.

AL 381 Radiation Therapy Seminar (3)
This course offers a is designed to provide a systematic review of the ARRT content specifications with a focus on real world radiation therapy situations, which challenge a therapist's problem solving and critical thinking skills. This course prepares the student for the national certification examination and entry-level problem solving.

AL 382 Cardiovascular Monitoring and Scanning (3)
Course for Respiratory Therapy students designed to provide the student with an understanding of cardiovascular monitoring. Areas of study will include an introduction to heart development, review of anatomy and physiology of the heart, hemodynamic monitoring, effects on hemodynamics due to disease states, and cardiac arrhythmia recognition. Prerequisite: Admission to Respiratory Therapy program.

AL 383 Cardiac Sonography Procedures I (3)
The content of this course will an in-depth exploration of cardiac embryology, anatomy and physiology, pathophysiology, echocardiographic procedures, imaging techniques, and protocols specific to echocardiography.

AL 384 Cardiac Sonography Procedures II (3)
A detailed and in-depth exploration of various cardiac pathology and their echocardiographic manifestations. Prerequisite: Admission to the Diagnostic Medical Sonography program or consent.

AL 385 Cardiac Sonography Clinical I (6)
Students are assigned to various clinical settings to allow the student to begin developing the technical skills necessary to become an entry-level sonographer. Students receive supervision, training, and feedback from a registered sonographer.

AL 386 Cardiac Sonography Clinical II (6)
Students are assigned to various clinical settings to allow the continuation of developing the technical skills necessary to become an entry-level sonographer. Students receive supervision, training, and feedback from a registered sonographer.

AL 387 Cardiac Sonography Clinical III (3)
Students are assigned to various clinical settings to allow the continuation of developing the technical skills necessary to become an entry-level sonographer. Students receive supervision, training, and feedback from a registered sonographer.
AL 388 Cardiac Sonography Procedures III and Registry Review (2)
The course will cover new and highly specialized procedures in the realm of echocardiography, such as stress echo (treadmill and pharmacological), contrast echocardiography, diastology, and transesophageal echocardiography. It will also provide a review and Mock Testing for Boards. Prerequisite: Admission to the Diagnostic Medical Sonography program or consent.

AL 389 OB/GYN Sonography Procedures I (3)
This course will introduce introductory topics concerning obstetrical and gynecological sonography including but not limited to anatomy, pathophysiology, anatomical disease processes, fetal anatomy and disease, patient care applications and sonographic principles and practices. Prerequisite: Admission to the Diagnostic Medical Sonography program or consent.

AL 390 Special Topics/Allied Health (1-3)
Selected topics related to allied health which vary from semester to semester. Announced in advance. Prerequisite: Consent.

AL 391 Chemistry Application in Respiratory Care (3)
Introduction to medical chemistry. This course will discuss the basic aspects of chemistry and biochemistry as related to cardiopulmonary physiology and therapeutic intervention. This course includes atomic theory, chemical bonding and acid-base balance.

AL 392 OB/GYN Sonography Procedures II (3)
This course will continue to explore obstetrical and gynecological sonography including but not limited to anatomy, pathophysiology, anatomical disease processes, fetal anatomy and disease, patient care applications and sonographic principles and practices. Additionally, special topics, fetal anomalies, and interventional OB/GYN sonography practices will be explored.

AL 393 Vascular Sonography Procedures I (3)
An in-depth discussion of the anatomy, physiology, and pathophysiology of the peripheral and cerebral vascular systems. The focus will be on the cerebrovascular system and the arterial and venous systems of the lower extremities. Hemodynamics, Doppler waveforms, pressure measurements, plethysmography, appropriate pharmacology, sonographic appearance, and scanning techniques will be discussed. This will include arterial and venous systems, therapeutic intervention, and non-invasive testing-exam protocols. Prerequisite: Admission to Diagnostic Medical Sonography program.

AL 394 Vascular Sonography Procedures II (3)
Continuation of AL 393 to include discussion of the anatomy, physiology, and pathophysiology of the abdominal and peripheral vascular systems. The focus will be on the abdominal vasculature and on the arterial and venous systems of the upper extremities. Hemodynamics, Doppler waveforms, pressure measurements, plethysmography, appropriate pharmacology, sonographic appearance and scanning techniques will be discussed. Therapeutic intervention includes arterial and venous systems, non-invasive testing, and exam protocols. Prerequisite: Admission to the Diagnostic Medical Sonography program or consent.

AL 395 Vascular Sonography Clinical I (6)
Students are assigned to various clinical settings to allow the student to begin developing the technical skills necessary to become an entry-level sonographer. Students receive supervision, training, and feedback from a registered sonographer.

AL 396 Vascular Sonography Clinical II (6)
Students are assigned to various clinical settings to allow the continuation of developing the technical skills necessary to become an entry-level sonographer. Students receive supervision, training, and feedback from a registered sonographer. Prerequisite: AL 395.

AL 397 Vascular Sonography Clinical III (3)
Students are assigned to various clinical settings to allow the continuation of developing the technical skills necessary to become an entry-level sonographer. Students receive supervision, training, and feedback from a registered sonographer.

AL 398 Vascular Procedures III and Registry Review (2)
The course will cover new and highly specialized procedures in the realm of vascular sonography. Among the content will be hemodialysis access, transcranial doppler, and mapping procedures. It will also provide review and Mock Testing for Boards. Prerequisite: Admission to the Diagnostic Medical Sonography Program or consent.

AL 399 Health Information Systems (3)
In this course, students will examine the impact of data and technology on current health care practice. Current trends and future challenges will be discussed with a focus on utilizing information to support and improve health care decision-making. Prerequisite: Admission to the Bachelor of Health Science major/minor or HIT program.

AL 400 Supervisory Practices for the Health Care Professional (3)
The course will introduce students to basic supervisory functions and responsibilities related to managing in health care organizations. Prerequisite: admission to the Bachelor of Health Science major.

AL 405 Financial Issues in Health Care (3)
This course will introduce the student to common financial practices and issues in today's health care facilities, including a focus on the regulatory environment. Prerequisite: Admission to the Bachelor of Health Science major/minor and MA 112 or 116 with a C or higher grade.

AL 420 Current Issues in Health Care (3)
This course will explore current health care issues from the perspective of the Health Services Administrator. Special emphasis will be placed on the impact of the issue under study for the delivery, practice and organization of the American Health care system. Prerequisite: Completion of AL 375 or consent of BHS advisor.

AL 450 Knowledge Management in Healthcare (3)
The course builds on the foundations of quality improvement class. It provides students the background to develop and implement quality assurance and patient safety programs according to national initiatives. Students explore methods of making organizations and individuals more adaptive and productive. Emphasis is on using tools and techniques that will improve critical thinking skills and students will apply communication skills to maintain positive stakeholder relationships. Prerequisite: Admission to the Bachelor of Health Science major and AL 367.

AL 460 Research in Health Care (3)
This course is designed to introduce students to the purpose and process of research in health care. Special emphasis is placed on the importance of evidence-based practice in health care. Prerequisite: Admission to the Bachelor of Health Science major and EN 300.
AL 480  Seminar In Healthcare (3)
A capstone course designed to provide integration and application of health care administration and leadership principles. This course also requires a summative reflection of the student’s experience and growth as a health care leader. Prerequisite: Admission to the Bachelor of Health Science Health Services Administration major, EN 300, and senior standing. This course should be taken during the last semester. Medical imaging majors require BHS advisor approval.

AL 600  Foundations Health Care Education (3)
This course focuses on the history of healthcare education programs, educational theory and concepts, teaching and learning styles, and principles of adult education including characteristics, needs, and motivations of adult learners. Prerequisite: None.

AL 601  Legal/Ethical Issues in Health Care (3)
This course is designed to provide foundational knowledge concerning legal and ethical concepts that guide health care. The course will explore the application of ethics and the law in resolving ethical situations through case studies and articles. Prerequisite: None.

AL 602  Special Populations in Health Care (3)
This course includes a discussion and analysis of the impact of special populations on the health care delivery system. Major topics will include diverse ethnic populations, rural populations, migrant populations, minority populations and populations defined by diagnosis (e.g., diabetes, etc.). This course is designed to acquaint the student with health care delivery implications of globalization in the context of cultural competence. Prerequisite: None.

AL 603  Health Care Decision Making (3)
Decision making is the study of identifying and choosing alternatives based on reducing uncertainty and selecting a reasonable choice based on the values and preferences of the decision maker. Decision making theories, methods, and processes will be studied as well as the application of decision analysis and knowledge-based systems, including data mining, data warehouses, data marts, clinical data repositories, and data modeling. Prerequisite: None.

AL 620  Research Methods Health Care Profession (3)
This course is designed to provide the health care professional with a basic knowledge in quantitative statistical analysis and research design. Topics covered include descriptive statistics, parametric group comparison statistics, basic non-parametric statistics, and provide an introduction to linear modeling. Students will be introduced to Excel and SPSS statistical software programs and application toward solving modern healthcare problems. Prerequisite: None.

AL 622  Educational Program Administration (3)
This course focuses on the fundamental elements of educational health care program planning, assessment, and troubleshooting by examining the activities of Program Directors and Clinical Coordinators. The impact of credentialing, accreditation, and licensure requirements is discussed along with issues related to higher education such as general education requirements, academic advising, grievance/appeal processes, and tenure and promotion. Prerequisite: None.

AL 624  Assessment Health Care Education (3)
This course examines the elements of effective learner assessment within health care education programs including the clinical setting. Fundamental principles of assessment are discussed as well as various authentic assessment methods. This course emphasizes practical application in which the learner will develop a learning module using various assessment strategies and analyze the effectiveness of each assessment. Prerequisite: None.

AL 626  Instructional Technology (3)
This course provides an overview of current instructional technologies which support active learning within health care education programs. The integration of technology in the traditional, blended and online environments is discussed as well as copyright and fair use laws as they relate to the utilization of technology in higher education. This course emphasizes practical application. Prerequisite: None.

AL 720  Curriculum/Instructional Methods Health Care (3)
This course focuses on understanding the process of developing health care related curriculum. Instructional design models, implementation planning, student assessment methods, analysis of effectiveness and continuous improvement are discussed. This course emphasizes practical application. Prerequisite: None.

AL 722  Advanced Trends in Health Care (3)
This course explores current trends and issues within the dynamic environment of health care. Learners discuss political, social, cultural and ethical issues and their influence on the health care delivery system. Prerequisite: None.

AL 724  Health Care Education Internship (3)
The course provides opportunities for observation and experience in presentation related to health care topics. Presentations may include departmental in-service, lecture class, laboratory class, professional society or to the general public such as a support group. Prerequisite: Consent of Instructor.

AL 726  Health Care Education Practicum (3)
Development of an action research project which will address a relevant issue in health care education. Prerequisite: Consent of Instructor.

AL 777  Continuous Enrollment (1-3)
This course is to allow students additional time to complete Capstone, Thesis or Practicum requirements. Prerequisites: Instructor Permission

Anthropology (AN)

AN 112  Cultural Anthropology (3)
Students will learn about contemporary global cultures to develop a culturally relative understanding of and appreciation for diverse societies. Students will explore major domains of culture (such as economics, kinship, social stratification, political organization, communication, and religion) and the impact of globalization and colonialism on culture. Finally, students will explore how anthropological work is applied to contemporary social problems. Prerequisites: None

(General Ed Social Science. Global Citizenship Ethics Div.)

AN 113  Linguistic Anthropology (3)
This course is an introduction to the cross-cultural examination of language and communication. Students will learn how language shapes culture, behavior, and thought, the evolution of language over time, the impact of globalization and colonialism, and the intersectionality of race, ethnicity, class, and gender on language. The class will explore how linguistic anthropologists conduct research and apply research to real world settings.

(General Ed Social Science. Global Citizenship Ethics Div.)

AN 114  Introduction to Archaeology (3)
This course will introduce students to the theories and methods of archaeological science to understand how archaeological remains are used to interpret human prehistory. This course covers what archaeology has revealed about the evolution and experience of humankind from the origins of stone-tool use to the emergence of complex societies around the world. No prerequisites.

(General Ed Social Science. Critical and Creative Thinking.)
AN 116 Biological Anthropology (3)
This course focuses on human biology within the framework of biocultural evolution. Students will investigate the biological aspects of human life through the study of principles of evolution, genetics, adaptation, and human variation. Using fossil evidence this course will explore the evolutionary history of human ancestors and nonhuman primates. Prerequisite: None.
(General Ed Social Science. Quan and Sci Reason Lit.)

AN 118 Introduction to Forensic Science (3)
Forensic science is the study and application of science to the processes of law and involves the collection, examination, evaluation, and interpretation of evidence. This course will introduce students to the history, ethics, and limitations of forensics, as well as its application to criminal investigation within specific disciplines such as chemistry, biology, anthropology, computer information sciences, criminal justice, etc. Prerequisite: None.
(General Ed Social Science. Quan and Sci Reason Lit.)

AN 200 Special Topics in Anthropology (1-3)
Topics will vary from semester to semester and will be announced in advance. May be taken more than one semester. Prerequisite: AN 112.

AN 300 Special Topics in Anthropology (1-3)
Topics will vary from semester to semester and will be announced in advance. May be taken for more than one semester. Prerequisite: AN 112.

AN 302 Culture and Human Sexuality (3)
A theoretical and empirical survey of human sexual beliefs and activities in selected Western and non-western cultures. Prerequisite: AN 112, SO 100, or consent of instructor.

AN 303 Human Origins and Evolution (3)
This course examines the evolutionary fossil record of human and nonhuman primates from a bio-cultural perspective. Students will explore current anthropological methods and theories used to interpret the evolutionary data including the development of bipedalism, human adaptations, and the emergence of Homo sapiens. Prerequisite: AN 116.

AN 311 Primate Social Behavior (3)
This course focuses on the behavioral ecology and evolution of the Order Primate. Students will examine the taxonomic classification of nonhuman primates and investigate how evolution has shaped the diversity of their social structure and behavior. In addition to watching several anthropological films, we may observe nonhuman primate interactions at a local zoo. Prerequisite: AN 116.

AN 312 Medical Anthropology (3)
This course will explore biocultural constructions of health and illness across the globe. Students will critically assess biomedical assumptions and the effects of inequality to gain a better understanding of how different societies view and treat illness, the interaction of biology and culture, and the political and economic roles in relation to patterns of health and healing. Prerequisite: AN 112 or AN 116.

AN 313 Religion, Magic and Witchcraft (3)
This course is a cross-cultural study of the forms and functions of non-Western and Western supernatural beliefs. Students will examine a wide range of religious systems and worldviews including myth, ritual, symbolism, magic, ancestor worship, witchcraft, religious healing, and spirit possession. Major theories about the origins and social functions of such beliefs and practices will be explored. Prerequisite: AN 112.

AN 314 The Im/migrant Experience in America (3)
This course explores the historical and modern implications of im/migration in the United States; how globalization, colonialism, and transnationalism affect im/migrant communities; and how im/migrants acculturate into their host communities. Special attention will be given to the experiences of im/migrants in Kansas today. Prerequisite: AN 112, AN 113, or consent of instructor.

AN 316 Forensic Anthropology (3)
This course introduces students to methods used by forensic anthropologists to recover and positively identify human remains, and to evaluate trauma and taphonomy in medico-legal situations. As an introductory course, forensic anthropology will include an overview of historical and current developments in the field. Students will develop a comprehensive understanding of the sequential order for conducting forensic anthropology from the search for forensic scenes through the recovery of the remains in the field, data collection in the morgue, analysis in the laboratory, to the reconstruction of events surrounding the crime scene, and preparation of the final report. Prerequisites: AN 114, AN 116, or AN 118.

AN 317 Peoples and Cultures of Africa (3)
This course explores sub-Saharan African societies through selected case studies covering topics such as kinship, gender, religion, political economy, geography, and contemporary social issues. Analysis includes the pre-colonial, colonial, and post-colonial histories of the various groups. Prerequisite: AN 112.

AN 318 North American Archaeology (3)
As a survey of the diverse prehistoric cultures and environments of North America, this course will examine economic, technological, and organizational changes from the earliest hunter-gatherers to pre-Colombian complex societies. Students will gain an understanding of the history and theory of North American archaeology and explore experimental archaeological techniques through ancient tool making. Prerequisite: AN 114 or consent of instructor.

AN 319 Peoples and Cultures of Indigenous North America (3)
This course explores indigenous North American cultures through selected case studies covering topics such as kinship, gender, religion, political economy, geography, and contemporary social issues. Analysis includes the pre-colonial, colonial, and post-colonial experiences of the various groups. Prerequisite: AN 112.

AN 320 Ancient Latin America (3)
This course is an archaeological survey of the Pre-Columbian heritage of Mesoamerica and South America. Cultures such as the Olmec, Maya, Aztec, Moche, Nazca, Chimú, and Inca will be examined through artifacts, art, architectural remains, and ethnohistoric documents. Students will achieve an understanding of the growth and decline of complex societies, and will examine the relationship between the past and contemporary Latin American cultures. Prerequisite: AN 114 or consent of instructor.

AN 321 Anthropology of Women (3)
The roles and statuses of women around the world are examined in the three sub-systems of culture – material, social and ideational – including in-depth studies of women in horticultural, peasant, and modern societies. Prerequisite: AN 112 or consent of instructor.

AN 322 Visual Anthropology (3)
This course explores how images and other types of media are created, circulated, and consumed by members of diverse cultures and by anthropologists. Topics to be covered include how culture is portrayed in media and in museums, the use of media as a tool in ethnographic research; analysis of media from an anthropological perspective; and the creation of the “other” through media. Prerequisite: AN 112.
AN 324 History and Theory of Anthropology (3)
This course examines the history of Anthropology while also exploring current debates, schools of thought, and contemporary theories from a four-field perspective. Prerequisites: Declared major, AN 112, and junior standing.

AN 327 Human Osteology (3)
In this hands-on laboratory course, students will examine the dynamic, living system of the human skeleton. The focus of this class will be on the identification of complete and fragmentary human skeletal and dental remains. The course will explore growth and development of osseous and dental structures, human variation in skeletal biology, and the modification of tissues through traumatic, pathologic, taphonomic, and cultural factors. Prerequisite: AN 316.

AN 335 Applied Anthropology (3)
This course examines how anthropology can be applied to real-world problems. Students will explore: 1) various career paths including working with nonprofit and community-based organizations, businesses and corporations, and government, 2) key aspects of applied anthropological practice such as ethics, policy analysis, and working in teams, and 3) practice the collection and analysis of data through participation in a real field project culminating in a technical report. Prerequisite: AN 112 or AN 113 and junior/senior status.

AN 336 Globalization (3)
An examination of work, life, and culture in an increasingly globalized world. Prerequisite: AN 112 or consent of instructor.

AN 358 Lab Methods in Forensic Anthropology (3)
In this course, students will be introduced to forensic anthropological laboratory methods through multiple hands-on projects using real skeletal material and forensic cases. This course will introduce students to many of the important principles, methods, and techniques that forensic anthropologists use to macerate, identify, analyze, and curate human remains. Prerequisite: AN 327.

AN 362 Methods of Social Research (3)
Specific research techniques employed by sociologists, anthropologists, and other social scientists are considered, including polls and surveys, the interview and participant observation. Each student will complete an outside project. One of two capstone courses required of Anthropology majors. Prerequisites: Declared major and 15 hours of Anthropology, or consent of instructor.

AN 363 Internship (1-3)
Field training to provide students with experience in an operational or research setting through assignment to local social agencies or museums approved and supervised by a faculty member. May be elected twice for a maximum of three hours. Prerequisites: Declared major, senior standing, and consent of instructor.

AN 366 Directed Readings (1-3)
Under supervision of a faculty member, students will undertake an extensive readings course to further their understanding of a specific topic within Anthropology. May be repeated for a maximum of six hours. Students are limited to six hours total from AN 366 and AN 367 combined. Prerequisite: Declared major, junior/senior standing, and consent of instructor.

AN 367 Directed Research (1-3)
Upon supervision of a faculty member, students will undertake an independent research project in a specific aspect of Anthropology. May be repeated for a maximum of six hours. Students are limited to six hours total from AN 366 and AN 367 combined. Prerequisite: Declared major, junior/senior standing, and consent of instructor.

AN 369 Kansas Archaeology (3)
This course is a survey of the archaeological record of Kansas from the earliest Paleoindian inhabitants through the Historic period. Students may have the opportunity to visit archaeological sites and museums in Kansas and participate in archaeological analysis through hands-on work with collections. Prerequisite: AN 114 or consent of instructor.

AN 370 Historical Archaeology (3)
In this course, students will examine the recent past through material remains of societies that also have some form of written evidence. Students will also learn about historic preservation, museum curation methods, and historic interpretation for public archaeology. Prerequisite: AN 114 or consent of instructor.

AN 371 Field and Lab Methods in Archaeology (3)
In this course, students will learn how to properly survey and excavate an archaeological site and how to identify and analyze artifacts, cultural features, and sediments using state-of-the-art techniques. Students will gain hands-on experience working in a mock-excavation setting and with real archaeological collections. This course is a prerequisite for AN 372 Archaeological Field School. Prerequisite: AN 114 or consent of instructor.

AN 372 Archaeological Field School (1-6)
This course provides students with practical, hands-on experience where they apply their archaeological training and knowledge at a field site held off-campus. The field school may include survey, location, and excavation techniques, technical mapping, and proper documentation and collection of field data. Long-distance and overnight travel may be required. Prerequisite: AN 371 or consent of instructor.

AN 374 Field Methods in Forensic Anthropology (3)
As part of a forensic science team, forensic anthropologists apply their knowledge and training specifically to the recovery and excavation of skeletonized remains, badly decomposing human remains, or taphonomically altered remains. Students will gain hands-on experience using the latest methods to search, locate, document, and recover human remains and evidence from outdoor scenes in a timely fashion using the principles of forensic archaeology and forensic anthropology. Prerequisites: AN 316.

AN 375 Forensic Anthropology Field School (3)
The Forensic Anthropology Field School provides students with practical, hands-on experience through a series of mock forensic cases including surface scatters, burials, and/or fatal fires. Students will be applying the techniques and methodologies they learn in AN 374 to simulated forensic cases beginning with the initial search to the recovery and transport of remains to the laboratory. Over the semester, students will be introduced to forensic archaeological recoveries and the proper evidence documentation and collection methods. Prerequisites: AN 374.

AN 397 Special Topics: Archaeology (1-3)
Topics will vary from semester to semester and will be announced in advance. May be taken more than one semester. Prerequisite: AN 114.

AN 398 Special Topics: Forensic Anthropology (1-3)
Topics will vary from semester to semester and will be announced in advance. May be taken more than one semester. Prerequisite: AN 316.

AN 400 Special Topics in Anthropology (1-3)
Topics will vary from semester to semester and will be announced in advance. May be taken for more than one semester. Prerequisite: AN 112 or consent of instructor.
AN 428 Case Studies Forensic Anthropology (3)
This hands-on course will be the culmination and combination of the other Forensic Anthropology concentration core requirement courses. Utilizing real forensic case studies, this class will highlight the anthropological techniques and methods used to recover and identify skeletal and decomposing human remains. Students will work on cases from initial recovery to the preparation of the final forensic anthropological case report. At the same time, the case studies will underscore the importance of anthropologists in forensic science and will debunk myths portrayed in popular media. Prerequisite: AN 327.

AN 600 Special Topics in Anthropology (1-3)
Topics will vary from semester to semester and will be announced in advance. May be taken for more than one semester. Prerequisite: Admission to the MLS program and consent of instructor.

AN 621 Anthropology of Women (3)
The roles and statuses of women around the world are examined in the 3 sub-systems of culture-material, social and ideational—including in depth studies of women in horticulture, peasant, and modern societies. Prerequisites: AN 112 and admission to the MLS program or consent of instructor.

AN 624 History and Theory of Anthropology (3)
This course examines the history of Anthropology while also exploring current debates, schools of thought, and contemporary theories from a four-field perspective. Prerequisite: AN 112, admission to a graduate program; or consent of instructor.

Applied Math (MAT)

MAT 101 Technical Math I (3)
This course will enable the student to gain confidence with the use of basic math, measurements, and signed numbers. The concepts learned in this course will build problem solving skills that are critical in the workplace. These concepts develop a solid foundation for success in the use of technology.

MAT 102 Technical Math II (3)
This course is a continuation of Technical Mathematics I. The concepts learned in this course will build on problem solving skills using geometry, algebraic expressions and techniques for solving equations. These concepts develop a solid foundation for success in the use of technology.

Army ROTC (ARMY)

ARMY 101 Introduction to Military Science I (1)
Required introductory course for the Army military science program. Course is comprised of one hour of lecture and one hour of laboratory per week. Introduces the military science program as an element of the reserve forces and includes an examination of major legislation, the Army organization structure, and military leadership techniques. Course must be taken in conjunction with ARMY 101L.

ARMY 101L Army ROTC Lab (0)
Required ROTC Lab. Must be taken in conjunction with ARMY 101.

ARMY 102 Introduction to Military Science II (1)
Course comprised of one hour of lecture and one hour of leadership laboratory per week. A general study and appreciation of the American military system from colonial times to the present. The course identifies factors present in the American society and national policy in each particular historical period which influenced the development of American military systems. The relationship between the military establishment and the larger American society is examined in each historical period. Course must be taken in conjunction with ARMY 102L Lab. Prerequisites: ARMY 101/ARMY 101L or department approval.

ARMY 102L Army ROTC Lab (0)
Required ROTC Lab. Must be taken in conjunction with ARMY 102.

ARMY 201 Basic Military Science I (1)
Course comprised of one hour of lecture and one hour of laboratory per week. Analyzes the principles of war and military leadership at small unit level, and introduces principles of military writing. Course must be taken in conjunction with ARMY 201L Lab. Prerequisites: ARMY 102/ARMY 102L or department approval.

ARMY 201L Army ROTC Lab (0)
Required ROTC lab. Must be taken in conjunction with ARMY 201.

ARMY 202 Basic Military Science II (1)
Course is comprised of one hour of lecture and one hour of leadership laboratory per week. Curriculum consists of the fundamentals of topographic map reading and their application in a field environment. Includes instruction in various types of maps, marginal information, topographic symbols and colors, scale, distance, direction and use of the magnetic compass. Course must be taken in conjunction with ARMY 202L Lab. Prerequisites: ARMY 201/ARMY 201L or department approval.

ARMY 202L Army ROTC Lab (0)
Required ROTC lab. Must be taken in conjunction with ARMY 202.
ARMY 301 Theory & Dynamics of Tactical Operations I (3)
Course is comprised of three hours of lecture and two hours of leadership laboratory per week. A comprehensive study of conventional tactical operations. Emphasizes the fundamentals of land warfare and the quality necessary to conduct fluid, non-linear operations. Introduces the student to the tenets of Air-Land Battle, the underlying structure of modern warfare, the dynamics of combat power, and the application of classical principles of war to a contemporary battlefield. Approved for degree credit in the College of Liberal Arts and Sciences. Such courses count within the limit of 25 hours accepted from other schools and divisions. One hour lecture and one hour lab (ARMY 301L) per week. Prerequisite: ARMY 202 or KU department approval.

ARMY 301L Army ROTC Lab (0)
Required ROTC lab. Must be taken in conjunction with ARMY 301.

ARMY 302 Theory & Dynamics of Tactical Operations II (3)
Course is comprised of three hours of lecture and two hours of leadership laboratory per week. Expands on the application of conventional tactical operations in the low, medium, and high intensity conflict spectrum. Examines the three-dimensional nature of modern warfare and the unified battlefield. Approved for degree credit in the College of Liberal Arts and Sciences. Such courses count within the limit of 25 hours accepted from other schools and divisions. One hour lecture and one hour lab (ARMY 302L) per week. Prerequisite: ARMY 301 or KU department approval.

ARMY 302L Army ROTC Lab (0)
Required ROTC lab. Must be taken in conjunction with ARMY 302.

ARMY 303 Military Conditioning (1)
Introduction to the theoretical and practical aspects of developing physical fitness programs for all Army personnel from the commander or supervisor’s perspective. Provides an overview of total fitness, defines physical fitness, outlines the phases of fitness, discusses various types of fitness programs, and presents evaluation criteria.

ARMY 401 Concepts of Military Management (3)
Course is comprised of three hours of lecture and two hours of leadership laboratory per week. An introduction to the military management system with special attention to the functions, organizations, and operations of military training, logistics and administration. The use of standardized staff formats in the development of plans and orders is emphasized from the standpoint of the leader with limited resources. Extensive use of standard staff procedures is emphasized in problem solving scenarios. One hour lecture and one hour lab (ARMY 401L) per week. Prerequisite: ARMY 302 or KU department approval.

ARMY 401L Army ROTC Lab (0)
Required ROTC lab. Must be taken in conjunction with ARMY 401.

ARMY 402 The Military Profession (3)
Course is comprised of three hours of lecture and two hours of leadership laboratory per week. A seminar on the military profession as an object of social inquiry. Focus is on the internal structure of the profession, current problems, and interaction with the larger American society. Seminar topics include but are not limited to the following: a historical perspective on the military profession; civil-military relations; social and political impact of military activities; military justice; professionalism versus careerism. One hour lecture and one hour lab (ARMY 402L) per week. Prerequisite: ARMY 401 or KU department approval.

ARMY 402L Army ROTC Lab (0)
Required ROTC lab. Must be taken in conjunction with ARMY 402.

ARMY 450 Military Analysis (1)
A study of present and future military operations; emphasis placed on analysis of problem. The student will defend his/her analysis through written and oral presentations. Prerequisite: Permission of the department chairperson.

Art (AR)

AR 101 Survey of Art History, Prehistoric to Medieval (3)
A survey of major monuments and movements in the history of art from Paleolithic through Medieval times. (General Ed Creative Performing, General Ed Humanities. Critical and Creative Thinking.)

AR 102 Survey of Art History, Renaissance to Contemporary (3)
Major monuments and movements in Western Art from the Proto-Renaissance through the arts of today. (General Ed Creative Performing, General Ed Humanities. Critical and Creative Thinking.)

AR 103 Introduction to Art (3)
The major principles and ideas of art, with emphasis on different purposes art has served in both Western and non-Western cultures. Course is for non-art majors. (General Ed Creative Performing, General Ed Humanities. Global Citizenship Ethics Div.)

AR 120 2D Design: Digital Elements (3)
An exploration of the fundamentals of visual communication. Students will become familiar with the elements of design and organizational principles. Using traditional and digital media, studio assignments will encourage creative thinking, synthesis and analysis, and problem solving. Prerequisites: none. (General Ed Creative Performing, General Ed Humanities. Communication.)

AR 121 3-D Design (3)
An expanded investigation of the basic design principles with an emphasis on idea generation and creative translation. Students will learn how to think critically about visual art, problem solve, and consider a broad range of contemporary and historical approaches. Prerequisite: AR 120.

AR 140 Drawing I (3)
Basic principles of drawing and pictorial design. This course is fundamental to all studio courses and should be taken in the freshman year. (General Ed Creative Performing, General Ed Humanities. Critical and Creative Thinking.)

AR 141 Drawing II (3)
A continuation of Drawing I. Prerequisite: AR 140 or equivalent. (General Ed Creative Performing, General Ed Humanities. Critical and Creative Thinking.)

AR 219 Introduction to Printmaking (3)
Drawing and cutting upon the blocks (plywood, linoleum, and masonite), assemblage will be explored for form and texture. Initial prints will be considered temporary evidence of how marks or forms work toward a completed work. Prerequisites: AR 120 and AR 140.

AR 220 Photography I (3)
Lecture and studio. History of the development of the Photographic process, equipment and material. Darkroom procedures with an emphasis on composition and design in the black and white print.
AR 222 Video Game Design (3)
This course introduces the making and creating of 2D/3D video games. Students learn to create a fully interactive video game. This hands-on course focuses on design, aesthetics and interactivity of the video game. Prerequisite: CM 101, AR 131, or equivalent computer competency.

AR 223 Graphic Design I (3)
Introduction to graphic design through formal and theoretical context. Focus is on development of technical skills and design concepts for print production. Prerequisite: AR 120.

AR 226 Video Editing: FinalCut Pro (3)
Fundamentals of digital video, including lighting, sound composition and editing are taught with the aim of creating time-based art forms. Aesthetic issues evident in video design and editing structure will be examined through viewing, discussion and critique. Software: FinalCut Pro. Prerequisite: AR 120 or MM 100.

AR 231 Basic Multimedia (3)
Introduction to the use of social media to share creative artwork, including video and animations. This course covers video capture with simple video cameras or smart phones, movie editing, and posting work to the Internet. It will include basic animation, sound and interactivity. Students must provide their own phone or other video capture device. Prerequisite: None.

AR 240 Painting I (3)
Introduction to oil or acrylic painting techniques. Empas is placed on color theory and effects. Subject matter includes still life, landscape, figure and abstraction. Prerequisite: AR 141.

AR 260 Ceramics I (3)
Introduction to ceramics as creative media for utilitarian and expressive purposes. Course content includes forming techniques, the nature of clay and glazes, firing principles and ceramic history. Creative Thinking will be practiced and assessed as part of the ceramic process. Prerequisite: None.

AR 262 Sculpture I (3)
Introduction to modeling, casting, carving, and construction as basic methods of executing 3-dimensional form. Prerequisite: AR 121.

AR 265 Kiln-formed Glass & Mosaics (3)
Applied design work utilizing glass techniques of cutting, grinding, fusing, and slumping.

AR 291 Art Therapy (3)
Practice of Art Therapy as a treatment and diagnostic tool in the psychiatric setting. Visiting lecturers and field experience will be included. Prerequisite: AR 121.

AR 299 Special Topics in Art (1-3)
Special media or content offerings not covered in other art courses. May be repeated with different topics. Prerequisites as specified for each offering.

AR 300 Art Theory Past and Present (3)
This class will examine approaches to art and art history from mimetic to the competing theoretical approaches used today. Methods employed by critics, historians, sociologists, and others will be studied as constructions that reflect the sociopolitical circumstances of their authors and audience. Prerequisite: AR 101 and AR 102.

AR 301 Ancient Art (3)
The arts of the Ancient Near East, Egypt, Aegean, Greece, and Rome. (General Ed Creative Performing, General Ed Humanities. Critical and Creative Thinking.)

AR 303 Medieval/Renaissance Art History (3)
Study of the diverse cultural expressions found in art and architecture from the early Medieval to the Renaissance period. Although Western in focus, non-Western influences and exchange will be considered throughout. Prerequisite: AR 101, AR 102, AR 103 or junior standing (General Ed Creative Performing, General Ed Humanities. Global Citizenship Ethics Div.)

AR 306 Development of Modern Art (3)
Survey of the broad trends in art and architecture from 17th - 20th century. Course material will be examined through visual and historical analysis, emphasizing the sociopolitical, religious, and cultural shifts for each period. Prerequisite: AR 101, AR 102 or AR 103; or junior standing (General Ed Creative Performing, General Ed Humanities. Critical and Creative Thinking.)

AR 307 Twentieth Century Art (3)
Examination of the response of the visual art world to historical, cultural and political changes of the twentieth century. Modernist movements, performance, installation, and the effects of globalization will be considered through visual and historical analysis. Prerequisite: AR 101 or AR 102 or AR 103; or junior standing. (General Ed Creative Performing, General Ed Humanities. Critical and Creative Thinking.)

AR 309 Art of Africa (3)
A historical survey of the major arts produced by African cultures. (General Ed Creative Performing, General Ed Humanities. Global Citizenship Ethics Div.)

AR 310 Art of Asia (3)
A survey of the major traditions of art in Asia from Neolithic times through the 19th century. (General Ed Creative Performing, General Ed Humanities. Global Citizenship Ethics Div.)

AR 311 Art of the Americas (3)
An overview of the visual arts traditions of the ancient and contemporary cultures of the indigenous peoples of North, Central and South America.

AR 312 Research in Art History (3)
Library and Archival research and writing on specific research topics in the History of Art. Prerequisite: Major/minor in Art History or consent.

AR 313 Museum Studies (3)
Study of the history, organization and practice of museums as well as art materials, conservation and archival methods. Prerequisite AR 101 or AR 102.

AR 315 History Of Photography (3)
History of photography as related to the visual arts, including technical innovations, major photographers and aesthetic philosophies. Prerequisites: AR 101 or AR 102 or AR 103 or consent.

AR 318 Typography I (3)
Introduction to the basics of typography and design, and to the use of type to solve visual problems. Topics include anatomy, legibility, hierarchy, and verbal/visual relationships. Prerequisite: AR 120

AR 319 Etching (3)
An exploratory course in etching. Emphasis will be placed on black and white techniques, including intaglio, drypoint, and aquatint. Prerequisite: AR 219.
AR 320 Photography II (3)
Course focuses on developing technical proficiency in photography. Students will work primarily with fiber-based paper. Emphasis is placed upon exploration and expansion of traditional photographic values. Prerequisite: AR 220 or consent.

AR 321 Photoshop Imaging (3)
An intermediate course in creative Photoshop software techniques. Students execute assignments such as photo coloring, restoration and retouching, print design, and collage. Prerequisites: AR 120 and AR 131.

AR 322 Graphic Design II (3)
Advanced graphic design course building on concepts learned in Graphic Design I. Emphasis is on systems of design with a focus on branding, packaging, and information design. Prerequisites: AR 120 and AR 131.

AR 323 Silkscreen (3)
An introductory course in silkscreen printing. Sequential thinking for the production of prints plus application of color theories is investigated. Emphasis will be placed on traditional photographic and inventive applicators of silkscreen techniques for the production of personal images. Prerequisite: AR 219.

AR 324 Lithography (3)
An introductory course for lithography. The printing process of stone and plate lithography is explored with emphasis on imagery and the aesthetics of the fine print. Prerequisites: AR 140, AR 141, AR 219.

AR 325 Photoshop Imaging II (3)
An advanced course in photoshop software techniques focusing on aesthetics and critical issues. Students produce assignments with an emphasis on photo composites for illustration, printing, and fine art. Prerequisite: AR 321.

AR 326 2 & 3-D Digital Animation (3)
Through the use of 3-D animation software and Adobe Premier, students will create computer graphics and animations. Also includes digital video and sound. Software: Lightwave 3D, Final-Cut Pro. Prerequisite: AR 223.

AR 332 Advanced Photo Techniques I (3)
Course focuses on developing technical proficiency in use of different format cameras and large size printing. Students explore aspects of photography such as cibachrome, Polaroid transfer and emulsion lifts, or mural printing. Prerequisite: AR 220.

AR 333 Digital Painting and Drawing (3)
This course is designed to provide the student with knowledge and skills necessary to create digital paintings and drawings using a range of visual art media related to digital processes, including AR/VR and 3D virtual painting. Emphasis of the course is focused on the student. Prerequisites: AR 120 or AR 140.

AR 336 Video Editing and FX (3)
This course covers video editing techniques using Final Cut Pro, Motion, Soundtrac Pro and Live Type software. The course introduces various aspects of digital editing related to special effect, motion graphics, visual and special effects using text. The course covers the basics of sound, camera and editing for special effects in film, the use of green screen, composite effects and integration of computer graphics to digital film. Prerequisite: AR 131 or MM 210.

AR 340 Advanced Oil Painting (Topic) (3)
Advanced study of specific oil or acrylic painting techniques, subjects and styles. Includes class paintings, outside work, and research documentation. May be repeated with different content to 6 hours total credit. Prerequisite AR 240.

AR 341 Art of Landscape (3)
Creative activity in the outdoor environment. Students consult with instructor regarding media choice and expressive intent. Prerequisite: AR 140 for students engaged in Painting or Drawing; AR 140 and AR 220 for students emphasizing photography.

AR 342 Watercolor (3)
Exploration of watercolor techniques. Subject matter includes still life, landscape, figure and abstraction. Prerequisite: AR 240.

AR 343 Figure Drawing (3)
Drawing from the nude and draped human figure. Prerequisite: AR 141.

AR 345 Chinese Painting (3)
Introduction to Chinese Painting techniques, including handling ink and color on raw and sized rice paper. Subject matter includes landscapes, plants, animals and figures. Prerequisite: AR 120 and AR 140.

AR 352 Professional Photographic Lighting (3)
Study of studio lighting using 35 mm digital cameras. Students will study the principles of lighting and their practical use in areas such as portraiture, products, food and fashion. Field trips will expose students to professional studios and practices. Prerequisite: AR 220.

AR 353 Alternative Photo Processes (3)
Study of historical non-silver photographic processes used in the early stages of photographic development and currently used by contemporary artists as a creative element. Processes include: cyanotype, Van Dyke, platinum/palladium, salted paper, gum bichromate. Prerequisite: AR 220.

AR 354 Documentary Photography (3)
Course focuses on basic principles and techniques of documentary photography. Topics will vary by semester and will be announced in advance. Prerequisite: AR 220 or consent.

AR 355 Experimental Photography (3)
Experimental and creative methods using digital and historic photographic techniques. Students will experiment and combine new techniques with old, and use the results in mixed-media art. Techniques include: bromoil, pronto plates, albumen on paper, anthotypes, tintypes, mixed-media. Prerequisite: AR 220.

AR 360 Ceramics II (3)
Continued exploration of ceramics with emphasis on wheel-throwing techniques, glaze formulation, and various firing methods. Prerequisite: AR 260.

AR 361 Ceramic Glaze/Surface Exploration (3)
Study of fired ceramic surfaces through experiments with raw materials. Theoretical, historical, and empirical methods are applied to research. Prerequisite: AR 260.

AR 364 Advanced Sculpture (3)
Study of advanced sculptural techniques to achieve artistic expression. May involve environmental or multimedia emphasis. Prerequisite: AR 262. May be repeated with different content. Limit of 9 hours.

AR 365 Kiln-formed Glass & Mosaics (3)
Applied design work utilizing glass techniques of cutting, grinding, fusing, and slumping. 365-level students are expected to complete more advanced projects and class presentations. Prerequisite: AR 121 or AR 265.

AR 380 Elementary Art Education (3)
Study of the artistic development of children, practice with art materials, techniques, and concepts appropriate to the elementary grades including planning and presentation of art lessons. Production, aesthetics, criticism, and history of artworks are emphasized as the basis for children's growth in art learning.
AR 381 Experimental Media (3)
Exploration of papermaking, batik, weaving, and metal working processes. Health and safety, traditions and current trends in crafts are studied. Education majors write unit/lesson plans. Non-ED majors do extra projects. Prerequisites: AR 120, AR 121.

AR 382 Methods and Philosophy in Art Education (3)
Examination of historical and current theories of art education, the development of personal philosophy of art education, and the examination of curriculum goals and objectives. Effective teaching methods for lesson planning, presentation, and evaluation are studied.

AR 390 Independent Study in Art (1-3)
Students work with faculty member to complete independent art projects. Does not involve formal group faculty critiques. Primarily intended for advanced nonmajors. Prerequisites: Advanced course work in discipline, mentor approval, chair approval.

AR 391 Art Therapy (3)
Practice of Art Therapy as a treatment and diagnostic tool in the psychiatric setting. Visiting lecturers and field experience will be included. Prerequisite: PY 100.

AR 398 Art and Culture Abroad (0-3)
Teaches students how to respectfully engage with people and places outside of Kansas, with most trips focused on international experiences. The course may be counted as either studio or art history credit. Students are expected to research the destination's culture in order to communicate their knowledge through art and/or written projects. Prerequisites: None.

AR 399 Special Topics (0-3)
Special media or content offerings not covered in other art courses. May be repeated with different topics. Prerequisites as specified for each offering.

AR 400 Senior Exhibition (1)
Preparation and presentation of an exhibit of student's artwork. Prerequisite: BFA-senior status, BA with Department approval.

AR 401 Internship (1-3)
Work experience in art-related businesses, institutions, or non-profits. 3 hrs required for all BFA majors. Licensure students meet requirement through student teaching. Prerequisite: Junior/Senior Art major and instructor permission.

AR 402 Art Forum (1)
Professional preparation for art majors. Topics include portfolio preparation, marketing, gallery representation, graduate schools, grant writing, and other concerns of art professionals. Required for BA art majors. Prerequisite: Junior/Senior art major.

AR 403 Workshop in Art Media (3)
Independent work under faculty mentor in studio area of choice. Must include written plan, research, and report. Students must present work for mid-term and final critiques by all studio faculty. May be repeated for limit of 6 hours. Prerequisite: Jr or Sr BFA Major.

AR 404 Professional Practices (3)
Professional preparation for all art majors, taken the semester prior to AR 400 Senior Exhibition. Includes exhibition preparation, portfolio, careers, and other professional concerns of fine artists. Prerequisite: Senior Art major.

AR 407 Themes-Contemporary Art Practice (3)
This course is equal parts art history, theory and studio. Includes exploration of contemporary artists, practices, new audiences and markets with an emphasis on studio experimentation and production. Prerequisite: AR 102.

AR 418 Advanced Typography (3)
Advanced course building on concepts learned in AR 318. Emphasis on multi-page layouts through typographic theory and application. Prerequisites: AR 223 and AR 318.

AR 419 Advanced Relief Printing (3)
In-depth study and experimentation with various relief processes including large scale printing. Prereq: AR 219.

AR 421 Advanced Digital Painting/Drawing (3)
The course is designed to provide the students with advanced knowledge and skills in digital paintings and drawing. Students will explore a variety of visual art media related to the drawing and painting process, which will be created digitally via computer and software. Emphasis of this course is focused on the wide format artwork and advanced creative expression. The students will demonstrate artistic design, creativity, and concepts in the language of paintings and drawings. Prerequisite: AR 327.

AR 426 Interactive Art: Digital (3)
Students will learn to make their artwork interactive digitally and also make it compatible for web interactivity. The process will include using various types of digital software and the web. Prerequisite: AR 223.

AR 429 Web Design (3)
An introduction to web design through front end web development. Focus on interactivity and Information Architecture to support usability and web standards. Students will apply design principles and explore visual organization of digital space. Prerequisites: AR 223 or AR 318.

AR 432 Advanced Photo Techniques II (3)
See course description under AR 332. Students enrolled at the 432 level must complete additional research in a photo technique and document their research through creative work. Prerequisite: AR 332.

AR 441 Art of Landscape II (3)
Creative activity in the outdoor environment. Students consult with instructor regarding media choice and expressive intent. Advanced students are expected to bring a more experienced and personal creative approach to the course, and are evaluated accordingly. Prerequisite: AR 341.

AR 442 Advanced Watercolor Painting (3)
In-depth study of personal expression through the watercolor medium. Prerequisite: AR 342.

AR 443 Figure Drawing II (3)
Advanced course in drawing the nude and draped human figure. Prerequisite AR 343.

AR 445 Advanced Chinese Painting (3)
Continuation of Chinese Painting with emphasis on experimentation in techniques and pursuit of personal artistic language. Prerequisite: AR 345.

AR 453 Alternative Photo Processes II (3)
See course description for AR 353. AR 453 will study one process of choice in-depth. Prerequisite: AR 353.

AR 454 Documentary Photography (3)
Course focuses on basic principles and techniques of documentary photography. Topics will vary by semester and will be announced in advance. Prerequisite: AR 220 or consent.
AR 455 Experimental Photography II (3)
Experimental and creative methods using digital and historic photographic techniques. Students will experiment and combine new techniques with old, and use the results in mixed-media art. Techniques include: bromoil, pronto plates, albumen on paper, anthotypes, tintypes, mixed-media. Advanced students are expected to complete in-depth research and professional level work in chosen techniques. Prerequisite: AR 355.

AR 460 Advanced Ceramics (Topic) (3)
Study of specialized ceramic techniques of firing, surface and forming to achieve differing purposes. May involve multimedia applications. May be repeated with different topic. Limit of 9 hours. Prerequisite AR 360.

AR 600 Directed Grad Study Art Studio (1-3)
Graduate students work with appropriate faculty to study in art studio. Written documentation of research is required. Repeatable to 6 hours credit with different subject matter. Prerequisites: Chair permission, undergraduate experience in the discipline.

AR 601 Dir. Grad. Study-Art History (1-3)
Graduate students work with Art History faculty to research and document study in art history. May be coordinated with upper division Art History course, but must include in-depth study and writing appropriate for graduate level. Prerequisites: Chair permission, undergraduate experience in the discipline.

AR 680 Grad Field Exper Art Educ (1-3)
Fieldwork in educational setting, such as public school, museum, community center, summer, or after school programs. Application of personal research in studio and/or art history to educational settings. Prerequisites: Chair permission, Admission to M. Ed. Program in Curriculum and Instruction with concentration in Art.

AR 690 Graduate Thesis Art (3)
Culmination of artistic research in Art Studio and Art history as part of Master of Education degree in Curriculum and Instruction with Concentration in Art. Must include written thesis relating art production/research to education. Must also include exhibition or project documentation. Prerequisites: Chair permission, Completion of 30 hours in M. Ed. in Curriculum and Instruction with concentration in Art Degree Program.

Astronomy (AS)

AS 101 Introduction to Astronomy/Cosmology (3)
A qualitative study of stellar, galactic, and extragalactic astronomy and cosmology surveying what is known and how it is known. (General Ed Natural Science. Quan and Sci Reason Lit.)

AS 102 Introduction to Astronomy - Solar System (3)
A qualitative study of the history of astronomy, the origin, evolution, and functioning of the solar system surveying what is known and how it is known. (General Ed Natural Science. Quan and Sci Reason Lit.)

AS 103 Observational Astronomy (1)
Use of telescope, planetarium, and other laboratory equipment commonly used in astronomy together with selected descriptive experiments in astronomy. Prerequisite: AS 101 or AS 102 or consent of instructor.

AS 104 Life in the Universe (3)
A scientific investigation of the question "Are we alone in the universe?" Course content includes the origin and properties of stars and planets, the requirements for life, and the emergence and sustainability of civilizations. Students will complete a variety of interactive assignments and a term project. Prerequisite: None. (General Ed Natural Science. Quan and Sci Reason Lit.)

AS 201 Introduction to Astro Photography (1)
Photographic procedures and techniques peculiar to astronomical photography. Prerequisite: Consent of instructor.

AS 251 General Astronomy (3)
A review of the key ideas and discoveries in astronomy at the intermediate level. Prerequisite: AS 101 or AS 102, and MA 116 with a grade of C or better, or consent of instructor.

AS 360 Research in Astronomy (1-2)
Research in any of the fields of astronomy/astrophysics. Prerequisite: Consent of instructor.

AS 370 Special Subjects/Astronomy (1-5)
Material to be chosen according to student interest from any one of a number of astronomical subjects. Offered on demand as teaching schedules permit. Prerequisite: Consent of instructor.

Auto Technology (AUT)

AUT 111 Engine Overhaul (3)
Engine overhaul introduces the student to the concepts and skills necessary to diagnose and overhaul automotive engines. Areas covered in this class include introduction to specialty tools and their correct use, complete engine disassembly, inspection and measurement of internal components including heads, valve resurfacing, and proper fitting and reassembly of entire "long block". Class time is divided between classroom and lab.

AUT 130 Manual Transmission I (2)
Manual Drive Train & Axles I is a basic introduction to the manual transmission found in the automotive industry. The course includes an introduction to the theory behind manual transmissions, identification of the different types of transmission and their components, and an introduction to the specialized tools used in servicing transmissions, synchromesh transmissions, gear ratios found in different transmissions, an introduction to manual clutches and transfer cases, and drive shaft technology including CV joint and bearing replacement. Students will receive instruction that will assist them in taking the Automotive Service Excellence (ASE) exams after successfully completing the 1st and 2nd levels of the automotive technology program.

AUT 140 Suspension and Steering I (3)
Suspension & Steering I introduces automotive steering and suspension systems. The course includes hydraulic principles, bushing replacement, long and short arm diagnosis and replacement, parallelogram steering geometry diagnosis and repair, McPherson strut strip down and refit, and the effect of damping and rebound on the vehicle handling, spring design measuring, and replacement. Classroom time is divided between lecture, discussion, and individual learning activities.
AUT 145 Suspension and Steering II (3)
Steering & Suspension II is the advanced application of knowledge and hands-on skills learned in AUT140 (Steering & Suspension I). The course includes the use of alignment geometry and computerized alignment equipment to diagnose and repair steering suspension problems and to verify that a vehicle’s suspension and steering components are within manufacturer’s specifications. It also includes removing and replacing steering and suspension components according to manufacturer’s specifications, inspecting, servicing, and repairing wheel and tire assemblies for optimum performance. Prerequisite: AUT140

AUT 150 Brakes I (3)
Brakes I is a basic introduction to automotive brake technology. The emphasis in this course is on diagnosing and maintaining brake systems. It covers identification of brake parts and how they function, the use and types of friction materials and heat dissipation, stripping and refitting disc and drum brakes, rotor diagnosing including measurement and cutting, identification of pad types, hydraulic principles and brake bleeding. The course is closely aligned with NATEF/ASE task list for A5 and will prepare the student to take the Automotive Service Excellence (ASE) exams. Classroom time is divided between lecture, discussion, and individual learning activities.

AUT 155 Brakes II (4)
Brakes II apply the knowledge and hands-on skills acquired in AUT150 (Brakes I). It includes testing troubleshooting, diagnosing, disassembling, and replacing both automotive drum and disc brake systems using manufacturer’s specifications, four-wheel and rear wheel anti-lock braking system components, operations, and repairs will also be covered. Prerequisite: AUT150

AUT 161 Electrical I (3)
In this course students will complete service work orders; describe the relationship between voltage, ohms and amperage; perform basic electrical circuit repairs; identify electrical system faults; identify basic wiring diagram symbols, components, and legend information; perform basic electrical circuit measurements using a DVOM; describe basic circuit characteristics of series, parallel and series parallel circuits through a variety of classroom and shop learning assessment activities.

AUT 162 Electricity/Electronics I (2)
Electrical & Electronic Systems I builds on the skills developed in Electrical I. This course emphasizes battery design, starter systems, and the charging system and its components. In addition to these systems, hybrid technology will be explored. Class time is divided between the classroom and lab experiences. Classroom is primarily lecture, discussion, and group or individual learning activities that emphasize troubleshooting and problem-solving skill development.

AUT 165 Engine Mechanical Diagnosis (2)
Engine Mechanical Diagnosis involves diagnostic theory, process, and testing as well as practicing major component replacement. Students will split their time between the classroom and lab.

AUT 170 Heating - Air Conditioning I (2)
Heating & Air Conditioning I is an introductory course that is designed to provide the student with a solid foundation in automotive heating and air conditioning. Class time is divided between the classroom and lab experiences. Classroom time is spent primarily on lecture, discussion, and group or individual learning activities that provide a foundation to encourage troubleshooting skill development.

AUT 181 Engine Performance I (3)
In this learning plan students will complete work order and check history; identify engine mechanical integrity; explore the fundamentals of fuel system theory; identify fuel system concerns; explore the fundamentals of ignition theory; identify ignition system concerns; identify induction system concerns; identify exhaust system concerns; identify engine mechanical integrity through a variety of learning and assessment activities.

AUT 182 Engine Performance II (3)
Engine Performance II builds on the knowledge and skills developed in Engine Performance I. The course continues the study of theory and of power train diagnostics. Students will learn the rudiments of computerized engine controls, ignition systems, fuel, air induction, and exhaust and emission control systems. The course provides extensive hands-on training on the use of the latest diagnostic equipment and tools.

AUT 205 Auto Transmission/Transaxle I (2)
Automatic Transmission/Transaxle I is a basic introduction to automatic transmissions/transaxle systems. The course includes an introduction to hydraulic principles, an introduction to the different types of automatic transmission fluids, automotive measurement, and the identification to the parts of the automatic transmission including planetary gear sets, brake bands, bearings, pumps, boost systems, and valve bodies. It also contains some basic services performed on an automatic transmission including oil filter replacement, air testing of clutch packs, removing and refitting a transaxle and/or transmission. Students will receive instruction that will assist them in taking the Automotive Service Excellence (ASE) Exams after successfully completing the requirements of the 1st and 2nd levels of the automotive technology program.

AUT 215 Auto Transmission/Transaxle II (2)
Automatic Transmission & Transaxles II is the advanced application of knowledge and hands-on skills acquired in Automatic Trans & Transaxles I. The course includes testing, troubleshooting and diagnosing, disassembly, inspection, and assembly of automatic transmissions and transaxles according to manufacturer’s specifications. Electronically controlled automatic transmission components and operation are covered along with diagnosing and repair. Students will receive instruction that will assist them in taking the Automotive Service Excellence (ASE) exams after successfully completing the requirements of the 1st and 2nd levels of the automotive technology program.

AUT 230 Manual Transmission II (2)
Manual Drive Train and Axles II contains the advanced application of knowledge and hands on skills acquired in Manual Drive Train & Axles I. Emphasis will be on testing, troubleshooting and diagnosing, disassembling, inspecting and assembling transmissions and trans axles according to manufacturer’s specifications. Students will receive instruction that will assist them in taking the automotive excellence (ASE) exams after successfully completing the requirements of the 1st and 2nd levels of the automotive technology program.

AUT 240 Steering and Suspension II (2)
Steering & Suspension II is the advanced application of knowledge and hands-on skills learned in Steering & Suspension I. The course includes the use of alignment geometry and computerized alignment equipment to diagnose and repair steering suspension problems and to verify that a vehicle’s suspension and steering components are within manufacturer’s specifications. It also includes removing and replacing steering and suspension components according to manufacturer’s specifications, inspecting, servicing, and repairing wheel and tire assemblies for optimum performance.
AUT 251 Brakes II (2)  
Brakes II apply the knowledge and hands-on skills acquired in Brakes I. It includes testing troubleshooting, diagnosing, disassembling, and replacing both automotive drum and disc brake systems using manufacturer's specifications, four-wheel and rear wheel anti-lock braking system components, operations, and repairs will also be covered.

AUT 260 Electricity/Electronics II (6)  
Electricity/Electronic Systems II is an advanced level course and builds on the knowledge, skills and abilities mastered in Electricity/Electronic Systems I. This class involves the theory and application of automotive electronic circuits and accessories. It includes the construction and servicing of lighting systems, gauges, warning devices, windshield wipers, and solid state devices. The course provides the knowledge to prepare for the Automotive Service Excellence (ASE) Exams. The course is aligned closely with the NATEF/ASE task list for A6 Electrical/Electronic Systems.

AUT 270 Heating - Air Conditioning II (2)  
Heating and Air Conditioning II is an advanced level course and builds on the knowledge, skills and abilities mastered in AUT 170 Heating & Air Conditioning I. Climate control systems are explained in-depth including theory of refrigeration, servicing procedures, and diagnosis techniques. Compressor service and distribution systems are studied. Laboratory experience is given in testing and servicing a variety of systems and problems. The course provides the knowledge to prepare for the Automotive Service Excellence (ASE) exams. The course is aligned closely with the NATEF/ASE task list for A7 Heating & Air Conditioning.

AUT 281 Engine Performance III (5)  
Engine Performance III is an advanced level course and builds on the knowledge, skills, and abilities mastered in Engine Performance I (AUT 181) and Engine Performance II (AUT 182). This class involves theory and application of automotive engine diagnostics including computerized engine controls, ignition systems, fuel, air induction and exhaust systems, emission control systems, and exhaust gas treatments. The course provides extensive hands-on training on the use of the latest diagnostic equipment and tools. The class provides the knowledge to prepare for the Automotive Service Excellence (ASE) exams. The course is closely aligned with the NATEF/ASE task list for A8 Engine Performance.

Biology (BI)

BI 100 Introduction to Biology (3)  
An introduction to the major principles and theories of Biology: genes, evolution, cell biology, and the structure and function of the major kingdoms of life. Two sections of special academic interest include Health Emphasis and General Education Emphasis both of which qualify as General Education Courses. Not applicable toward credit for biology major requirements. Two or three lectures a week. Prerequisite: None.  
(General Ed Natural Science. Critical and Creative Thinking.)

BI 101 Introductory Biology Laboratory (2)  
Introductory laboratory with activities that examine the structure and function of organisms. Supplementary to BI 100. Not applicable toward credit for biology major requirements. One three-hour laboratory period per week. Prerequisite: BI 100 with a grade of C or better, or concurrent enrollment. Concurrently enrolled students may not drop BI 100 and remain enrolled in BI 101.  
(General Ed Natural Science. Quan and Sci Reason Lit.)

BI 102 General Cellular Biology (5)  
The organization and activities of organisms at the cellular level. Analysis of the chemical, genetic, and microscopic properties shared by all cells. This is the beginning biology course for the student who wishes to major in biology. Four lectures and one three-hour laboratory period a week. Prerequisite: None.  
(General Ed Natural Science. Critical and Creative Thinking.)

BI 103 General Organismal Biology (5)  
An introduction to the basic principles of organismal biology with an emphasis on plants and animals. Topics covered will include general ecology and evolution, anatomy and physiology, and organismal diversity. Four lectures and one three-hour laboratory period a week. Prerequisite: BI 102 with a grade of C or better.

BI 110 General Zoology (4)  
The organ systems, taxonomy, and evolution of animals. Biological principles as found in the animal kingdom. Three lectures and one three-hour laboratory period a week. Prerequisite: BI 102.

BI 140 Introduction to Forensic Biology (3)  
An introduction to the collection, processing and testing of biological evidence during forensic investigations. Topics include: the use of biological samples in crime scene investigation, molecular biology techniques used to detect biological samples and evaluating the strength of DNA profiling. Prerequisites: None.  
(General Ed Natural Science. Critical and Creative Thinking.)

BI 150 Evolution (3)  
Designed for non-science majors who want a basic explanation of evolution, how it works and its impact on scientific thinking and society. The course will include discussion of simple genetics, origins of life, geologic eras and scientific creationism. Prerequisite: None.  
(General Ed Natural Science. Quan and Sci Reason Lit.)

BI 155 Sexually Transmitted Disease (1)  
An overview of diseases, which rely on sexual interactions for transmission, e.g., AIDS, syphilis, herpes, and others. The history, epidemiology, clinical nature, treatment and prevention of these diseases are discussed. Prerequisite: None.

BI 180 Special Topics/Biology (1-3)  
Selected topics of general interest. Not applicable toward credit for biology major requirements. Prerequisite: None.

BI 201 Biology of Behavior (3)  
Biological aspects of human & animal behavior, including sociobiology, ethology, behavioral genetics & evolution, heredity vs. environment, male-female differences, & the neurological & hormonal basis of behavior. Prerequisites: None.  
(General Ed Natural Science. Quan and Sci Reason Lit.)

BI 203 Human Impact on the Environment (3)  
The structure and function of a natural environment and the impact of humans on that environment. Topics include population and food, various pollution problems, energy problems, and possible solutions. Not applicable toward credit for biology major requirements. Prerequisite: None.  
(General Ed Natural Science. Global Citizenship Ethics Div.)
**BI 206 Introductory Microbiology** (4)
The basic characteristics of microbes and an analysis of their effects on humans. Emphasis on human medical microbiology. Basic microbiological techniques, with an emphasis on those used in medicine. Developed primarily for students majoring in nursing. Not applicable toward credit for biology major requirements. Three lectures and one three-hour laboratory period a week. Prerequisites: A grade of "C" or better in BI 100 (Health Emphasis preferred) and BI 101 or BI 102.

**BI 230 Introduction to Human Physiology** (3)
This human physiology course is designed for those needing a basic background in physiology principles without the additional functional knowledge that is obtained in the laboratory setting. The emphasis of this course will include learning basic relationships and necessary language to be able to understand the terminology that may be used in fields that are in the periphery of physiology. Prerequisite: A grade of "C" or better in BI 100 (Health Emphasis preferred).

**BI 234 Introduction to Biotechnology** (3)
The purpose of this course is to introduce and explore the scientific basis of a broad range of topics in the emerging areas of biotechnology involving microbes, plants, and animals, and to understand the impact of biotechnology on society. Additional topics include: history, development, current operations, future advances, industry structure, and career opportunities within the biotechnology industry. Pre-requisite: BI 102 with a grade of C or better.

**BI 250 Introduction to Human Anatomy** (3)
The structure of the human body, with emphasis on skeletal and muscular systems. Three lectures a week. Prerequisite: A grade of "C" or better in BI 100 or BI 102.

**BI 255 Human Physiology** (4)
The basic functions of human organ systems. Three lectures and one three-hour laboratory period a week. Prerequisites: A grade of "C" or better in BI 100 (Health Emphasis preferred) and BI 101 or BI 102.

**BI 260 Biology of Aging** (3)
Mechanisms of aging processes with special reference to human gerontology. Unfavorable progressive changes in molecules, cells, systems, and organisms will be examined. Prerequisite: A grade of "C" or better in BI 100 (Health Emphasis preferred).

**BI 275 Human Anatomy** (4)
Designed primarily for students majoring in biology, nursing or physical therapy. Lectures survey the organ systems with emphasis on skeletal, muscular, nervous, circulatory and reproductive systems. Laboratory exercises include both animal and human cadaver dissection. Two lectures and two two-hour laboratory periods per week. Prerequisites: A grade of "C" or better in BI 100 (Health Emphasis preferred) and BI 101 or BI 102. NOTE: Pregnant women should consult with physician and instructor prior to enrollment due to specimen preservatives used in this course.

**BI 280 Special Topics/Biology** (1-3)
Selected topics of general interest. Prerequisite: One or more general biology course(s).

**BI 300 Field Biology** (3)
Identification and study of plants and animals in the field, including their ecology. Prerequisite: BI 103 with a grade of C or better.

**BI 301 General Microbiology** (4)
Characteristics of microorganisms with major emphasis on bacteria and viruses. Principle roles of microorganisms in our environment. Laboratory introduces basic techniques used in microbiological studies. Three lectures and one three-hour laboratory period a week. Prerequisites: BI 103 with a grade of C or better, and CH 151.

**BI 302 Entomology** (4)
Designed to cover the general aspects of the anatomy, physiology, taxonomy, and behavior of insects. Field trips will be an integral part of this course. Three lectures and one three-hour laboratory period a week. Prerequisite: BI 103 with a grade of C or better.

**BI 303 Invertebrate Zoology** (4)
The invertebrate groups with emphasis on basic zoological principles. Field trips are an integral part of this course. Three lectures and one three-hour laboratory period a week. Prerequisite: BI 103 with a grade of C or better.

**BI 305 Parasitology** (4)
Protozoan, helminth, and arthropod parasites of humans. Three lectures and one three-hour laboratory period a week. Prerequisite: BI 103 with a grade of C or better.

**BI 310 Ecology** (4)
Examines the interactions between organisms, their environment, and their evolution; major topics include global ecology, physical ecology, community ecology, species interactions, and biodiversity. Three lectures and one three-hour laboratory period a week. Prerequisite: BI 103 with a grade of C or better.

**BI 314 Statistics for Biologists** (3)
A course designed as an overview of statistical procedures common in biological research emphasizing their biological relevance and interpretation. Lectures will cover data presentation, parameter estimation, hypothesis testing, goodness of fit, analysis of variance, regression, and a brief introduction to modern methods of analysis. Labs will cover the practical implementation of statistical analyses using the statistical package R. Prerequisite: BI 102 and MA 116 with grades of C or better. Recommended: MA 140 with a grade of C or better.

**BI 315 Vertebrate Zoology** (4)
A taxonomic approach to the study of vertebrate animals. Phylogeny, ecology and behavior will be discussed, as will general structure and function relating to phylogeny. The laboratory will include several field trips. Three lectures and one three-hour laboratory period a week. Prerequisite: BI 103 with a grade of C or better.

**BI 319 Biology for STEM Educators** (3)
An exploration of the core concepts and principles that unite the major disciplines of the Biological Sciences. The impacts that each of these concepts have on society will be discussed. Special emphasis will be placed on developing lesson and models that effectively communicate complex ideas to a range of ages and audiences. Prerequisite: A grade of "C" or better in either BI 100 and BI 101 or BI 102, and Junior standing.

**BI 322 Advanced General Botany** (4)
A survey of the anatomy, physiology, and diversity of plants. Evolutionary development, ecology, and applied botany will be discussed. The laboratory will include both field-based and laboratory-based experiments. Three lectures and one three-hour laboratory period a week. Prerequisite: A grade of "C" or better in BI 103
BI 324 Systematic Botany (3)
Exploration of the flowering plants of Kansas and their habitats. Major principles of systematics are covered. Two three-hour class periods per week, and nearly all periods are devoted to field trips to local areas of interest. Prerequisite: BI 103 with a grade of C or better.

BI 325 Microbiology of Human Disease (5)
Basic principles involved in pathogenesis of human disease, host resistance, and epidemiology. Characteristics and laboratory diagnosis of major bacterial pathogens. Three lectures and two two-hour laboratory periods a week. Prerequisite: BI 301.

BI 328 Plant Anatomy and Physiology (3)
Examines the anatomy and physiology of the stems, roots, leaves and reproductive organs of plants, from the molecular to the organismal levels. Prerequisite: BI 103 with a grade of C or better.

BI 330 Animal Physiology (4)
A comparative study of the basic physiological processes occurring throughout the animal kingdom. Three lectures and one three-hour laboratory period a week. Prerequisites: BI 103 with a grade of C or better, and CH 152.

BI 333 General Genetics (4)
A course designed to cover basic genetic principles, including Mendelian Genetics, cytogenetics, population genetics and an introduction to molecular genetics. Laboratory experiments will be used to illustrate the genetic principles covered in lecture. Three lectures and one three-hour laboratory period per week. Prerequisites: BI 103 with a grade of C or better, and CH 151.

BI 340 Evolutionary Biology (3)
The basic ideas of evolutionary biology will include classical Darwinian evolution, and modern analyses of evolutionary theory. Specific topics covered are natural selection, sources of variation, origin of life, paleobiology, speciation, sociobiology and human evolution. Course will also include the historical development of evolutionary ideas as well as a discussion of the impact of evolution on societal issues. Three lectures a week. Prerequisite: BI 103 with a grade of C or better, or consent of instructor.

BI 343 Human Genetics (3)
Classical and molecular mechanisms of inheritance in individuals, families, and populations. Topics include genetics of behavior, outcomes of gene and chromosomal mutations, cancer genetics, genetic counseling, personalized genomics, and issues and applications of current gene and reproductive technologies. Prerequisites: BI 333 with a grade of C or better, or consent of instructor.

BI 353 Molecular Genetics (3)
The molecular basis of genetic systems including chromosomal and extrachromosomal elements. Topics include manipulation of DNA, molecular techniques, cloning, methods for the study of gene expression, mutability of DNA, plasmid systems, prokaryotic and eukaryotic genomes, and practical aspects of biotechnology. Three lectures a week. Prerequisite: BI 301 or BI 333.

BI 354 Molecular Biology Laboratory (3)
A laboratory course designed to introduce the student to modern molecular biology techniques, including recombinant DNA technology (gene cloning), DNA sequence analysis, PCR, Southern hybridization, bioinformatics, and more. This course is designed to mimic a real-world research experience. Two periods totaling 5 hours per week to include one hour for lecture/discussion. Prerequisite: BI 301 or BI 333 or BI 353 or consent of instructor.

BI 355 Developmental Biology (5)
Topics in modern developmental biology will be covered in lecture and through readings so as to gain a working knowledge of the analyses of developmental processes such as fertilization, embryonic cleavage, cell determination and cell differentiation in selected species. Emphasis will be on experiments that reveal how these processes are controlled at the molecular and cellular levels. Three lectures and two two-hour laboratory periods a week. Prerequisite: BI 333 with a grade of C or better.

BI 357 Histology (4)
Fundamental tissues and microscopic examination of vertebrate organs. Two lectures and two two-hour laboratory periods a week. Prerequisite: BI 103 with a grade of C or better.

BI 360 Human Cadaver Dissection (3)
This course is intended to give students who aspire to go to medical school, dental school or post graduate human anatomy programs a chance to gain experience dissecting and learning human cadaveric anatomy. This is a five week summer course that covers the dissection of the entire human cadaver. Focus of dissection is primarily on muscle and joint anatomy, but includes thoracic and abdominopelvic organs along with vascular dissection and identification. Student evaluation is based on participation and dissection skills. Prerequisites: BI 103 with a grade of C or better, or BI 275, and instructor consent.

BI 362 Immunology (3)
Molecular and cell biology of specific and nonspecific immune responses in mammals, with special emphasis on human immune systems. Reviews experimental support for current immunological theories. Roles of immunology in human health and disease. Three lectures a week. Prerequisite: BI 301 and BI 333 or BI 353 or CH 350.

BI 363 Immunology Laboratory (2)
Laboratory course designed to introduce students to current clinical & research procedures in immunology. Includes techniques utilized in biological & biochemical research as well as medical applications. Prerequisite: BI 362 with a grade of C or better, or concurrent enrollment.

BI 370 Virology (3)
The structure and properties of animal viruses. Molecular aspects of virus replication and the role of viruses in disease states. Three lectures a week. Prerequisite: BI 301.

BI 380 Special Topics/Biology (1-3)
A consideration of various emerging or advanced specialty areas in biology, offered according to student and staff availability. Prerequisites: BI 103 with a grade of C or better, and consent of instructor (Additional prerequisites might be needed depending upon particular topic).

BI 389 Biology Literature Review (2)
Students will learn to critically read and analyze primary biology literature in at least four of the five core biology disciplines: cell biology, botany, zoology, microbiology and genetics. It is designed for students who have not yet taken Biology Seminar (BI 390). Students will orally present the data from these papers to the class and complete a series of worksheets on the content of the literature. Students will also learn the basics of a thorough, scientific literature search online and the mechanics of writing a scientific abstract. Two lectures a week. Prerequisite: BI 103 with a grade of C or better, and one other biology core course, plus consent of instructor.
Building Technology (BDT)

**BDT 117 Carpentry Basics (4)**
The intent of this course is to teach the students the history of the construction trade, building materials, different fasteners and adhesives, hand and power tools and reading plans and elevations. It also describes the apprentice program and career opportunities. The course will follow the NCCER modules for Orientation to the Trade, Building Materials, Fasteners and Adhesives, Hand and Power Tools, and Reading Plans and Elevations.

**BDT 119 Masonry (3)**
This course introduces the student to the fundamentals of masonry work. The student will have the opportunity to gain practical knowledge of masonry as a trade, develop skills in the use of the tools, equipment, materials, and techniques used in masonry.
BDT 156 NCCER Plumbing Level 2 Part 1 (4)
This course features a highly illustrated design, technical hints and tips from industry experts, review questions and a whole lot more! Key content includes: Plumbing Math Two, Reading Commercial Drawings, Structural Penetrations, Insulation, and Fire Stopping, Installing and Testing DWV Piping.

BDT 158 NCCER Plumbing Level 2 Part 2 (4)
This course features a highly illustrated design, technical hints and tips from industry experts, review questions and a whole lot more! Key content includes: Installing Roof, Floor, and Area Drains, Installing and Testing Water Supply Piping, Types of Valves, Installing Fixtures and Valves, Installing Water Heaters, Basic Electricity, and Fuel Gas and Fuel Oil Systems.

BDT 212 Carpentry II (4)
Students will learn the techniques of framing and finishing. The students will have the opportunity to become familiar with roofing application, thermal and moisture protection, exterior finishing, commercial drawings, and cold-formed steel framing. This will follow the NCCER modules for Carpentry Level Two.

BDT 217 Construction Electricity (3)
This course introduces the students to the electrical field. It also provides the student with an opportunity to understand the connection between the two construction fields. The student will be introduced to series, parallel, series-parallel circuits, hardware and systems used by electricians. It also provides a navigational road map for use of the National Electrical Code.

BDT 222 Plumbing (4)
The course will familiarize the student with the terminology and basic plumbing principles used in the plumbing profession. A variety of topics will be present such as safety, tools, drawings, fittings, fixtures, and faucets. This course will follow the NCCER modules for Plumbing Level One.

BDT 227 HVAC (4)
The student will learn the basic functions of various Heat Pump design as well as charging and troubleshooting procedures.

BDT 232 HVAC Lab (4)
This HVAC Lab provides hands-on experience to identify major components and functions of air conditioning systems. Instruction is given on types of air conditioning systems and use of instrumentation. Lab topics include use of AC systems, heat-load calculation, properties of air, duct design, air filtration, and safety principles.

BDT 236 NCCER Plumbing Level 3 Part 1 (4)
This course features a highly illustrated design, technical hints and tips from industry experts, review questions and a whole lot more! Key content includes: Applied Math, Sizing Water Supply Piping, Potable Water Treatment, Backflow Preventers, Types of Venting.

BDT 238 NCCER Plumbing Level 3 Part 2 (4)
This course features a highly illustrated design, technical hints and tips from industry experts, review questions and a whole lot more! Key content includes: Sizing DWV and Storm Systems, Sewage Pumps and Sump Pumps, Corrosive-Resistant Waste Piping, and Compressed Air.

BDT 256 NCCER Plumbing Level 4 Part 1 (4)
This course features a highly illustrated design, technical hints and tips from industry experts, review questions and a whole lot more! Key content includes: Business Principles for Plumbers, Introductory Skills for the Crew Leader, Water Pressure Booster and Recirculation Systems, Indirect and Special Waste.

BDT 258 NCCER Plumbing Level 4 Part 2 (4)
This course features a highly illustrated design, technical hints and tips from industry experts, review questions and a whole lot more! Key content includes: Hydronic and Solar Heating Systems, Codes, Servicing Piping Systems - Fixtures and Appliances, Private Water Supply Well Systems, Private Waste Disposal Systems, Swimming Pools and Hot Tubs, and Plumbing for Mobile Homes and Travel Trailers.

BDT 270 Construction OJT (6)
This course features a is a hands-on method of teaching the skills, knowledge, and competencies needed for employees to perform in the field of construction work. Students learn in an environment where they will need to practice the knowledge and skills obtained during their training.

BDT 280 Building Tech OJT (4)
This course features a is a hands-on method of teaching the skills, knowledge, and competencies needed for employees to perform in the field of building technology work. Students learn in an environment where they will need to practice the knowledge and skills obtained during their training.

BDT 290 Carpentry OJT (6)
This course features a is a hands-on method of teaching the skills, knowledge, and competencies needed for employees to perform in the field of carpentry. Students learn in an environment where they will need to practice the knowledge and skills obtained during their training.

Business (BU)

BU 101 Introduction to Business (3)
Designed to introduce the student to the American business system and to analysis of business organization and operation.

BU 115 Entrepreneurship and Entrepreneurship Law (3)
Assists aspiring business owners and managers in recognizing issues relevant to starting-up, maintaining, and growing a company.

BU 180 Personal Finance (3)
Personal and family financial planning. Topics include: consumer legislation, consumer finance, family budgeting, estate planning, insurance, individual income tax, home buying, mortgages, retirement pensions, and investments.

BU 248 Foundations of Data Analysis (3)
Foundational knowledge and technology to perform fundamental data analysis supporting problem solving and evidence based decision making. Through hands-on experiences, students will identify, extract, prepare, and analyze data and communicate those results that inform decisions. Prerequisite: EN 101 and MA 116 (recommended) or MA 112.

BU 250 Management Information Systems (3)
Concepts of information systems; analysis, evaluation, and implementation of management information systems; data-base management; information systems and management. (Assumes intermediate knowledge of MS Office applications, including Excel spreadsheets.) Prerequisites: CM 101 or consent, EN 101, and MA 116 (recommended) or MA 112.

BU 259 The Business of Art (3)
Explores and analyzes approaches to art valuation, art appraisal, and entrepreneurship in the arts. Examines the art market, the art consumer, and the value of art. Business problems and opportunities in the world of art are identified, analyzed, and assessed. Prerequisite: MA 112.
BU 260 Business Plan Development (3)
Through application of an entrepreneurial framework, learn to evaluate opportunities and develop a business concept to determine feasibility and access funding. Gain confidence to use entrepreneurial thinking and action with future opportunities.

BU 302 Business Communications (3)
Written communications including simpler types of business messages. Emphasis is placed on positive planning for effective human relations through management messages. Prerequisites: EN 101 with grade of “C” or better, CM 101, or equivalent, CN 150 or CN 365, or equivalent.

BU 305 Contemporary Information Systems (3)

BU 309 Business Data Communication and Networking (3)
Understanding of the technical and managerial aspects of business data communications and networking to support business processes. Prerequisites: BU 250, AC 225, EC 200, and EC 201.

BU 315 Legal Environment of Business (3)
Legal process, nature, and sources of the law, government regulation and administrative law as they affect business. Prerequisites: EC 200, EC 201, and 2.0 GPA.

BU 319 Labor Law & Legislation (3)
The statutory, judicial and administrative law pertaining to labor-management relations. Prerequisites: EC 200 and EC 201.

BU 342 Organization & Management (3)
Management theory and practice, including fundamentals of management; making things happen; meeting the competition; organizing people, projects, and processes; and motivating and leading. Emphasis is given to the development of management, organizational structures, organizational dynamics, the impact of environmental forces and use of analytical tools in the performance of the management function. Prerequisites: EC 200, EC 201; two out of three of the following: AN 112, PY 100, and SO 100; and 2.0 GPA.

BU 343 Entrepreneurship, Creativity, and Innovation (3)
Provides students with an overall understanding of the entrepreneurship process. Specifically explores the dimensions of creativity and innovation, and how these can aid firm growth. Explores the scope of entrepreneurship as new venture development and examines entrepreneurship as a manageable process that can be applied in any organizational setting. Exposes students to a mix of theory and practice which is applied to real world situations. Prerequisites: BU 260, or EC 200, EC 201, and BU 342 (or concurrent).

BU 345 Human Resources Management (3)
The principles and practices of sound employee relations with emphasis upon the selection, development and morale of employees. Prerequisites: EC 200 and EC 201.

BU 346 Organizational Behavior (3)
Review of theory and research related to work behavior in organizations with focus on individual and group behavior. Prerequisites: PY 100 or SO 100.

BU 347 Production and Operations Management (3)
Operations management in both manufacturing and service organizations. Use of models to make operations management decisions in the areas of productivity, quality, customer service, and production and process strategy. Prerequisites: BU 250, BU 342, EC 211 (or MA 343), AC 225, MA 141, and 2.0 GPA.

BU 355 International Business (3)
The global economic and political environment in which international trade and investment activities as conducted by multinational and national business organizations. Examination of the international dimensions of the areas of finance, management, marketing, operations, and business strategy. Prerequisites: AC 225 or BU 101, EC 200 and EC 201.

BU 356 Cross-Cultural Management (3)
Critical assessment of practices in managing a culturally diverse workforce. Applications of culture to ethics and values across the globe, communication, motivation, dispute resolution, and human resource management. Prerequisite: BU 342 (or concurrent).

BU 360 Principles of Marketing (3)
Marketing concepts and their relevance to organizational objectives and methods of operation. Marketing environment, marketing mix, marketing planning, strategy implementation, and assessment of marketing performance. Emphasis on improving marketing performance in a socially and ethically responsible manner. Prerequisites: EC 200, EC 201, and 2.0 GPA.

BU 361 Principles of Retailing (3)
Structural organization for retailing and the functional activities involved. Principles of site selection, staffing, planning, pricing, buying merchandise, sales promotion and expense management are included. Prerequisite: BU 360.

BU 362 Marketing Research (3)
Techniques by which industries and individual firms seek to coordinate buying with consumer demand. Application of research techniques to various marketing problems. Prerequisites: BU 360 and EC 211 (or MA 343).

BU 363 Promotion (3)
Examination of the promotion function of the marketing mix. Topics include: promotion strategy; management of the promotion mix (advertising, sales promotion, public relations); media strategy; and evaluation. Prerequisite: BU 360.

BU 364 Consumer Behavior (3)
The behavior of buyers of goods and services. An examination will be made of theories, concepts, methods and research findings of other disciplines and a study of the relation of these findings to management decision making. Industrial and consumer buying behavior will be considered within the context of the course. Prerequisite: BU 360.

BU 366 Sales (3)
A detailed examination of the selling dimension of the promotion mix. Topics include: personal communication; personal selling; relationship-building; and sales strategy and management. Prerequisite: BU 360.

BU 368 International Marketing (3)
Analysis of marketing management problems, techniques and strategies in international marketing, emphasizing changes in competition and market structure abroad.

BU 369 Entrepreneurial Marketing (3)
Framework to identify, create, and implement innovative marketing techniques for new ventures and small businesses in a resource-constrained environment. Creative strategies for the start-up phase for new products and services or in new markets and also applicable in large organizations. Prerequisite: BU 360.
BU 370 Entrepreneurship Clinic (3)
The capstone of the entrepreneurship program. Key building blocks: in class debate, field cases, redefinition and development of business ideas moderated by instructors. Students will be expected to work for and with entrepreneurs and develop business models that can be implemented. They will present a working model by the completion of the course. Successful entrepreneurs will participate as speakers/moderators and mentors for the participating students. Prerequisites: BU 343 or Admission to the School of Business.

BU 371 Digital Marketing (3)
Examines how digital technologies can be employed to enhance and implement the marketing function. Provides an overview of the concepts defining the digital environment and examines the concepts and techniques that characterize marketing in the digital environment. Prerequisite: BU 360.

BU 374 Principles of Risk and Insurance (3)
The study of risk and insurance, dealing with the principal risks to which individuals are exposed, and the various means of dealing with risk, including insurance, risk retention, self-insurance, and loss prevention. Examines the responsibilities and activities for treating risk at three levels: personal and family, employer, and government.

BU 375 Property and Liability Insurance (3)
An advanced insurance course of current financial, legal and social problems involving property-liability insurance; analysis of legal problems involving insurance coverage, financial aspects, and governmental regulation of the property-liability insurance enterprise, and economic aspects of the insurance industry. Prerequisite: BU 374.

BU 378 Life and Health Insurance (3)
The problems of and the alternative techniques for the insuring of health and human life values from the differing viewpoints of the company, the economy, and the consumer. Among the topics covered are health and financial needs in the life cycle of the family, settlement options and the programming elements of business insurance, estate planning, probability theory mortality, rating and reserves, and the recent changes in the health insurance industry. Prerequisite: BU 374.

BU 381 Business Finance (3)
Theory and techniques of financial management, designed to provide the basic financial background needed by students in business, economics, or related fields. Topics include: capital budgeting, capital structure, dividend policy, the cost of capital, and working capital management. Prerequisites: AC 224, AC 225, BU 250, MA 141, EC 211 (or MA 343), and 2.0 GPA.

BU 387 Credit Management (3)
Principles and procedures involved in mercantile and consumer credit. The organization and operation of a credit department, source of credit information, and collection procedure and policies. Prerequisites: EC 200 and EC 201.

BU 389 Entrepreneurial Finance - Small Business (3)
The financial aspects of the management of small business and entrepreneurial firms (sole proprietorships, partnerships, small nonpublic corporations). Prerequisite: BU 381.

BU 390 Principles of Real Estate (3)
A course that surveys the many areas of the real estate business and real estate investment. Financing, appraisal, loan closing, marketing, property management, land description, title transfer and other topics are included in the course.

BU 392 Real Estate Law (3)
Elements of property laws, purchase contracts, listing agreements, estates and trusts. Prerequisite: BU 315.

BU 393 Real Estate Appraisal (3)
An introduction to real estate appraising including the market comparison, cost and income approaches to value with emphasis on house appraisal.

BU 403 Special Topics/Business (3)
Selected topics announced in advanced. May be taken more than one semester. Prerequisite: Admission to the School of Business. Other prerequisites will be specified for each topic.

BU 404 Independent Study-Business (3)
Individual study of a topic in business. Activity must be supervised by a full-time School of Business faculty member with professorial rank. Prerequisites: Admission to the School of Business and consent of directing faculty member prior to enrollment.

BU 405 Honors Research-Business (3)
Restricted to those students seeking to qualify for honors in the major field and designed to provide an intellectual challenge for superior students with a strong interest in scholarship. Course activity must be supervised by a member of the full-time School of Business faculty with professorial rank. Prerequisites: Admission to the School of Business and consent.

BU 406 International Business and Entrepreneurial Experience (3)
First-hand business experience acquired in an international setting. Analysis of business problems, ideas, opportunities, techniques, and strategies in an international context. Emphasizes changes in competition and market structure abroad. Washburn students will work in teams with foreign students to solve a problem for an overseas company. With approval, this course may be taken for credit more than once. Prerequisites: Admission to the School of Business, BU 315, BU 347, BU 381 (or concurrent), and consent.

BU 416 Commercial Transactions (3)
Commercial law in the area of the Uniform Commercial Code, suretyship, insurance, professional responsibilities, etc. Prerequisites: Admission to the School of Business and BU 315.

BU 417 Legal Business Associations (3)
Examination of the law of agency, partnerships, corporations, and security regulations. Prerequisites: Admission to the School of Business and BU 315 recommended.

BU 419 Labor Relations (3)
Labor relations and collective bargaining including the history, structure, and policies of labor organizations. Mediation and arbitration are considered. Prerequisites: Admission to the School of Business and EC 341.

BU 449 Strategic Management (3)
Integrate the functional areas of business in formulating and implementing basic policy for business. Analytical approach to strategic decisions applied to practical examples of problems faced by business firms. May not be taken for graduate credit. Prerequisites: Admission to the School of Business, BU 342, BU 347, BU 360, BU 381, and 2.0 GPA.

BU 457 Multinational Enterprise Practices (3)
Multinational enterprise principles and solutions to meet international accounting and global supply chain business needs. Benefits risks, and costs associated with MNE managers’s decisions. Prerequisite: Admission to School of Business, and BU 342 or BU 355.
BU 460  Small Business Institute (3)
Student groups counsel and consult with small business firms selected by the Small Business Administration and the instructor. Field work with the firms provides opportunities to identify and analyze problems, and to make recommendations. Prerequisites: Admission to the School of Business, senior business major, and consent.

BU 461  Small Business Institute (3)
Student groups counsel and consult with small business firms selected by the Small Business Administration and the instructor. Field work with the firms provides opportunities to identify and analyze problems, and to make recommendations. Prerequisites: Admission to the School of Business, senior business major, and consent.

BU 470  Entrepreneurship Clinic (3)
The capstone of the entrepreneurship program. Key building blocks: in class debate, field cases, redefinition and development of business ideas moderated by instructors. Students will be expected to work for and with entrepreneurs and develop business models that can be implemented. They will present a working model by the completion of the course. Successful entrepreneurs will participate as speakers/ moderators and mentors for the participating students. Prerequisites: BU 115, BU 260 and junior status; or EC 201 and CM 335 and junior status; or admission to the School of Business.

BU 471  Marketing Management (3)
Examination of the strategic marketing management process planning, implementation, and control. Topics include: environmental, competitor, and customer analysis; market targeting; the marketing mix; and the international aspects of marketing management. Case analysis and marketing models are used. Prerequisites: Admission to the School of Business and BU 360.

BU 473  Marketing Channels (3)
The distribution function of the marketing mix. Topics include: channel structure and function; strategic channel development; channel management and logistics; direct channels, service channels, franchising, and international distribution channels. Prerequisites: Admission to the School of Business and BU 360.

BU 475  Theory of Insurance (3)
The nature and cost of risk in our economic society, and of the methods of handling it. Prerequisites: Admission to the School of Business and BU 375.

BU 477  International Finance (3)
The financial management of a multinational business enterprise. Develops strategies for investing internationally, including hedging exchange rate risk, adjusting to client preferences and home currencies, evaluating performance, estimating a corporation’s exposure to real exchange rate risk, strategies to hedge risk or to dynamically adjust to shocks, and reasons for a corporation to hedge. Also covers international capital budgeting, multinational transfer pricing, and international cash management. Prerequisites: Admission to the School of Business and BU 381, or equivalent (assumes accounting and statistics).

BU 483  Investments (3)
The theory and techniques of financial asset analysis including the fundamental, technical, and efficient market approaches. The course is designed to provide background needed by individuals (regardless of major) to make investment decisions. Topics include: market mechanism, mutual funds, the yield curve, fundamental common stock analysis, and portfolio theory. Prerequisites: Admission to the School of Business and BU 381.

BU 484  Applied Portfolio Management (3)
Provides students with the opportunity to practice investment analysis and portfolio management. Students analyze stocks and other investments. Based on student research, funds provided by the university are allocated to various investments and held in a portfolio that is reviewed and updated in subsequent semesters. Prerequisites: Admission to the School of Business, BU 347 and 483.

BU 488  Financial Management (3)
Specialized skills in corporate financial management are developed through the application of techniques such as the discounted cash flow method, dividend valuation model, capital asset pricing model, and options pricing models. Problem areas covered include working capital management, capital budgeting, and capital structure. Prerequisites: Admission to the School of Business and BU 381.

BU 491  Real Estate Finance (3)
Methods of financing residential, commercial and industrial properties. The nature of mortgage loans for construction and permanent financing and land development. Sources of funds, lender requirements, and loan and investment yield analysis. Secondary mortgage market financing. Prerequisites: Admission to the School of Business and BU 381.

BU 493  Income Property Appraisal (3)
Techniques and methods used in appraising income properties. Prerequisites: Admission to the School of Business and BU 393.

BU 495  Real Estate Investment (3)
Cash flow and investment return analyses are applied to income-producing properties. The most commonly used methods of yield analysis are used in real estate investment case analysis. Financing, appraisal, taxation, and property rights are applied to apartment and office buildings, rental houses, shopping centers, industrial parks, and other types of properties. The capstone real estate course. Prerequisites: Admission to the School of Business.

BU 499  Internship in Business (3)
Professional work experience with a business firm or governmental agency in the following areas of specialization: finance and banking, management, and marketing. The work situation must create a new learning experience for the student. Credit hours may be used only as elective business hours and will not count toward the minimum 63 hours of accounting, business, and economics hours required of the BBA candidate. The grade will be awarded on a pass-fail basis, as determined by the supervising faculty member. Prerequisites: Admission to the School of Business, BU 347, consent of the major area faculty, appropriate academic background, at least seventy-five (75) semester credit hours, at least a 2.5 overall GPA, and meet the general qualifications specified by the sponsoring business firm or governmental agency.

BU 522  Quantitative Methods I (3)
Linear algebra, calculus, spreadsheet use, and compound interest. Prerequisite: College Algebra.

BU 523  Quantitative Methods II (3)
Business statistics, data analysis, quality control statistics, computer stats, computer-based. Prerequisite: BU 522.

BU 526  Survey of Finance (3)
The principles and concepts of corporate finance. Emphasis on developing the ability to understand and analyze financial information as it relates to timing, magnitude, and riskiness of cash flows. Topics include understanding financial statements, time value of money, capital structure, capital budgeting, dividend policy, and the risk vs. return trade-off. Prerequisite: AC 524.
The influence of legal, ethical, political, social, and regulatory issues in be the legal and ethical responsibilities of organizations. Prerequisite: BU 527 and BU 522 recommended, or consent of instructor.

BU 528 Production and Operations Systems (3)
Management of the production/operations function and service, retailing and manufacturing. Discusses models for strategic, tactical, and operational decisions. Prerequisite: BU 523 and BU 522 recommended, or consent of instructor.

BU 529 Human Behavior in Organizations (3)
Aspects of individual and group behavior as the affect the business environment. Prerequisite: None.

BU 616 Commercial Transactions (3)
Income tax laws, regulations, and procedures pertinent to partnership, corporation, and fiduciary reporting. Prerequisite: Admission to the Master of Accountancy program and BU 315.

BU 630 Entrepreneurship/Creativity (3)
Entrepreneurship as a way of thinking and acting applicable to new ventures in any organizational setting. Explores creativity and innovation as sources of entrepreneurial opportunities and entrepreneurship as a manageable process that can be applied in the private and public sectors. Includes a mix of theory and practice applied to the real world situations and may be co-taught by a practitioner with specific industry experience. Prerequisite: Admission to the Doctor of Nursing Practice program.

BU 653 Product Systems (3)
Management of integrated production and marketing systems. Prerequisite: BU 523, BU 527, and BU 528; BU 522 recommended.

BU 655 Financial Strategies (3)
Analytical skills in corporate financial management are developed. Topics include: security valuation, capital budgeting, capital structure, options, dividends, mergers, and financial ratio analysis. Prerequisite: BU 522, BU 523, and BU 526.

BU 656 Computer-Based Information Systems (3)
Computer-based systems for supporting management decisions. Prerequisite: BU 250, BU 522, and BU 523, or consent.

BU 657 Strategic Marketing Management (3)
An analytical approach to the marketing function of a firm. Development of competitive marketing strategy in a dynamic environment. Prerequisite: AC 524 and BU 527.

BU 658 Managerial Skills/Professional Experiences (3)
Course will be composed of two components. In the first, managerial skills, students will acquire a set of skills to manage and group and individual dynamics in organizations. The second, Professional Experiences, will consist of local and regional CEOs, CIOs, CFOs, and middle managers presenting seminars addressing managerial issues they encounter in their professional lives. The emphasis of these seminars will be the legal and ethical responsibilities of organizations. Prerequisite: Admission to the MBA program.

BU 659 Strategic Analysis (3)
Study of approaches for defining, analyzing, and resolving complex strategic problems facing a profit and not-for-profit organization. Should be taken during the last two semesters of the program and after completion of most of the upper-level required courses.

BU 671 Legal and Ethical Issues (3)
The influence of legal, ethical, political, social, and regulatory issues in organizations. Prerequisite: None.

BU 674 International Business (3)
Study of international business and the multinational corporation. The environment of international business is analyzed, including political and economic factors. Financial, marketing and human resource management in the international context is addressed. Prerequisite: Completion of course-level requirements or consent of instructor.

BU 677 International Financial Strategy (3)
Theory, methods, technique, financial instruments, and practices of international corporate finance. Emphasis is placed on currency risk management, international banking, international trade finance, and international investment. Prerequisites: BU 522, BU 523, and BU 526.

BU 678 International Marketing (3)
The economic, political, legal, and cultural environments that affect a firm's international marketing program. Methods, policies, and organizations for marketing in various countries and cultures. Prerequisite: Admission to the Master of Business Administration program, completion of core requirements, or consent of instructor.

BU 679 Mergers, Acquisitions, Ethics (3)
A study of the theory and techniques pertaining to mergers, acquisitions, and related ethical decision making. Coursework will include analysis and application. Students will analyze successful and failed mergers and related ethical issues. Requirements include student identification and potential merger parties and proposition of a structure and strategy for merger completion and integration. Prerequisite: Completion of foundation level requirements and admission to the MBA program.

BU 683 Venture Creation (3)
Covers the entrepreneurial process from conception to implementation of a venture. Concentrating on attributes of entrepreneurs and entrepreneurial teams, their search for and assessment of opportunities, and the gathering of resources to convert opportunities into businesses. Students learn how to evaluate entrepreneurs and their plans for new businesses. While the heart of entrepreneurship is opportunity assessment, a holistic approach to venture creation is taken. Students work in teams to write a business plan for a new venture. Prerequisite: Core requirement completion or consent of instructor.

BU 684 Business Intelligence Systems (3)
Business intelligence systems combine operational data with analytical tools to present complex and competitive information to planners and decision makers. The objective is to improve the timeliness and quality of inputs to the decision process. Business intelligence is used to understand the capabilities available in the firm; the state of art, trends, and future directions in the markets, the technologies, and the regulatory environment in which the firm competes; and the actions of competitors and the implications of these actions. Prerequisite: Completion of foundation level requirements, BU 656, and admission to the MBA program.

BU 768 Research Project in Business (3)
Individual study of selected problems in business or economics as conducted through extensive reading and research. Approval of project proposal must be obtained before enrolling in the course. Approved project proposals are to be filed with the Director of Graduate Programs. Enrollment by consent of instructor only.

BU 698 Special Topics/Business (3)
Special topics announced in advance. May be taken more than once.
Business Admin Technology (BAT)

BAT 113 Intro Acct and Acct Software (4)
This course develops a foundation for accounting skills and assists students attain an understanding of accounting concepts and the importance of accounting for funds in a business. Students get an introduction to the accounting equation, journal entries, t-accounts, Trial Balances, Financial Statements, adjusting entries, closing entries, and financial statement analysis. Students also use a comprehensive, hands-on training manual for QuickBooks Desktop to learn computer accounting practices through sample companies.

BAT 116 Intro to Business Accounting (2)
This course develops a foundation for accounting skills and assists students attain an understanding of accounting concepts and the importance of accounting for funds in a business. Students build on their foundation of knowledge one topic at a time with repetition of key concepts to ensure an understanding of the basic financial accounting cycle, including checkbook reconciliation, through lecture and comprehensive exercises using work papers, as well as spreadsheets.

BAT 117 Intro to Acct & Acct Software (4)
This course develops a foundation for accounting skills and assists students attain an understanding of accounting concepts and the importance of accounting for funds in a business. Students get an introduction to the accounting equation, journal entries, t-accounts, Trial Balances, Financial Statements, adjusting entries, closing entries, and financial statement analysis. Students also use a comprehensive, hands-on training manual for QuickBooks Desktop to learn computer accounting practices through sample companies.

BAT 118 Business Accounting I (2)
This course develops a foundation for accounting skills and assists students attain an understanding of accounting concepts and the importance of accounting for funds in a business. Students build on their foundation of knowledge one topic at a time with repetition of key concepts to ensure an understanding of the basic financial accounting cycle, including checkbook reconciliation, through lecture and comprehensive exercises using work papers, as well as spreadsheets.

BAT 120 Business Accounting II (2)
Building on Business Accounting I, this course will lead the student to thoroughly study concepts relating to financial accounting and reporting, including accounting for payroll, accounting for a merchandising business, the use of special ledgers, and accounting for merchandise inventory. Prerequisites: Introduction to Business Accounting or Business Accounting I

BAT 126 Intro to Accounting Software (2)
This course provides an introduction to accounting software program using a comprehensive, hands-on training manual to learn computer accounting practices through sample companies. Prerequisites: Introduction to Business Accounting or Business Accounting I

BAT 128 Business Communications (4)
This course includes the identification and use of the parts of speech, punctuation, capitalization, and numbers correctly in writing effective sentences and paragraphs. Basic spelling rules will be covered and implemented.

BAT 130 Word Processing (4)
Students will use Microsoft Office Word software to create and edit basic-to-advanced documents, including tables and charts. This is an instructor-guided lab course.

BAT 140 Document Processing (4)
This course continues the development of basic typing skills and emphasizes the formatting of various kinds of business correspondence, reports, tables, electronic forms, and desktop publishing projects from arranged, unarranged, and rough-draft sources.

BAT 172 Spreadsheet Management (4)
This course is designed to familiarize the student with various basic and advanced spreadsheet functions. These include creating and maintaining spreadsheets, displaying information, adding and changing formulas, applying formatting, creating charts and tables, inserting graphics, and customizing the appearance and functions of spreadsheets.

BAT 180 Human Relations (4)
This course is designed for students to learn skills to compete in an increasingly competitive work environment. Skills stressed will be the production of documents and resources needed to obtain employment. Issues addressed will include appropriate communication, conflict resolution, teamwork, accountability, and business ethics.

BAT 200 Business Law (4)
This course provides a basic knowledge of the law and regulations to anyone contemplating a successful career in business. Students will attain knowledge of the nature, concepts and function of the law and the changes technology has brought within the legal system and business law.

BAT 205 Business Research & Writing (4)
A successful and productive member of any office team will write business correspondence, electronic mail and business documents using the correct grammar, style and content. This course is designed to ensure students will have the knowledge to produce effective business communications in written form.

BAT 212 Professional Skills & Ethics (4)
Business leaders in our society are faced with daily decisions, involving ethical decisions and professional comportment. Students will learn the basics of negotiation, conflict resolution, and trust building in the office and with clients. Students will demonstrate awareness and effective application of professional skills including teamwork, productivity, and employee retention and client relations. This course introduces students to important elements of moral theory as well as main topics in business ethics, including the fiduciary duty of managers, outsourcing, corporate responsibility, whistle-blowing, income smoothing, insider trading, sole-source procurements and kickbacks, conflicts of interest, deception in advertising and marketing, responsibility to the environment, pay for corporate personnel, confidentiality and duties to clients.

BAT 215 Database Management (4)
This course covers basic database management skills including creating, maintaining, and editing records, files, and tables and creating queries, forms, and reports. In addition, skills such as modifying database objects, creating advanced types of tables, calculating fields, and importing and exporting data from other software are covered.

BAT 220 Intro Business & Office Mgmt (4)
This course will offer the advanced student knowledge and skills used in business offices, accounting departments and professional firms. The student will learn the necessary skills to manage employees and materials as an office manager. Additionally, the student will become well versed in basic business principals, economic systems, management and organization and management information systems. Additionally, the student will understand business ethics and the importance of good business ethics. Students will gain a general understanding of human resources, marketing, product life cycle, finance and investment.
CBM 110 Shop Procedures I (6)
This course includes a review of general shop safety rules and practices in cabinet/millwork, information, and instruction in the use of professional tools for the woodworking trades. Emphasis will be placed on the safe use of each tool covered. Topics include layout and measuring tools, sawing tools, shaping and cutting tools, fastening tools, drilling and boring tools, finishing tools, job site set-up, and shop tool use.

CBM 115 Design, Layout & Safety (6)
Introduces the fundamentals of residential and commercial cabinet construction. Topics include intro to cabinetmaking, Health and Safety, Career Opportunities, Industry, Cabinet Styles, Components of Design, Design Decisions, Human Factors, Production decisions, Sketches, Mock-ups and Working Drawings, Measuring, Marking and Laying out materials.

CBM 120 Cabinetmaking I (6)
Cabinetmaking I introduces the fundamentals of residential and commercial cabinet construction. Topics include fasteners, wood products, finishing materials, manufactured products for cabinet making, and introduction to estimation of products and services. Instruction is also provided in the planning, design, and layout of cabinet units. Topics include parts identification cabinet styles and floor plan arrangements, estimation procedures, layout to specifications, shop working sketches, scale mock-ups, drafting, blueprint, reading, furniture styles, and specifications.

CBM 125 Cabinetmaking II (7)
Cabinetmaking II builds on the fundamentals of Cabinetmaking I. The course introduces the fundamentals of wood joint identification, layout, cutting out cabinet components, and the procedures used for assembly of cabinet bases, wall units, and free frames. Topics include wood joints identification and application, equipment safety, frame member cutting, shelf cutting, drawer component and door cutting, material optimizing, and material estimation.

CBM 130 Workplace Skills I (1)
This course utilizes Key Train Software to assist in advancement of knowledge in Applied Math, Reading for Information, and Locating Information Work Keys that are required prior to exiting the program. Students will also be required to attend seminars provided through the Career Resource Center. Seminar topics include interview techniques, developing and preparing a resume, completing job applications, ethics, and teamwork.

CBM 135 Print Reading (1)
Print Reading describes how to read and interpret sets of commercial drawings and specifications. Print Reading describes how to derive cabinetmaking plans from architectural drawings and specifications. This course uses NCCER Craft Module 27201-13 and all students take a certification exam.

CBM 140 Millwork I (4)
Millwork I introduces procedures for the installation of assembled drawers, doors, and related hardware. Emphasis will be placed on the safe use of hand tools. Topics include nail types, screw types, staples and equipment, special metal fasteners type, adhesives, and RTA fasteners.

CBM 145 Cabinetry Materials & Products (6)

CBM 150 Millwork (5)
This course will utilize NCCER curriculum modules: 27208-13 and 27210-13 to cover the installation of metal doors and related hardware in steel-framed, wood framed, and masonry walls, along with their related hardware, such as locksets and door closers. It also covers the installation of wooden doors, folding doors and pocket doors. Students will learn to recognize different types of trim used in finish work. It focuses on the proper methods for selecting, cutting, and fastening trim to provide a professional finished appearance. Students will be tested for possible certification.

CBM 205 Machining Processes (6)
Machining Processes topics include Sawing with Hand and Portable Power Tools, Sawing with Stationary Machines, Surfacing with Hand and Portable Power Tools, Surfacing with Stationary Machines, Shaping, Drilling and Boring, Computer Numerically Controlled Machinery, Abrasives, Using Abrasives and Sanding Machines, Turning, Joinery, Accessories, Jigs, Special Machines, and Sharpening.

CBM 210 Shop Procedures II (6)
This course will introduce the students to principles and practices required in the operation of a custom cabinet and architectural millwork shop. Topics include health and safety regulations, work flow, shop organization, job estimation, equipment maintenance, and shop safety.

CBM 215 Finishing Techniques (6)
This course introduces the learner to the operation of traditional finishing equipment. Students perform numerous exercises to gain familiarity with finishing tools and industrial finishing equipment while building their skills and familiarity with different finishes. Finishing Units include Finishing Decisions, Preparing Surfaces for Finish, Finishing Tools and Equipment, Stains, Fillers, Seals, and Decorative Finishes, and Top coatings.
CBM 220 Cabinetmaking III (6)
Cabinetmaking III provides introduction in the assembly of cabinet components and emphasizing door and drawer assembly. Industry standards for safety, quality, and production will be goals in this course. The course introduces procedures for the application of plastic, laminates, and wood veneers. Topics include door and drawer fabrication, laminate, veneer, and glue, cutting and fitting procedures, gluing procedures, trimming and edge banding, special tool use, safety precautions, and counter top cutting and assembly.

CBM 225 Cabinetmaking IV (7)
Cabinetmaking IV provides further instruction in the assembly of base cabinets and wall cabinets. Industry standards for quality, safety, production assembly, back assembly, bracing, and joint assembly.

CBM 230 Workplace Skills II (1)
This course is the final preparation for the exit assessment by using Key Train software for Applied Math, Reading for Information, and Locating Information. A student will be required to attend remaining seminars that were not attended in Workplace Skills I through the Career Resource Center.

CBM 235 Methods of Construction (6)
Topics include Case Construction, Frame and Panel Components, Cabinet Supports, Doors, Drawers, Cabinet Tops and Tabletops, Kitchen Cabinets, Built-in Cabinetry and Paneling and Furniture.

CBM 237 Crew Leadership (1)
Using NCCER module 46101-11 the student will be introduced to the principles of leadership. Students will learn about the construction industry today, business organization, team building, gender and minority issues, communication, motivation, problem solving, decision making, safety, and project control. Students will be tested for possible certification.

CBM 240 Millwork II (4)
Millwork II provides instruction in surface preparation, wood finishing procedures, transporting and installation of cabinets, trim and interior doors. Finishing procedures will emphasize the use of spray equipment. Topics include abrasives, finishing materials, surface preparation, cabinet transporting and installation, trim profiles and installation, coping techniques, and door installation.

CBM 245 Cabinet Installation (5)
This course will introduce students to the procedures for building and installing various types of residential and commercial cabinetry. Using NCCER module 27211-13 students will receive instruction for the selection and installation of base, wall cabinets and counter-tops and test for possible certification. Using NCCER module 27501-07 students will be introduced to the materials, tools and methods used in cabinetmaking. Practice projects are included to help trainees learn the various joining techniques used by cabinetmakers, while providing practice on stationary power tools. Students will build a cabinet from a set of plans and will be tested for possible certification.

Cert Production Technician (CPT)

CPT 101 Safety in Manufacturing Prod (3)
It is important to be safe while you work. This course provides you with an overview of the Occupational Safety and Health Administration General Industry Designated Training Topics. The course is intended to provide entry level general industry workers a broad awareness on recognizing and preventing hazards in a general industrial setting. The training covers a variety of safety and health hazards which a worker may encounter at a general industry site.

CPT 102 Quality Practice & Measurement (3)
In order to meet a customer’s needs, quality consistent product must be produced. This is accomplished through the knowledge of the equipment operator. Each machine operator determines both the quality and quantity of production from his/her equipment. In this course you will learn basic Quality Practices and Measurements that will enable you to produce high quality products.

CPT 103 Manufacturing Proc & Produc (3)
Upon successful completion of this course, the student should be able to identify the job skills necessary to have a successful career. Topics include listening skills, oral communication, human relations, decision making/problem solving, how to work as a team, and resource management.

CPT 104 Maintenance Training (3)
Preventive maintenance and production housekeeping are very important aspects of equipment operations. In this course the student will learn how to monitor production equipment for both routine and preventive maintenance.

Certified Logistics Technician (CLT)

CLT 101 Supply Chain Logistics (2)
A foundational course to prepare students to work in the world of supply chains and related competencies.

CLT 102 Certified Logistics Technician (1)
This course will provide students with the training, knowledge and skills that mid-level material-handling workers in supply chain logistics will need. Students who successfully complete the course will be eligible to take the assessment to become a certified logistics technician.

CLT 104 Certified Logistics Technician (2)
Mid-Level technical knowledge needed to understand the world of supply chain logistics and related core competencies. Learning materials competencies the application of logistics in product receiving, product storage, order processing, packaging and shipment, inventory control, safe handling of hazardous materials, evaluation of transportation modes, customs and dispatch and tracking operations. This course requires, approximately 35 hours.

CLT 250 Forklift Operation (1)
This course is designed to train entry level workers in the correct use of a forklift to unload, move, stack, and load materials for shipping and distribution.

Chemistry (CH)

CH 100 Science Success Strategies (2)
Interdisciplinary class may be taken as MA 105. Develops math and science skills fundamental to science majors. Prerequisite: MA 104, or MA 110, or MA 112, or MA 116 with a grade of D or better.

CH 101 Chemistry in Context (3)
This course introduces and applies major laws, concepts, and theories of chemistry in relation to environmental and energy issues confronting contemporary society. Prerequisite: None.

(General Ed Natural Science. Quan and Sci Reason Lit.)

CH 103 Introduction to Forensic Chemistry (3)
This course emphasizes the history, philosophy and major theories of chemistry as they apply to current forensic analytical techniques. Prerequisite: None.

(General Ed Natural Science. Critical and Creative Thinking.)
CH 121 General, Organic, and Biological Chemistry (5)
Designed for those students who need only a one-semester survey of the principles of chemistry or for nursing students. Includes vocabulary, laws, and applications of the basic concepts of chemistry. Laboratory work includes preparations, illustrations of laws and typical quantitative experiments. Chemistry 121 will not count towards a major or minor in chemistry. High school or on-line courses will not be considered equivalent to this course. Three one-hour lectures, one hour of recitation, and one three-hour laboratory period per week. Prerequisite: CH 151 with a grade of C or better.

(General Ed Natural Science. Quan and Sci Reason Lit.)

CH 126 RN-BSN General, Organic, Bio Chemistry (3)
Designed to fulfill the degree requirement in chemistry for the Registered Nurse to Bachelor of Science in Nursing program, this course introduces measurements, atomic theory, compounds, solutions, and reactions. Prerequisite: The student must be a registered nurse and enrolled in or received a C or better in MA 114 or MA 112 with a grade of C or better.

(General Ed Natural Science. Quan and Sci Reason Lit.)

CH 151 Fundamentals of Chemistry I (5)
Designed for those students who need one year of general chemistry. This course discusses vocabulary and basic laws that are necessary as a foundation for future studies in chemistry. Topics covered will include such subjects as atomic structure, states of matter, chemical bonding and solutions. The emphasis in the laboratory is on quantitative work. Credit for CH 151 precludes subsequent earning of credit in CH 121. High school or on-line courses will not be considered equivalent to this course. Three class periods, one hour of recitation, and one three-hour laboratory period per week. Prerequisite: MA 116 or concurrent enrollment.

(General Ed Natural Science. Quan and Sci Reason Lit.)

CH 152 Fundamentals of Chemistry II (5)
A continuation of Chemistry 151. Includes a study of equilibrium, electrochemistry, thermodynamics, thermochemistry, and kinetics. Laboratory work deals with experimental studies on the theories of chemistry, qualitative analysis and independent laboratory projects. High school or on-line courses will not be considered equivalent to this course. Three one-hour lectures, one hour of recitation, and one three-hour laboratory period per week. Prerequisite: CH 151 with a grade of C or better.

(General Ed Natural Science. Quan and Sci Reason Lit.)

CH 202 Professional Forensic Science Seminar (2)
Students will be introduced areas of forensic science not covered in traditional science coursework through seminars as presented by professionals in the field. These areas will include topics that pertain to every field in forensics such as courtroom testimony, ethics and professionalism and government reporting on forensics. Additional topics may include arson investigation, digital evidence, gunshot residue analysis, firearms and toolmarks analysis and fraud investigation. Prerequisite: None

CH 212 Chemistry of Food and Cooking (3)
This course will introduce students to advanced chemistry topics through examples of food and cooking. One two-hour lecture and one three-hour laboratory period per week. Prerequisite: CH 101 or higher.

(General Ed Natural Science. Quan and Sci Reason Lit.)

CH 300 Special Topics/Chemistry (1-3)
Topics will vary from semester to semester and will be announced in advance. May be taken for more than one semester. Prerequisite: Consent of instructor.

CH 317 Chemistry for STEM Educators I (3)
Designed to introduce concepts and applications of chemistry to STEM educators. This includes chemical safety, vocabulary, atomic structure, states of matter, gases, chemical interactions, bonding, solutions, kinetics, thermodynamics, and thermochemistry. Composed of three hours of lectures/demonstrations/laboratory exercises each week. This course does not satisfy any chemistry prerequisite/requirement outside of the STEM program. Prerequisites: MA 112 or MA 116 and PS 108 with a letter grade of a “C” or higher; concurrent enrollment in ED 317 Chemistry for STEM Educators II

CH 320 Analytical Chemistry (3)
The theoretical and practical fundamentals of classical and physiochemical methods of analysis, with special emphasis on the relationship between physical and analytical chemistry. Prerequisites: a score of at least the 40th percentile on the American Chemical Society full-year General Chemistry Exam, and CH 152 with a grade of C or better.

CH 321 Analytical Chemistry Lab (1)
Principles and techniques of analytical and physical measurements with computer assisted analysis. One three hour laboratory per week. Prerequisites: CH 152 with a grade of C or better and concurrent enrollment in CH 320 or consent of instructor.

CH 323 Advanced Forensic Chemistry (0-4)
Advanced Forensic Chemistry will familiarize students with the most common laboratory equipment and techniques found in a forensic chemistry lab, allowing them to apply the principles learned in the lecture portion to analyze mock evidence, correctly interpret data and effectively communicate results. At the end of the course, there will be a mock case that students will work from start to finish, ending with a testimony in a mock courtroom. Prerequisites – CH 340 Organic Chemistry I with a C or better

CH 340 Organic Chemistry I (3)
The principles of organic chemistry and their application to the preparation, properties, and reaction of aliphatic, aromatic, and a few heterocyclic compounds. Prerequisites: a score of at least the 40th percentile of the American Chemical Society full-year General Chemistry Exam, and CH 152 with a grade of C or better.

CH 341 Organic Chemistry II (3)
A continuation of Chemistry 340. Three class periods per week. Prerequisite: CH 340 with a grade of C or better.

CH 342 Organic Chemistry Lab I (2)
Principles and techniques of organic chemistry, including preparation, separation, identification, and use of microscale equipment. One hour of lecture and one three-hour laboratory period per week. Prerequisites: CH 152 and CH 340 with a grade of C or better or concurrent enrollment.

CH 343 Organic Chemistry Lab II (2)
A continuation of CH 342 with emphasis on spectroscopy and other instrumental techniques. One hour of lecture and one three-hour laboratory period per week. Prerequisites: CH 341 or concurrent enrollment, and a grade of C or better in CH 342.

CH 345 Inorganic Chemistry Lab (2)
Emphasis on inorganic preparations and analytical and physical measurements on inorganic and organometallic compounds with computer assisted analysis of data. One hour lecture and one three-hour laboratory period per week. Prerequisites: CH 152 and CH 342 with a grade of C or better.
CH 346 Instrumental Analysis (2)
Advanced techniques, instrumentation, computational analysis, and computer analysis are used to investigate biological, inorganic, and organic compounds. One hour lecture and one three-hour laboratory period per week. Prerequisites: CH 321 and CH 343 with a grade of C or better.

CH 347 Physical Chemistry Concepts Lab (1)
Techniques and interpretation of physical systems measurements. One three-hour laboratory per week. Prerequisite: CH 343 with a grade of C or better.

CH 350 Biochemistry I (3)
Basic principles of the structure and chemistry of biochemical molecules, such as proteins, nucleic acids, carbohydrates, lipids, enzymes, and vitamins. Prerequisites: a score of at least the 40th percentile on the American Chemical Society full-year General Chemistry Exam, and CH 340 with a grade of C or better.

CH 351 Biochemistry Lab (2)
Biochemistry from the laboratory aspect, with special emphasis on modern techniques and instruments. One four-hour laboratory period a week, one hour lecture and one three-hour laboratory period per week. Prerequisites: CH 342 and CH 350 with a grade of C or better or concurrent enrollment and consent of instructor.

CH 352 Biochemistry II (3)
A continuation of CH 350 emphasizing metabolism, regulatory mechanisms, and DNA replication and expression. Prerequisite: CH 350 with a grade of C or better.

CH 353 Biochemistry Laboratory II (2)
Emphasis on individual projects using the tools of biochemistry from CH 351 and the biochemical literature. One four-hour laboratory period a week. Prerequisites: CH 350 and CH 351 with a grade of C or better.

CH 355 Medicinal Chemistry (2)
A brief history of the development of medicinal chemistry and its social and political implications. Major emphasis will be placed on the methods of discovery and development of drugs. Examples will be drawn from natural products, including plants, animal, and microbiological sources, from organic synthesis, and from modern physicochemical approaches. The mechanism of action, metabolism, and proof of structure of representative drugs will be presented. Prerequisite: CH 341 with a grade of C or better.

CH 356 Descriptive Inorganic Chemistry (3)
Descriptive chemistry of the inorganic elements based on the principles learned in freshman chemistry. Prerequisite: CH 152 with a grade of C or better.

CH 362 Spectroscopy (2)
An introduction to the interpretation of the spectra of organic compounds. Prerequisite: CH 343 with a grade of C or better.

CH 371 Advanced Topics in Chemistry (1)
The specific course content will depend on the instructor. At least two of the following four topics will be introduced: synthetic polymers, biological macromolecules, supramolecular aggregates, meso or nanoscale materials. Introduction to these topics will include preparation, characterization, and physical properties. Thirty hours of chemistry or consent of instructor(s) is required.

CH 380 Fundamentals of Physical Chemistry (3)
A non-calculus based physical chemistry class. Prerequisites: a score of at least the 40th percentile on the American Chemical Society full-year General Chemistry Exam, CH 152, PS 261 or PS 281 with a grade of C or better.

CH 381 Physical Chemistry I (3)
Covers the properties of gases, kinetic principles, thermodynamics, state changes, equilibrium, and properties of solution. Prerequisites: a score of at least the 40th percentile on the American Chemical Society full-year General Chemistry Exam, and CH 152 with a grade of C or better, PS 282 (highly recommended) or PS 262, and MA 151 or concurrent enrollment.

CH 382 Physical Chemistry II (3)
Covers quantum principles with applications to atomic and molecular structure and spectroscopy, statistical thermodynamics, and kinetic theory of gases. Prerequisites: CH 381 with a grade of C or better and MA 152 or concurrent enrollment.

CH 383 Physical Chemistry III (3)
Application of quantum theory in spectroscopy, gas and solution phase molecular reaction dynamics, surface chemistry, and electrochemistry are investigated. Prerequisite: CH 382 with a grade of C or better.

CH 385 Physical Chemistry Lab (1)
Experimental measurements and data analysis emphasize the physics of chemical systems. One three hour laboratory per week. Prerequisite: CH 381 with a grade of C or better or concurrent enrollment.

CH 386 Inorganic Chemistry (3)
Modern theories in inorganic chemistry, including atomic structure, molecular structure and bonding, symmetry and point groups, acid/base definitions, and oxidation/reduction concepts. These topics are applied to main groups, coordination compounds, and organometallic compounds and their respective reactions. Prerequisite: A score of at least the 40th percentile on the American Chemical Society Full-year General Chemistry Exam, and CH 340 with a grade of C or better.

CH 390 Undergraduate Chemical Research (1-5)
Laboratory or theoretical computational research in any of the fields of chemistry, a typed formal report is required. Students may enroll for more than one semester of research. No more than five credit hours may be applied toward meeting departmental or graduation requirements. Prerequisite: departmental permission.

CH 391 Chemistry Seminar (1)
Students must enroll for one credit of seminar and give oral and written presentations on subjects chosen from a list of supplied topics to meet the requirement of the major in chemistry. Prerequisite: departmental permission.

CH 393 Internship (3)
Experience training in a professional forensic laboratory. Prerequisites: Chemistry, 25 credits; Biology, 12 credits; chair approval.

Childcare (CCC)

CCC 115 Child Care Curriculum Planning (2)
This course introduces techniques for guiding the following types of experiences: art, storytelling, puppetry, writing, math, science, social studies, music, and field trips. Assessment of the course includes written and assigned activities.

CCC 125 Guidance & Discipline/Family (2)
This course will assist students in developing guidance skills, handling guidance challenges, establishing classroom rules, and involving parents and family. Assessment of the course includes written and assigned activities.
CCC 130  Regs Safety Abuse (2)
This course will address KDHE Licensing Regulations, in-service training on First Aid, CPR, abuse, neglect, and communicable diseases, and promoting children’s safety. Assessment of the course includes written and assigned activities.

CCC 140  Collection File I (1)
This course requires assembling a portfolio of various activities that can be used as teaching tools in the center. The method of instruction will utilize the resource library and various web sites. Assessment of the course includes written and assigned activities.

CCC 150  Child Care Lab I (5)
This course involves participation in the licensed child care center under supervision of the unit leader. Students use knowledge and skills expected of professionals new to the early care and education field. Assessment of the course includes preparing lesson plans and implementing activities in the center with evaluation completed by the unit leader.

CCC 215  Intro Early Child (2)
This course introduces students to the fundamentals of early child care. Topics include program orientation, types of early childhood programs, observation and assessment of children, and child development principles and theories. Assessment of the course includes written and assigned activities.

CCC 225  Child Care Program Development (2)
This course will assist students in developing teaching philosophies, developing areas for a balanced curriculum, writing lesson plans, selecting toys, equipment and educational materials, and exhibiting professionalism. The method of instruction will utilize textbook, lecture, and student activity sheets. Assessment of the course includes written and assigned activities.

CCC 230  Inf/Toddler/Exceptional Child (2)
This course introduces students to quality programs for infants and toddlers, school-age children, and children with special needs. Assessment of the course includes written and assigned activities.

CCC 240  Collection File II (1)
This course is the continuation of compiling a teaching portfolio. The method of instruction will utilize the resource library and various web sites. Assessment of the course includes written and assigned activities.

CCC 250  Child Care Lab II (5)
This course involves participation in the licensed child care center under the supervision of the unit leader. Students should demonstrate increased knowledge and skills by assuming a teacher’s role. Assessment of the course includes planning, developing, and implementing lesson plans with evaluation done by the unit leader.

Climate & Energy Control (CEC)

CEC 105  Workplace Skills (1)
Upon successful completion of this course, the student should be able to identify the job skills necessary to have a successful career in the field of their choice. Topics included listening skills, oral communication, human relations, decision making/problem solving, how to work as a team, time and resource management, work ethics, career planning and resume building.

CEC 110  Safety Orientation/OSHA 10 (1)
Safety Orientation/OSHA 10 provides the student with an overview of the OSHA standards relevant to the construction industry. Various topics are presented in a 15-hour format. Among the subjects covered in the course are: an introduction to OSHA, electrical safety, fall protection, and excavation and trenching safety.

CEC 115  Electrical Fundamentals (4)
The student will receive instruction in basic electrical theory for DC and Alternating Current systems. The student will have knowledge on the production of electricity and how to apply Ohm’s Law and Power Formula. Electrical safety is taught along with skills in how to read and interpret schematic diagrams. This class must be passed with a minimum of a C or 78% for the student to continue to next course.

CEC 116  Electrical Fundamentals II (1)
Students will be introduced to motor theory and explore motor applications. This course builds on previous knowledge gained in Electrical Fundamentals I and requires a firm understanding of magnetism and voltage production. Motor trouble shooting will be introduced. Types of motors covered will be single phase motors, three phase and ECM motors. This class must be passed with a minimum of a C or 78% for the student to continue to next course.

CEC 120  Heating System Fundamentals (3)
This course will give students a firm understanding of combustion and how it is applied in the HVAC trade. Residential gas furnaces will be studies in detail in order to gain understanding in how they are installed and serviced. A thorough understanding of Standard, Midrange and High Efficiency furnace service and installation will be earned as a result of this course. This class must be passed with a minimum of a C or 78% for the student to continue to next course.

CEC 121  Heating System Fundamentals II (2)
The heating System Fundamentals II course is designed to walk student thorough the requirements of the Uniform Mechanical Code in relation to Gas Piping and exhaust ventilation. Student will gain a thorough understanding and be able to apply skills in sizing vents and pipe upon completion of this course.

CEC 125  Adv Electrical Theory for HVAC (2)
Advanced Electrical Theory for HVAC is a continuation of Electrical Fundamentals and places an emphasis on developing systematic diagnosis and troubleshooting methods and procedures that will enable the student to become a highly-skilled, professional HVAC-R service technician.

CEC 126  Advanced Heating Systems (3)
This course will introduce students to electric furnaces and hydronic heating with an emphasis on the electrical systems of those units and code requirements for the safe installation of such equipment. Indoor air quality will be discussed in detail as a major factor in human comfort.

CEC 135  Sheet Metal Fabrication I (3)
This course focuses on sheet metal fabrication utilizing various sheet metal tools and techniques. Duct sizing is discussed in addition to code requirements for duct systems.

CEC 136  NCER HVAC Level 1 Part 1 (4)
This course features a highly illustrated design, technical hints and tips from industry experts, review questions and a whole lot more! Key content includes: Introduction to HVAC, Trade Mathematics, Basic Electricity, Introduction to Heating, Introduction to Cooling, Introduction to Air Distribution Systems.
CEC 138 NCCER HVAC Level 1 Part 2 (4)
This course features a highly illustrated design, technical hints and tips from industry experts, review questions and a whole lot more! Key content includes: Basic Copper and Plastic Piping Practices, Soldering and Brazing, and Basic Carbon Steel Piping Practices.

CEC 156 NCCER HVAC Level 2 Part 1 (4)
This course features a highly illustrated design, technical hints and tips from industry experts, review questions and a whole lot more! Key content includes: Alternating current, Compressors, Refrigerants and Oils, Leak Detection, Evacuation Recovery, and Charging Devices.

CEC 158 NCCER HVAC Level 2 Part 2 (4)
This course features a highly illustrated design, technical hints and tips from industry experts, review questions and a whole lot more! Key content includes: Heat Pumps, Basic Maintenance, Chimneys, Vents and Flues, Fiberglass and Fabric Duct Systems, Commercial Airside Systems, Air quality Equipment, and Introduction to Hydronic Systems.

CEC 200 Heat Loads and Duct Sizing (4)
The course will teach students to analyze heat flow characteristics as they study heat loss and gain factors as it pertains to residential HVAC design. Topics will include the effects of selected materials and the layout of the system for the purpose of trouble shooting, load estimation, and duct sizing.

CEC 202 Environmental HVAC Systems (4)
Environmental HVAC Systems introduces students to the heat transfer systems used in commercial applications to maintain comfort in a space. Students will gain an understanding of heat transfer, system design, commercial equipment and their operations. This course prepares students to enter into commercial work and exposure to old and new designs. It will encounter the field while helping them understand the practices for energy efficiency in these systems.

CEC 205 HVAC Fundamentals (4)
This course is designed to introduce students to the broader picture that is HVAC. Students will become familiar with trade-related organizations, job requirements, gain skills in soldering and brazing, and demonstrate learned skills to service and repair air conditioning systems. Students must earn a C grade or better in this course in order to advance to the next course.

CEC 210 EPA 608 (1)
Students will be certified in federal regulations of safe refrigerant handling practices. Successful completion of the certification course is required for technicians to work with and purchase refrigerants.

CEC 215 Intro Mechanical Refrigeration (4)
The students will apply knowledge previously learned in HVAC Fundamentals to ice machines, refrigerators, and commercial coolers. Students will learn the function of the specialized electrical circuits and how to service and repair these systems.

CEC 225 Heat Pumps (3)
The student will learn the basic functions of various Heat Pump design as well as charging and troubleshooting procedures.

CEC 230 Commercial HVAC (4)
This course will introduce students to the commercial applications of various HVAC systems. A strong foundation in refrigeration theory is required as well as a comprehensive understanding of system airflow and electrical fundamentals. Students who complete this course will be skilled in reading advanced electrical schematics and be able to describe the function and application of various commercial systems and components including Direct Digital Control systems and frequency drives. This is a capstone course.

CEC 235 Commercial HVAC Lab (4)
This course continues the introduction to Commercial HVAC systems through hands-on training. Students will be performing basic maintenance, repairs, and troubleshooting on functioning light commercial and commercial equipment.

CEC 236 NCCER HVAC Level 3 Part 1 (4)
This course features a highly illustrated design, technical hints and tips from industry experts, review questions and a whole lot more! Key content includes: Fasteners, Hardware and Wiring, Water Treatment, Indoor Air Quality, Energy Conservation Equipment, Building Management Systems, System Air Balancing, Construction Drawings, and Specifications.

CEC 238 NCCER HVAC Level 3 Part 2 (4)
This course features a highly illustrated design, technical hints and tips from industry experts, review questions and a whole lot more! Key content includes: Heating and Cooling System Design, Commercial and Industrial Refrigeration Systems, Alternative and Specialized Heating and Cooling Systems, and Fundamentals of Crew Leadership.

CEC 250 Climate & Energy OJT (1 - 3)
This course features a hands-on method of teaching the skills, knowledge, and competencies needed for employees to perform in the field of HVAC. Students learn in an environment where they will need to practice the knowledge and skills obtained during their training.

Clinical Laboratory Sciences (CL)

CL 407 Clinical Laboratory Operations (2)
This course provides a basic introduction to the theory, practical application, technical performance, and evaluation of laboratory skills specific to the practice of clinical laboratory science. Laboratory safety; microscopy, pipetting; general laboratory equipment; quality control; mathematics; phlebotomy; pre-analytic, analytic, and post-analytic processes, including specimen collection, processing and transport to maintain test result integrity, will be addressed. Prerequisite: Admission to the Clinical Laboratory Science program.

CL 408 Introduction to Clinical Hematology (2)
This course introduces the theory, practical application, technical performance, and evaluation of hematological and hemostasis processes. There is an emphasis on the correlation of clinical laboratory data with the diagnosis of erythrocyte, leukocyte and bleeding/clotting disorders. Prerequisite: Admission to the Clinical Laboratory Science program.
CL 409 Introduction to Microbiology (2)
This course introduces the theory, practical application, technical performance and evaluation of procedures for isolation, identification and susceptibility testing of infectious disease organisms in humans. The course focuses on bacteriology, emphasizing the correlation of clinical laboratory data with the patient's diagnosis and treatment. Prerequisite: Admission to Clinical Laboratory Science program.

CL 410 Introduction to Clinical Chemistry & Urinalysis (1)
This course introduces the theory, practical application, technical performance and evaluation of basic laboratory skills and methods in clinical chemistry and urinalysis. Correlation of laboratory data with the diagnosis and treatment of carbohydrate, renal, liver, protein, electrolyte and acid-base disturbances is emphasized. Prerequisite: Admission to Clinical Laboratory Science program.

CL 411 Introduction to Clinical Immunohematology (1)
This course introduces the theory, practical application, technical performance and evaluation of immunohematology procedures required for the collection, processing, storage and transfusion of blood and blood components and management of immunohematologic conditions. Prerequisite: Admission to Clinical Laboratory Science program.

CL 412 Clinical Laboratory Science Theory, Application, Correlation (5)
This course includes the application, evaluation and correlation of laboratory procedures used in the diagnosis and treatment of common disease states. Opportunities for building critical thinking, oral communication, professional behavior, and teamwork skills are provided in small group clinical case decisions.

CL 413 Clinical Endocrinology & Toxicology (1)
This course incorporates advanced theory, practical application, and evaluation of clinical chemistry laboratory procedures. Correlation of clinical laboratory data with diagnosis and treatment of endocrine disorders, toxicology disturbances and therapeutic drug monitoring is emphasized.

CL 414 Clinical Chemistry & Urinalysis I (2)
This course expands on the theory, practical application, technical performance and evaluation of basic laboratory procedures introduced in CL410, Introduction to Clinical Chemistry and Urinalysis. This course will focus on the interpretation, evaluation, and correlation of clinical laboratory data with the diagnosis and treatment of carbohydrate, renal, liver, protein, cardiac, lipid, electrolytes, trace elements, pancreatic-GI and acid-base disturbances. Prerequisite: CL 410.

CL 415 Clinical Chemistry & Urinalysis II (2)
This course expands on the theory, practical application, and evaluation of laboratory procedures introduced in CL 414 Clinical Chemistry and Urinalysis I and CL 444 Clinical Core Laboratory Practical I. Correlation of clinical laboratory data with the diagnosis and treatment monitoring of carbohydrate, renal, hepatic, cardiac, lipid/lipoprotein, protein, major and minor electrolyte, trace element, enzyme, pancreatic-gastrointestinal and acid-base disorders; tumor markers; and inborn errors of metabolism is emphasized. Prerequisite: CL 414.

CL 416 Clinical Hematology I (2)
This course expands on the theory, practical application, technical performance and evaluation of hematological and hemostasis procedures introduced in Introduction to Clinical Hematology. There is an emphasis on the correlation of clinical laboratory data with the diagnosis and treatment of erythrocyte, leukocyte and bleeding/clotting disorders. Prerequisite: CL 408

CL 417 Clinical Hematology II (2)
This course expands on the theory, practical application, and evaluation of hematological and hemostasis procedures introduced in CL 416 Clinical Hematology I and CL 444 Clinical Core Laboratory Practicum I, and includes the analysis of cerebrospinal, synovial and serous fluids. Correlation of clinical laboratory data with the diagnosis and treatment of erythrocyte, leukocyte and bleeding/clotting disorders will be emphasized. Prerequisite: CL 416.

CL 418 Clinical Microbiology I (2)
This course expands on the theory, practical application, technical performance and evaluation of procedures for isolation, identification and susceptibility testing of infectious disease organisms in humans introduced in Introduction to Clinical Microbiology. The course focuses on bacteriology emphasizing the correlation of clinical laboratory data with patient's diagnosis and treatment. Prerequisite: CL 409.

CL 419 Clinical Microbiology II (2)
This course incorporates advanced theory, practical application, technical performance and evaluation of procedures for isolation, identification and susceptibility testing of infectious disease organisms in humans. This course includes bacteriology, mycology, parasitology, virology and serology, and emphasizes the correlation of clinical laboratory data with the patient's diagnosis and treatment. Prerequisite CL 418.

CL 420 Clinical Immunology & Molecular Diagnostics (2)
This course includes the theory, practical application, and evaluation of immunological components, principles and methodologies used in the assessment of immunologically related disorders, including hypersensitivity reactions, autoimmune, immunoproliferative and immunodeficient disorders. The theory and application of molecular diagnostic tools, such as polymerase chain reaction (PCR), nucleic acid probes, and microarrays are also addressed. Prerequisite: Declared major in Clinical Laboratory Science and acceptance into CLS program.

CL 422 Clinical Immunohematology I (2)
This course expands on the theory, practical application, technical performance and evaluation of immunohematology procedures required for the collection, processing, storage and transfusion of blood and blood components and management of immunohematologic conditions that was introduced in CL 411 Introduction to Clinical Immunohematology. Prerequisite: CL 411.

CL 423 Clinical Immunohematology II (2)
This course incorporates advanced theory, practical application, technical performance and evaluation of blood bank procedures required for transfusion of blood and blood components and for handling and storage of blood and blood components. Prerequisite: CL 422.

CL 430 Clinical Laboratory Management I (2)
This course includes the theory, practical application, technical performance and evaluation of laboratory management principles and associated models. Lectures and assignments focus on effective written and oral communications, critical evaluation of research studies, compliance and regulatory issues, educational methodology, human resources financial management, laboratory operations, cultural competency, professionalism and ethical decision making. Opportunities to build problem-solving, teamwork and management skills are provided.

CL 431 Clinical Laboratory Management II (3)
This course includes the theory, practical application, technical performance and evaluation of laboratory management principles and associated models. Opportunities for building critical thinking, problem-solving, and management/professional leadership skills are provided. Prerequisite: CL 430.
CL 442 Clinical Immunohematology Practicum I (1)
This course provides practical application in a clinical laboratory setting for the technical performance and evaluation of clinical immunohematology procedures and preparation of blood components. Course content will include new skills and procedures, in addition to the skills and procedures presented in CL 407 Clinical Laboratory Operations and CL 411 Introduction to Clinical Immunohematology. Prerequisite: Admission to Clinical Laboratory Science program.

CL 443 Clinical Immunohematology Practicum II (1)
This course provides practical application in a clinical laboratory setting for the technical performance and evaluation of clinical immunohematology procedures and preparation of blood components. Course content will include new skills and procedures, in addition to the skills and procedures presented in CL 442 Clinical Immunohematology Practicum I. Prerequisite: Admission to the Clinical Laboratory Science program.

CL 444 Clinical Core Lab Practicum I (1)
This course provides practical application in a clinical laboratory setting for the technical performance and evaluation of clinical hematology/ hemostasis, chemistry and urinalysis procedures. Course content will include new skills and procedures and the application of automation and automatic verification techniques, building on the skills and procedures presented in CL 407 Clinical Laboratory Operations, CL 408 Introduction to Clinical Hematology and CL 410 Introduction to Clinical Chemistry and Urinalysis. Prerequisite: Admission to the Clinical Laboratory Science program.

CL 445 Clinical Core Lab Practicum II (1)
This course provides practical application in a clinical laboratory setting for the technical performance and evaluation of clinical hematology/ hemostasis, chemistry and urinalysis procedures. Technical content will include new skills and procedures, in addition to CL 444 Clinical Core Practicum I. Prerequisite: Admission to Clinical Laboratory Science program.

CL 448 Clinical Microbiology Lab Practicum I (1)
This course provides practical application in a clinical laboratory setting for the technical performance and evaluation of clinical microbiology procedures. Course content will include new skills and procedures, in addition to the skills and procedures presented in CL 407 Clinical Laboratory Operations and CL 409 Introduction to Clinical Microbiology. Prerequisite: Admission to Clinical Laboratory Science program.

CL 449 Clinical Microbiology Lab Practicum II (1)
This course provides practical application in a clinical laboratory setting for the technical performance and evaluation of clinical microbiology procedures. Course content will include new skills and procedures, in addition to the skills and procedures presented in CL 448 Clinical Microbiology Laboratory Practicum I. Prerequisite: Admission to Clinical Laboratory Science program.

Collision Repair (CLR)

CLR 100 Orientation/Safety (1)
This course introduces the student to basic and industry specific safety skills that is an ongoing education. Topics include: Personal Protective Equipment (PPE), first aid, dress code, safety implications, Material Safety Data Sheets (MSDS), procedures of handling dangerous materials, Pollution Prevention and Environmental Safety (SP2), shop safety, introduction to tools/equipment, and safety of tools/equipment. When other tools/equipment is introduced, additional safety procedures will be covered in the course. No student will be allowed to operate or be in the area of operating machines until the student has successfully completed (96%) the initial safety test. Students are expected to observe and comply with all safety rules and regulations.

CLR 110 Estimate/Damage 1 (2)
Through a variety of classroom and/or lab/shop learning and assessment activities, students in this course will explore the components of analyzing damage pertaining to auto collision and repair; demonstrate basic estimating to identify structural repairs required, part design, construction materials, and manufacturing processes.

CLR 111 Estimate/Damage 1 (2)
Through a variety of classroom and/or lab/shop learning and assessment activities, students in this course will explore the components of analyzing damage pertaining to auto collision and repair; demonstrate basic estimating to identify structural repairs required, part design, construction materials, and manufacturing processes.

CLR 112 Estimate/Damage 1 (1)
Through a variety of classroom and/or shop/lab learning and assessment activities, students in this course will: explore the components of analyzing damage pertaining to auto collision and repair; demonstrate basic estimating to identify structural repairs required, part design, construction materials, and manufacturing processes.

CLR 121 Non-Structural A&D Repair 1 (4)
Through a variety of classroom and/or shop/lab learning and assessment activities, students in this course will explore the components of safety pertaining to auto collision and repair, explore the parts and construction of vehicles, explore opportunities in the auto collision industry, identify metal straightening techniques, identify the application and use of body fillers, demonstrate proper use, set-up and storage of welding equipment, distinguish between weld able and non-weld able materials, demonstrate fundamental industry standard recommended welds, identify plastics and adhesives used in automotive industry, explain the general purpose of damage, estimation and repair orders; explore the processes required for outer body panel repairs, replacements and adjustments, and demonstrate fundamental cutting procedures.

CLR 126 Non-Structural A&D Repair 2 (4)
Through a variety of classroom and/or lab/shop learning and assessment activities, students in this course will identify trim and hardware to be protected, examine what to consider when working with movable glass, perform outer body panel repairs, perform outer body replacements and adjustments; perform metal straightening techniques, perform body filling techniques, perform metal finishing techniques, use welding procedures in non-structural damage repair, distinguish between mechanical and electrical components, apply safety standards for the collision repair industry, use cutting procedures in non-structural damage repair, and determine procedures necessary for working with plastics and adhesives.
CLR 131 Structural A&D Repair 1 (2)
Through a variety of classroom and/or lab/shop learning and assessment activities, students in this course will identify measuring procedures, analyze the basic structural damage conditions, identify the safety requirements pertaining to structural damage repair, analyze frame repair methods, analyze unibody inspection and measurement, and identify procedures of welding for structural repair.

CLR 132 Structural A&D Repair 2 (2)
Through a variety of classroom and/or lab/shop learning and assessment activities, students in this course will apply safety requirements pertaining to structural damage repair, analyze frame inspection and repair procedures, determine direct and indirect damage for structural repair, analyze unibody inspection, measurement, and repair procedures, perform welding techniques for structural repair, and identify cutting procedures for structural repair.

CLR 141 Paint & Refinishing 1 (3)
Through a variety of classroom and/or lab/shop learning and assessment activities, students in this course will identify safety and personal health hazards according to OSHA guidelines and the "Right to Know" law, determine the different types of substrates and sanding materials relevant to auto body surface preparation, identify the process to clean and prepare a substrate for paint; distinguish between the properties, uses, and manufacturer specifications of metal treatments and primers, distinguish among the various types of spray guns and equipment; explore various paint codes and specifications for use, identify the various paint systems, explore the types of paint defects, distinguish between damage and non-damage related corrosion, and identify final detail procedures.

CLR 142 Paint & Refinishing 2 (3)
Through a variety of classroom and/or lab/shop learning and assessment activities, students in this course will select proper personal protective equipment, perform proper shop operations according to OSHA guidelines, remove paint coatings, apply corrosion resistant coatings, demonstrate proper spray gun operation and cleaning procedures, select proper painting and substrate materials for projects, analyze paint defects, causes and cures, repair paint defects, measure paint mil thickness, and determine final detail procedures for given projects.

CLR 151 Mechanical & Electrical (3)
Through classroom and/or lab/shop learning and assessment activities, students will determine how to diagnose steering and suspension, diagnose electrical concerns, complete head lamp and fog/driving lamp assemblies and repairs, demonstrate self-grounding procedures for handling electronic components, determine diagnosis, inspection, and service needs for brake system hydraulic components, examine components of heating and air conditioning systems, determine the inspection, service, and repair needs for collision damaged cooling system components, distinguish between the under car components and systems, and determine the diagnosis, inspection, and service requirements of active and passive restraint systems.

CLR 161 Workplace Skills 1 (1)
This course utilizes KeyTrain Software to assist in advancement of knowledge in Applied Math, Reading for Information, and Locating Information Work Keys assessments that are required prior to exiting the program. Students will also be required to attend seminars provided through the Career Resource Center. Seminar topics include interview techniques, developing and preparing a resume, completing job applications, ethics, and teamwork.

CLR 162 Workplace Skills 1 (1)
This course utilizes KeyTrain Software to assist in reinforcing applied math and reading skills in preparation for the WorkKeys assessment, given prior to exiting the program. Students are encouraged to take the Locating Information WorkKeys exam as well, the third test needed to be eligible to earn a WorkReady Certificate. Students may also be required to attend seminars presented on campus dealing with topics such as interview techniques, developing and preparing a resume, completing job applications, ethics, and teamwork.

CLR 201 Estimate/Damage 2 (1)
Through a variety of classroom and/or lab/shop learning and assessment activities, students in this course will expand their knowledge and performance to explore the advanced components of analyzing damage pertaining to auto collision and repair, demonstrate a complete estimate to identify structural repairs required, part design, construction materials, and manufacturing processes.

CLR 202 Estimate/Damage 2 (2)
Through a variety of classroom and/or shop learning and assessment activities, students in this course will expand their knowledge and performance to explore the advanced components of analyzing damage pertaining to auto collision and repair; demonstrate a complete estimate to identify structural repairs required, part design, construction materials, and manufacturing processes. Prerequisite: Estimate/Damage 1.

CLR 221 Non-Structural A&D Repair 3 (4)
Through a variety of classroom and/or shop learning and assessment activities, students in this course will remove and install trim and hardware, determine process and procedures necessary for movable glass repair, repair outer body panel, replace and adjust outer body panels, remove and install mechanical and electrical components, demonstrate safety protocol appropriate for the auto repair setting, perform intermediate welding skills on non-structural damage repairs, and perform plastic and adhesive repairs.

CLR 226 Non-Structural A&D Repair 4 (5)
Through a variety of classroom and/or shop learning and assessment activities, students in this course will apply safety requirements pertaining to structural damage repair, perform advanced welding and cutting techniques for structural repair, perform inspection and measurement of unibody for structural repair, repair unibody direct and indirect damage, perform frame inspection and measurement procedures, repair frame to industry standards, and remove and install fixed glass.

CLR 236 Structural A&D Repair 3 (3)
Through a variety of classroom and/or shop learning and assessment activities, students in this course will apply safety requirements pertaining to structural damage repair, perform welding and cutting techniques for structural repair; diagnose unibody direct and indirect damage, apply unibody inspection and measurement procedures, apply unibody repair procedures, apply frame inspection and measurement procedures, apply frame repair procedures, and remove fixed glass.

CLR 238 Structural A&D Repair 4 (3)
Through a variety of classroom and/or shop learning and assessment activities, students in this course will apply safety requirements pertaining to structural damage repair, perform advanced welding and cutting techniques for structural repair, perform inspection and measurement of unibody for structural repair, repair unibody direct and indirect damage, perform frame inspection and measurement procedures, repair frame to industry standards, and remove and install fixed glass.
CLR 246 Paint & Refinishing 3 (3)
Through a variety of learning and/or lab/shop learning and assessment activities, students in this course will identify safety and personal health hazards according to OSHA guidelines and the "Right to Know" law, determine the different types of substrates and sanding materials relevant to auto body surface preparation, identify the process to clean and prepare a substrate for paint, distinguish between the properties, uses and manufacturer specifications of metal treatments and primers, distinguish among the various types of spray guns and equipment, explore various paint codes and specifications for use, identify the various paint systems, explore the types of paint defects, distinguish between damage and non-damage related corrosion, and identify final detail procedures.

CLR 248 Paint & Refinishing 4 (4)
Through a variety of classroom and/or lab/shop learning and assessment activities, students in this course will apply exemplary safety procedures in all areas of auto body painting and refinishing, perform proper cleaning procedures for a refinsh, prepare adjacent panels for blending, prepare plastic panels for refinishing, protect all non-finished areas of vehicle, operate high and low volume/pressure spray gun operations for painting and refinishing, perform all paint system applications on an automobile, apply appropriate paint color matching and mixing procedures, tint color using formula to achieve a blendable mix, explore the causes, effects and correction of buffing related imperfections, explore the causes, effects and correction of pigment flotation, measure mil thickness, apply decals, transfers, tape, wood grain, and pinstripe to an automobile, apply buffing and polishing techniques to remove defects, apply cleaning techniques to automobile interior, exterior, glass and body openings, and remove over spray.

CLR 251 Mechanical & Electrical 2 (1)
Through classroom and/or lab/shop learning and assessment activities, students will advance knowledge and skills to determine how to diagnose steering and suspension, diagnose electrical concerns, complete headlamp and fog/driving lamp assemblies and repairs, demonstrate self-grounding procedures for handling electronic components, determine diagnosis, inspection and service needs for brake system hydraulic components, examine components of heating and air conditioning systems, determine the inspection, service and repair needs for collision damaged cooling system components, distinguish between the under car components and systems, and determine the diagnosis, inspection and service requirements of active and passive restraint systems.

CLR 252 Mechanical & Electrical 2 (2)
Through classroom and/or lab/shop learning and assessment activities, students will advance knowledge and skills to determine how to diagnose steering and suspension; diagnose electrical concerns; complete headlamp and fog/driving lamp assemblies and repairs; demonstrate self-grounding procedures for handling electronic components; determine diagnosis, inspection and service needs for brake system hydraulic components; examine components of heating and air conditioning systems; determine the inspection, service and repair needs for collision damaged cooling system components; distinguish between the under car components and systems; and determine the diagnosis, inspection and service requirements of active and passive restraint systems.

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The course will include surveying math, metric system, and conversion between English and metric. Concepts in working with formulas and equations will be an essential component of the course. Students will learn proper use and care for site layout equipment. An introduction to reading of blueprints and specifications are relevant to site layout of various projects. Math and reading are embedded in the curriculum.

**CHC 130 Safety Certifications (2)**
This course instructs and prepares the student for a certificate in trench safety and competent person training, confined space safety certificate; and the OSHA 10-hour safety certificate. Industry has a high priority and focus on these safety certifications. Math and reading are embedded in the curriculum.

**CHC 140 Heavy Highway I (6)**
In this course the student will be introduced to the heavy highway trade of trucks and heavy equipment. Course content includes procedures and components of trucks, heavy equipment, below grade construction, earthmoving, plant operations, paving, and structures. Math and reading are embedded in the curriculum.

**CHC 150 Heavy Equipment I (5)**
This course will prepare the student with technical skills to seek employment as a heavy equipment operator in the equipment operations career field. This course includes instructions and practical operation experience in bulldozers, backhoes, track excavators, skid loaders, motor graders, and dump trucks. Students will also have a working understanding of grade reading, laser level operation, engineering stake interpretations, safety procedures, and equipment maintenance. Math and reading will be embedded within the curriculum.

**CHC 180 Pipe Laying I (6)**
Through classroom and/or lab experiences, instruction will include proper use of hand and power tools in the pipe laying trade, receiving and inspecting pipe upon arrival on the job site, cutting and fabricating the pipe, discussion of concrete, PVC, and ductile iron pipe, proper elevations, foundations and stabilization, bedding and de-watering practices will be discussed. Math and reading will be embedded in the curriculum.

**CHC 195 Class A CDL (1)**
This course will provide technical knowledge and skills for the student about various trucks in the 54,000 lb. tag weight and used in construction. Dump trucks will be the primary focus and the student will learn the components of the trucks as well as be instructed on safe operation of the vehicle. Math and reading will be embedded in the program. Pre- and post-trip inspections will be taught along with proper paperwork required in such vehicle. Optional: the student may complete the assessment to obtain the Class A CDL.

**CHC 201 Commercial Truck Driving I (7)**
The curriculum standards of this course incorporate the curricular recommendations of the U.S. Department of Transportation's Federal Highway Administration's former Office of Motor Carriers Model Curriculum. The curriculum standards represent the minimum training elements that a commercial motor vehicle driver-training course should contain, and against which any such course may be judged. Taken together with CHC 202 Commercial Truck Driving II, the curriculum standards represent the minimum curriculum judged by the Professional Truck Driver Institute, Inc. (PTDI) to be necessary in order to provide training in how to operate a Commercial Motor Vehicle.

**CHC 202 Commercial Truck Driving II (8)**
The curriculum standards of this course incorporate the curricular recommendations of the U.S. Department of Transportation's Federal Highway Administration's former Office of Motor Carriers Model Curriculum. The curriculum standards represent the minimum training elements that a commercial motor vehicle driver-training course should contain, and against which any such course may be judged. Taken together with CHC 201 Commercial Truck Driving I, the curriculum standards represent the minimum curriculum judged by the Professional Truck Driver Institute, Inc. (PTDI) to be necessary in order to provide training in how to operate a Commercial Motor Vehicle.

**CHC 250 Heavy Equipment II (7)**
This course will focus on the student's choice of heavy equipment. Application of all heavy equipment safety aspects is required. The training will take the student into more extensive operating procedures and will be tailored to an intermediate experience level. The course plan is progressive as the instructor introduces general maneuvers and the student advances their skill towards skills of greater difficulty and complexity. Students will be encouraged to attempt, practice, and perform simulations to demonstrate their skilled achievements. Math and reading will be embedded within the program.

**CHC 255 Heavy Equipment II Application (6)**
This laboratory/application course will focus on advancing the skills of the student on heavy equipment. Technical knowledge learned in CHC250 will be applied in this course. With practice, it is the intent that applied skills will improve on various pieces of equipment. Equipment used will consist of bulldozers, backhoes, loaders, track hoes, uni-loaders, and off road trucks. As the student completes each task he/she will move to a more challenging task. The instructor will monitor each task and improvement of student. Tasks are pass or fail. Math and reading will be incorporated in each task as it applies in the field.

**Communication (CN)**

**CN 101 Introduction to Communication Studies (3)**
Examines concepts and skills involved in human communication. Topics include language, nonverbal communication, relationships, perception, and conflict management. Emphasizes the ability to analyze and synthesize information, and to interpret and assess human values. Prerequisite: None.
*(General Ed Humanities. Communication.)*

**CN 150 Public Speaking (3)**
Focuses on the process of speech preparation and presentations. Emphasizes the development of critical thinking and listening, clear speaking, and the interpretation of human values through the development of public speaking competencies. Prerequisite: None.
*(General Ed Humanities. Communication.)*

**CN 154 Debate (1-3)**
Preparation for intercollegiate debate. May be repeated up to 3 hours. Prerequisite: Consent.

**CN 302 Communication Theory (3)**
Explores the theoretical foundations that underlie applications in a variety of communication contexts. Provides broad exposure to contemporary communication theory. Prerequisite: CN 101.

**CN 304 Qualitative Communication Research Methods (3)**
Presents fundamental types and steps of qualitative research in communication. Prerequisites: CN 101 and CN 150 and MA 112 or above or special permission.
CN 305 Quantitative Communication Research Methods (3)
This course presents fundamental types and steps of quantitative research in communication. Prerequisites: CN 101, & MA 112 or higher, or special permission.

CN 306 Health Communication (3)
This course explores the concepts and theories of health communication. Examines the demands of health care and health promotion, communication issues and problems in modern health care systems, and identifies communication strategies health care consumers and providers can employ to achieve their health care goals.

CN 307 Communication in Legal Process (3)
This course explores the practice of communication in the legal setting, including attorney-client interaction, the trial process, attorney-jury interaction, and legal negotiation.

CN 308 Organizational Communication (3)
This course examines organizations from a communication perspective. Emphasizes how organizational variables affect communication patterns. Topics include concepts, skills, theories, and strategies for improving organizational communication.

CN 309 Political Communication (3)
This course examines communication concepts in campaigns, presidential addresses, and other political environments.

CN 310 Communication in Conflict and Negotiation (3)
This course explores the roles of communication in conflict and negotiation within relationships, groups, and organizations. Examines both theory and practice. Prerequisite: CN 101

CN 311 Interviewing (3)
This course explores the key concepts and needed skills to conduct effective interviews in many settings.

CN 312 Persuasive Speaking (3)
This course sharpens persuasive speaking skills initiated in Public Speaking. Focuses on preparation, delivery, and analysis of persuasive speeches in a variety of contexts, including political and corporate settings. Prerequisite: CN 150.

CN 313 Delegation of Authority (3)
This course examines the delegation of authority in organizations. Emphasizes the theory and practice of training and development in organizations. Prerequisites: CN 150 and CN 308, or with consent of instructor.

CN 314 Negotiation (3)
This course explores negotiation strategies and techniques. Emphasizes the role of communication in the negotiation process. Prerequisite: Consent.

CN 315 Ethical Communication (3)
This course examines ethical issues in communication. Focuses on the moral dimensions of communication in personal and professional contexts. Prerequisites: CN 101 and MA 112.

CN 316 Nonverbal Communication (3)
This course explores nonverbal communication by individuals and society. Emphasizes clear speaking and information processing in terms of synthesis and analysis.

CN 317 Interpersonal Communication (3)
This course focuses on communication in groups and organizations. Examines critical factors in interpersonal communication. Analyzes and applies various interpersonal theories and concepts to a variety of relationships.

CN 318 Communication in Legal Process (3)
This course explores the practice of communication in the legal setting, including attorney-client interaction, the trial process, attorney-jury interaction, and legal negotiation.

CN 319 Crisis Communication (3)
This course examines the role strategic communication with publics plays within corporate and institutional settings, specifically its effectiveness in developing and maintaining external and internal relationships. Methods combine close reading, current event applications, case analyses and focused discussion. Special attention is paid to strategies of crisis planning and management, apologia, and rhetorical reputation management techniques. Prerequisites: None.

CN 320 Social Media and Communication (3)
This course examines the role of social media in communication. Examines the use of digital communication tools in social and professional contexts. Prerequisites: CN 150.

CN 321 Communication in Public Relations (3)
This course examines the role of communication in public relations. Focuses on strategies for effectively communicating with various publics. Prerequisites: None.

CN 322 Communication in Marketing (3)
This course examines the role of communication in marketing. Focuses on strategies for effectively communicating with consumers and stakeholders. Prerequisites: None.

CN 323 Communication in Health Care (3)
This course examines the role of communication in health care. Focuses on strategies for effectively communicating with patients and stakeholders. Prerequisites: None.

CN 324 Communication in Law Enforcement (3)
This course examines the role of communication in law enforcement. Focuses on strategies for effectively communicating with law enforcement agencies and stakeholders. Prerequisites: None.

CN 325 Communication in Political Campaigns (3)
This course examines the role of communication in political campaigns. Focuses on strategies for effectively communicating with voters and stakeholders. Prerequisites: None.

CN 326 Cultural Communication (3)
This course examines the role of communication in cultural contexts. Focuses on strategies for effectively communicating with diverse audiences. Prerequisites: None.

CN 327 Communication in Religious Settings (3)
This course examines the role of communication in religious settings. Focuses on strategies for effectively communicating with religious communities. Prerequisites: None.

CN 328 Communication in Educational Settings (3)
This course examines the role of communication in educational settings. Focuses on strategies for effectively communicating with students and stakeholders. Prerequisites: None.

CN 329 Communication in Corporate Settings (3)
This course examines the role of communication in corporate settings. Focuses on strategies for effectively communicating with employees and stakeholders. Prerequisites: None.

CN 330 Communication in Government Settings (3)
This course examines the role of communication in government settings. Focuses on strategies for effectively communicating with stakeholders. Prerequisites: None.

CN 331 Communication in Nonprofit Settings (3)
This course examines the role of communication in nonprofit settings. Focuses on strategies for effectively communicating with stakeholders. Prerequisites: None.

CN 332 Communication in Cultural Settings (3)
This course examines the role of communication in cultural settings. Focuses on strategies for effectively communicating with diverse audiences. Prerequisites: None.

CN 333 Communication in Environmental Settings (3)
This course examines the role of communication in environmental settings. Focuses on strategies for effectively communicating with stakeholders. Prerequisites: None.

CN 334 Communication in Legal Settings (3)
This course examines the role of communication in legal settings. Focuses on strategies for effectively communicating with stakeholders. Prerequisites: None.

CN 335 Communication in Political Settings (3)
This course examines the role of communication in political settings. Focuses on strategies for effectively communicating with stakeholders. Prerequisites: None.

CN 336 Communication in Educational Settings (3)
This course examines the role of communication in educational settings. Focuses on strategies for effectively communicating with stakeholders. Prerequisites: None.

CN 337 Communication in Corporate Settings (3)
This course examines the role of communication in corporate settings. Focuses on strategies for effectively communicating with stakeholders. Prerequisites: None.

CN 338 Communication in Government Settings (3)
This course examines the role of communication in government settings. Focuses on strategies for effectively communicating with stakeholders. Prerequisites: None.

CN 339 Communication in Nonprofit Settings (3)
This course examines the role of communication in nonprofit settings. Focuses on strategies for effectively communicating with stakeholders. Prerequisites: None.

CN 340 Persuasive Speaking (3)
This course sharpens persuasive speaking skills initiated in Public Speaking. Focuses on preparation, delivery, and analysis of persuasive speeches in a variety of contexts, including political and corporate settings. Prerequisite: CN 150.

CN 341 Ethical Communication (3)
This course examines ethical issues in communication. Focuses on the moral dimensions of communication in personal and professional contexts. Prerequisites: CN 101 and MA 112.

CN 342 Nonverbal Communication (3)
This course explores nonverbal communication by individuals and society. Emphasizes clear speaking and information processing in terms of synthesis and analysis.

CN 343 Interpersonal Communication (3)
This course focuses on communication in groups and organizations. Examines critical factors in interpersonal communication. Analyzes and applies various interpersonal theories and concepts to a variety of relationships.

CN 344 Communication in Legal Process (3)
This course explores the practice of communication in the legal setting, including attorney-client interaction, the trial process, attorney-jury interaction, and legal negotiation.

CN 345 Crisis Communication (3)
This course examines the role of communication in crisis situations. Focuses on strategies for effectively communicating with stakeholders. Prerequisites: None.

CN 346 Cultural Communication (3)
This course examines the role of communication in cultural contexts. Focuses on strategies for effectively communicating with diverse audiences. Prerequisites: None.

CN 347 Communication in Religious Settings (3)
This course examines the role of communication in religious settings. Focuses on strategies for effectively communicating with religious communities. Prerequisites: None.

CN 348 Communication in Educational Settings (3)
This course examines the role of communication in educational settings. Focuses on strategies for effectively communicating with students and stakeholders. Prerequisites: None.

CN 349 Communication in Corporate Settings (3)
This course examines the role of communication in corporate settings. Focuses on strategies for effectively communicating with employees and stakeholders. Prerequisites: None.

CN 350 Persuasion (3)
This course examines the role of communication in influencing attitudes, beliefs, values, and behaviors. Prerequisites: None.

CN 351 Interpersonal Communication (3)
This course examines critical factors in interpersonal communication. Analyzes and applies various interpersonal theories and concepts to a variety of relationships.

CN 352 Truth and Deception (3)
This course examines a particularly human activity (or skill?): Lying and deception. Study of these topics draws from recent scholarship in the disciplines of Communication Studies, Psychology, Philosophy, Public Policy, and Marketing. Theoretical concepts will be brought down to earth as we consider them at work in applications to current events and breaking news. Prerequisite: None.

CN 353 Environmental Communication (3)
This course examines the role of communication in environmental contexts. Focuses on strategies for effectively communicating with stakeholders. Prerequisites: None.

CN 354 Reputation Management (3)
This course examines the role of communication in managing reputation. Focuses on strategies for effectively communicating with stakeholders. Prerequisites: None.

CN 355 Communication in Legal Process (3)
This course explores the practice of communication in the legal setting, including attorney-client interaction, the trial process, attorney-jury interaction, and legal negotiation.

CN 356 Social Media and Communication (3)
This course examines the role of social media in communication. Examines the use of digital communication tools in social and professional contexts. Prerequisites: None.

CN 357 Interpersonal Communication (3)
This course focuses on communication in groups and organizations. Examines critical factors in interpersonal communication. Analyzes and applies various interpersonal theories and concepts to a variety of relationships.

CN 358 Communication in Legal Process (3)
This course explores the practice of communication in the legal setting, including attorney-client interaction, the trial process, attorney-jury interaction, and legal negotiation.

CN 359 Political Communication (3)
This course examines communication concepts in campaigns, presidential addresses, and other political environments.

CN 360 Communication in Conflict and Negotiation (3)
This course explores the roles of communication in conflict and negotiation within relationships, groups, and organizations. Examines both theory and practice. Prerequisite: CN 101

CN 361 Interviewing (3)
This course explores the key concepts and needed skills to conduct effective interviews in many settings.

CN 362 Persuasive Speaking (3)
This course sharpens persuasive speaking skills initiated in Public Speaking. Focuses on preparation, delivery, and analysis of persuasive speeches in a variety of contexts, including political and corporate settings. Prerequisite: CN 150.

CN 363 Nonverbal Communication (3)
This course explores nonverbal communication by individuals and society. Emphasizes clear speaking and information processing in terms of synthesis and analysis.

CN 364 Interpersonal Communication (3)
This course focuses on communication in groups and organizations. Examines critical factors in interpersonal communication. Analyzes and applies various interpersonal theories and concepts to a variety of relationships.

CN 365 Communication in Legal Process (3)
This course explores the practice of communication in the legal setting, including attorney-client interaction, the trial process, attorney-jury interaction, and legal negotiation.

CN 366 Crisis Communication (3)
This course examines the role of communication in crisis situations. Focuses on strategies for effectively communicating with stakeholders. Prerequisites: None.

CN 367 Communication in Social Movements (3)
This course examines communication concepts in campaigns, presidential addresses, and other political environments.

CN 368 Environmental Communication (3)
This course examines the role of communication in environmental contexts. Focuses on strategies for effectively communicating with stakeholders. Prerequisites: None.

CN 369 Critical Studies (3)
This course examines cultural practices and their relation to communication as both the object of study and the location of political criticism and action.

CN 370 Communication Training & Development (3)
This course emphasizes the theory and practice of training and development in organizations. Prerequisites: CN 150 and CN 308, or with consent of instructor.
**CN 380 Strategic Management Communication (3)**
Strategic Management Communication links current theories of business communication to applications and practices that build on these within professional settings. The course provides essential information as to expectations for form and content of a variety of message types that apply to all business situations. Using the case method as a tactic for understanding applications of this material in current business settings, students develop theory-based and strategy-driven skills in production of written and oral document types used in business, corporate, and management communication. Prerequisites: CN 101 required; preferred CN 308 Organizational Communication.

**CN 395 Special Topics/Communication (1-3)**
Focuses on a topic not regularly offered, but that enhances the curriculum because of specialized faculty or student interest.

**CN 490 Directed Research (1-3)**
Selected research on communication topics not provided in the curriculum.

**CN 491 Senior Capstone Internship (3)**
Experience and training in professional settings related to communication careers. Second semester junior or senior status. Majors only. Prerequisites: 27 hrs of communication courses completed including: CN 101, CN 150, CN 302, CN 304 or CN 305, EN 300, and instructor approval. Note: Students can choose either CN 491 or CN 498 to meet their Capstone requirement.

**CN 498 Senior Capstone (3)**
Students design and execute an appropriate project which provides a culminating experience for the undergraduate academic career and is presented in a departmental forum. Prerequisites: 27 hrs of communication courses completed, including CN 101, CN 150, CN 302, CN 304 or CN 305, EN 300 and Instructor approval. Note: Students can choose either CN 498 or CN 491 to meet their Capstone requirement.

**CN 601 Introduction to Graduate Study - Communication Study (3)**
This course examines concepts and skills involved in human communication. Topics include language, nonverbal communication, relationships, perception, and conflict management. The course emphasizes the ability to analyze and synthesize information, and to interpret and assess human values. This course is designed to introduce students to graduate learning. Prerequisite: Admission to graduate school. Consent of Department.

**CN 630 Communication-Conflict/Negotiation (3)**
Combines theory and application to prepare students to understand, negotiate and resolve disputes among parties with differing objectives and desires within relationships, groups, organizations and communities. An emphasis is placed on the narrative structure of conflict and negotiation. Prerequisite: CN 601

**CN 642 Team Communication in Organizations (3)**
This course provides an in-depth look at group dynamics and communication focusing on communication and decision making, relationships, conflict, leadership, and group development. Students will examine the theory and research on the role of communication in effective and efficient work teams. Prerequisite: CN 601

**CN 650 Persuasion (3)**
This course examines the theoretical and practical elements into the role of communication in influencing attitudes, beliefs, values, and behaviors. The course allows students to take this research and put it into practice in forming and analyzing persuasion campaigns in various contexts. Prerequisite: CN 601

**CN 680 Seminar - Strategic Management Communication (3)**
This course is built upon a 21st century theoretical foundation that links disciplines of business, organizational communication and corporate management, with a focus on planning and leadership. According to our textbook author, a unique and important aspect of the course is its emphasis “on strategy formulation, making a clear distinction between strategic and tactical elements of communication.” Using the case method and other applications for theories we cover, students will understand how they can best use various channels and contexts of communication as tactics that will help them to achieve strategic goals. Prerequisite: CN 601

**CN 695 Special Topics (3)**
Focuses on a topic not regularly offered, but that enhances the curriculum because of specialized faculty or student interest. Prerequisites: None.

**CN 698 Capstone (3)**
Communication and Leadership Capstone Experience (3 credits)
The capstone experience is the culminating experience of the master’s degree program and is taken in the final semester. It requires the identification of an organizational or community problem or opportunity and the development and implementation of a project that defines, measures, analyzes, and improves the problem or opportunity. Prerequisite: CN 601 and 15 credit hours in graduate communication courses

**CN 777 Continuous Enrollment (1-3)**
This course is to allow additional time to complete Capstone, Thesis, or Practicum Requirements. Prerequisite: Instructor permission.

**Community Engagement (CE)**

**CE 250 Community Service Transformational Experience I - Associating (1)**
Students enrolling in this course will complete 50 hours of community service with an approved organization or agency and will meet regularly to reflect on their community service with an approved organization or agency. The focus of the service, readings, and discussions in CSTE I is on the basic concept in civic engagement--associating. To be human is to live among and with others. Our natural habitat is society. This is where civic engagement begins, with a gathering of people, some joining together, for us to have any kind of community or society. Associating is the underlying condition of civically engage activity—it is also the general form of civicly engaged activity. At the heart of community service is the association or connection we develop with others. The readings, discussion, and writing for CE 250 CSTE I are chosen to help us think and talk about how, why, and with whom we associate through service (David & Lynn, 2006). Prerequisite: None.

**CE 251 Introduction Poverty Studies (3)**
This course examines poverty as a problem for individuals, families, and societies. It focuses on the United States, perhaps the most impoverished of any developed nation. Introduction to Civic Engagement-Poverty Studies is the first course in the Civic Engagement minor. This course emphasizes discussion intended to advance understanding and prompt critical analyses of the assigned readings. Prerequisites: None.
CE 350  Community Service Transformational Experience II - Serving and Giving (1)

Students enrolling in this course will complete 50 hours of community service with an approved organization or agency and will meet regularly to reflect on their service. The focus of the service, readings and discussions in CSTE II are based on two concepts of civic engagement – serving and giving. Service, including public or community service, has the unusual feature of serving at least two different ends: service expressly benefits those served but at the same time benefits the servant as well (Davis & Lynn, 2006). For the first half of this section the readings and discussion will consider both kinds of benefits—the benefits to the server and those served. The focus of the second half of this section will look at the experience of giving. Very often we give gifts that fill us with joy and other times we have given gifts that lead us to resentment and regret (Davis & Lynn, 2006). Much of the time the act of giving and receiving leads us to question the act itself. “Should I have given that man on the street that dollar?” (Davis & Lynn, 2006). The readings and discussion in this section will explore the motives of the human experience of giving. Prerequisite: CE 250 or consent.

CE 351  Community Service Transformational Experience III - Leading (1)

Students enrolling in this course will complete 50 hours of community service with an approved organization or agency and will meet regularly to reflect on their service. Leadership, in most cases, is not something one learns or even prepares for—more often it sneaks up on you. One day you find yourself in charge, creating the experience of others, for better or worse. You look up one day and you are a teacher, a coach, a program director. You may have stepped up because of an event in your community, organized a group in response to that issue and now you are in charge. What do you do? How do you lead? (Davis & Lynn, 2006). The readings in this section do not answer these questions, but rather through discussion may help ease the burden and improve the leadership experience. Prerequisite: CE 350 or consent.

CE 400  Civic Engagement Practicum (3)

Students enrolling in this course will complete 300 hours of community-based service over the course of one year. Students will participate in a monthly seminar to reflect on the issues facing the community while exploring solutions to identified problems. This course can be taken as an alternative to the three one credit hour Community Service Transformational Experience Seminars (CE 250, CE 350 and CE 351). Prerequisite: CE 251

CE 401  Civic Engagement - Poverty Studies Capstone (3)

The Civic Engagement-Poverty Studies Capstone will involve students in Community Based Research (CBR) to solve problems of various community organizations. Students will come from different majors and will play a role in selecting the topics for focus through negotiation with Community Partners. They will share perspectives of their major disciplines as well as their varied experiences in the field thus ensuring the interdisciplinary nature of the inquiry. Students will engage in various ways with poverty-related programs, communities, and experts to address research needs identified by Center affiliated Community Partners. Students will produce a final research paper and discussion in this section will explore the motives of the human experience of giving. Prerequisite: CE 250 and CE 251, CE 350, CE 351, or CE 250 and CE 400, or Approved Practicum experience or instructor consent.

Computer Information Science (CM)

CM 100  Basic Computer Concepts & Applications (3)

This course is for the student who has little or no knowledge of how to use a computer. General computer education designed to provide students with basic computing and Internet knowledge and skills needed to understand, use, and analyze the application of computers in a world engulfed with technology. This course does not apply toward CIS departmental major requirements. Prerequisite: None

CM 101  Computer Concepts and Applications (3)

Overview of computer hardware, software, applications, and social implications. Emphasis on computer literacy, basic tools and applications to access resources on the Internet, and hands-on experience. The course provides an introduction to word processing, spreadsheet, database, and presentation software, and an introduction to emerging technologies. This course does not apply toward CIS departmental major requirements. Ability to key at least 30 wpm strongly recommended. Prerequisite: None. (General Ed Natural Science. Information Literacy and Tech.)

CM 105  Introduction to Computer Science (3)

This course is designed to provide students with a broad perspective of the field of Computer Science, from core issues and concepts inherent to the discipline of computing, to the various sub-disciplines of computer science, and the related ethical issues. Topics include coverage of the various layers of computing including: data, hardware, software, operation systems, applications, and communications. Prerequisite: MA 112 or MA 116, or concurrent enrollment. (General Ed Natural Science. Information Literacy and Tech.)

CM 111  Introduction to Structured Programming (4)

Establish the basic logic foundation for computer programming. Examine programming paradigms, algorithm development, and object-oriented techniques. Study the syntax and semantics of a higher level language. Design and implement algorithms to solve problems using structured data types. Three credit hours of lecture and a weekly two hour laboratory session. Prerequisite: A grade of C or better in MA 116 (or higher Math Class) or concurrent with MA 116 or an ACT Mathematics score at or above 25 or equivalent knowledge as determined by the CIS Department.

CM 113  Visual Programming (3)

This course will present the fundamentals of programming in a visual programming language. The syntax and semantics of a visual programming language will be presented. The fundamental concepts of the design and implementation of object oriented event driven programming and interactive graphic user interfaces will be covered. The particular visual programming language may vary from course offering to course offering but the language will be specified in the course title listed in the course schedule of the semester the course is offered. Prerequisite: CM 105 or CM 111.

CM 121  COBOL Programming (3)

An introduction to programming typical business applications in COBOL. Emphasis on the fundamentals of structured program design, coding, testing, and documentation. Prerequisite: CM 111.

CM 130  Web Development I (3)

An introduction to basic web development using HTML, cascading style sheets and elementary JavaScript. The emphasis will be on creating well-designed, full-featured web pages that are easy to use and maintain and follow the latest standards. Prerequisite: CM 101 or declared CIS major.

CM 170  FORTRAN Programming (3)

Analysis, design, documentation, coding, and testing structured programs written in the FORTRAN language. Prerequisites: CM 111 and MA 116.
CM 203 Digital Forensics I (3)
An introductory course in digital forensics including an overview of computer and network architecture, security issues of Windows, Mac and Linux operating systems, use of command-line and open-source tools and the basics of cryptography. Prerequisite: MA 116

CM 231 Computer Organization/Assembler Language (3)
Introduction to logical computer organization and architecture. Topics include: Machine level representation of data, Assembly level machine organization, Memory system organization and architecture, Interfacing and communications, and Functional organization. Prerequisite: CM 111.

CM 244 C Programming Language (3)
An introduction to the C programming language and the use of C for applications. All aspects of the C language will be covered including syntax, data types, control structures, operators, data structures, pointers, and file input/output. Prerequisite: CM 111.

CM 245 Contemporary Programming Methods (3)
A study of programming methodology using an object-oriented language. Topics include design with classes, implementation of basic data structures, recursion, language design and translation, event-driven programming, fundamentals of 2-D graphics, and software testing. Prerequisite: CM 111.

CM 261 Networked Systems I (3)

CM 298 Special Topics/Non-Majors (1-3)
Directed study in an area of information science at the lower division level. This course does not apply toward CIS departmental major requirements. Prerequisite: Consent of instructor.

CM 299 Special Topics/CIS (1-3)
Directed study in an area of information science at the lower division level. Prerequisite: Consent of instructor.

CM 303 Digital Forensics II (3)
A follow-up course in digital forensics using the tools used by professional digital forensic investigators. File system and networking forensics will be covered. Prerequisites: CM 203

CM 306 File Structures Using COBOL (3)
Design and implementation of file structures commonly accessed in business application programming. Discussion of the function of theoretical data structures which can normally be accessed as pre-existing routines. Topics to be covered include: table and array processing; string processing; sequential, relative, and indexed sequential file organization; linked and inverted lists; stacks and queues; binary trees; full screen handling; embedded SQL for database access. Prerequisite: CM 121.

CM 307 Data Structures & Algorithmic Analysis (3)
An introduction to basic algorithmic analysis and algorithmic strategies. Topics include mathematical analysis of the time/space complexity of algorithms, algorithmic strategies such as greedy algorithms, divide and conquer, and dynamic programming algorithms, the use of graphs, trees, priority queues, and other data structures in algorithmic problem solving, basic computability theory, and proof techniques. Prerequisites: MA 206 and CM 245.

CM 310 Introduction to Operations Research (3)
A study of the techniques and topics that are the foundation of operations research. Topics will include: linear, integer and dynamic programming, queuing theory and project scheduling. Prerequisites: CM 111 and either MA 142 or MA 151 and either MA 145 or MA 301 or consent of instructor.

CM 322 Operating System & Networking Concepts (3)
The basic principles of operating system function and design and an in-depth study of the standard UNIX shells and shell scripting. Topics include: processes and dispatching, kernels, virtual memory, concurrence, multithreading, memory management, file systems and the UNIX shells. Prerequisite: CM 231.

CM 325 Computational Methods (3)
The study of the use of the computer for simulation models. The statistical and mathematical models most commonly used in simulation are discussed. Prerequisite: CM 307.

CM 330 Web Development II (3)
A second course in web development using a scripting language and a database. The student will learn to develop web pages that display dynamic content (i.e. content from a database). More advanced features of JavaScript will be introduced as needed. Prerequisite: CM 111 and CM 130.

CM 331 Computational Intelligence (3)
An introduction to the tools, techniques and problem areas of artificial intelligence. These topics include: knowledge representation and reasoning; search and constraint satisfaction; history and ethical questions; logic and deduction; uncertainty and planning. Prerequisite: CM 307.

CM 332 Data Mining (3)
The study of problem solving through the analysis of data. Topics include ethical issues, input design, knowledge representation, and basic data mining algorithms including decision rules and trees, statistical and linear models, and clustering techniques. Prerequisites: CM 307 and MA 140 or consent.

CM 333 Software Engineering (3)
Study of disciplined approaches to the production of quality software products and an examination of some social and professional issues related to software production and use. Topics covered: software requirements and specifications, lifecycle models, design, validation and evolution of software, project management, CASE tools, as well as social and ethical considerations such as intellectual property, risks and liabilities, and privacy. Prerequisite: CM 307 or CM 335.

CM 334 Modeling with VBA/Excel (3)
This course provides the foundation required to build applications that can be used to model typical decision support applications. Topics include (1) fundamentals of developing applications in Excel and VBA, and (2) discussion of specific DSS applications and enhancements to those applications through the application of VBA. Prerequisites: CM 111 and MA 140

CM 335 Advanced Application Programming & Design (3)
Advanced topics in application programming and design using state of the art design techniques and implementation language. Topics include design and implementation of alternative file structures and supporting data access methods; user interface design and implementation; exception handling. Prerequisite: CM 245.
CM 336  Database Management Systems  (3)
Conceptual and physical database design, database implementation, and database systems. Topics include: traditional file management systems versus database systems, information modeling, and alternative data models, such as relational and object oriented, data manipulation, transaction management, integrity and security. Prerequisite: CM 307 or CM 335.

CM 337  Systems Analysis & Design  (3)
The life cycle of a systems project and characteristics of systems in general. Information gathering methods, communication techniques, and the nature of the decision making process. Defining logical and physical requirements through the use of various manual and automated (CASE) documentation tools and techniques such as data flow diagrams, entity relationship diagrams, decomposition diagrams, class models, behavioral models, and prototyping. Prerequisite: CM 336.

CM 339  Computer Information Science Research  (3)
This course provides students an introduction to issues and challenges in CIS research. Students learn to form research questions, conduct literature review, collect data, use statistical techniques to analyze data, and write a research paper for submission to a CIS journal or conference. Prerequisites: CIS major with Junior Standing, or consent of the instructor.

CM 341  Information Security: Technical Issues  (3)
In-depth examination of technical issues associated with information security. The tools and techniques necessary to provide information security will be discussed in class and investigated in the laboratory whenever possible. Risks and threats to information security will also be discussed. Prerequisites: CM 261 and CM 322.

CM 342  Information Security: Managerial Issues  (3)
An in-depth examination of the administrative aspects of Information Security and Assurance. This course provides the foundation for understanding the key issues associated with protecting information assets, determining the levels of protection and response to security incidents, and designing a consistent reasonable information security system, with appropriate intrusion detection and reporting features. Prerequisite: Junior standing or consent of instructor.

CM 361  Networked Systems II  (3)
Network security and management; encryption and compression algorithms; wireless computing. Special emphasis on the TCP/IP protocol suite as used on the web. Prerequisite: CM 261.

CM 363  Computer Networks  (3)
Laboratory study of information and procedures needed to build and administer a TCP/IP network and preparation for the Certified Network Associate (CCNA) exam. Lab work on configuration of routing and switching equipment using routing and switching protocols. A knowledge of the basics of TCP/IP and desire to use that protocol to build and administer a operational network are assumed. Prerequisite: CM 261.

CM 370  Software Project Management  (3)
Exposure to project management software; review of speakers for business area as well as completion of multiple projects using project management software. Prerequisite: CM 307.

CM 390  Special Topics/Computer Information Science  (1-4)
Directed study in an area of Computer Science or Information Systems. Prerequisites: Junior standing and consent of instructor.

CM 400  Systems Analysis Internship  (1-6)
Systems analysis, design, and programming in an information processing environment. Evaluation of performance will be the joint responsibility of the college and user supervisors. Enrollment requires real promise in the information systems area, a minimum grade point average of 3.2 in computer science courses, and a well rounded background in computer science. Prerequisites: 21 hours in Computer Information Sciences with a minimum of 12 hours earned at Washburn, declared Major in Computer Information Sciences, and consent of instructor.

CM 401  Systems Analysis Cooperative I  (1)
Systems analysis, design, and programming in an information processing environment. Evaluation of performance will be the joint responsibility of the college and user supervisors. Consent for enrollment will be granted only to those students who have shown real promise in the computer science area, have a minimum grade point average of 3.2 in computer science courses, and have a well-rounded background in computer science. Prerequisites: 12 hours in Computer Information Sciences earned at Washburn, declared Major in Computer Information Sciences, and consent of instructor.

CM 402  Systems Analysis Cooperative II  (1)
Systems analysis, design, and programming in an information processing environment. Evaluation of performance will be the joint responsibility of the college and user supervisors. Prerequisite: CM 401.

CM 403  Systems Analysis Cooperative III  (1)
Systems analysis, design, and programming in an information processing environment. Evaluation of performance will be the joint responsibility of the college and user supervisors. Prerequisite: CM 402.

CM 465  Computer Information Science Capstone Project  (3)
This course is designed to provide closure for Computer Information Sciences majors. Group projects will be assigned which allow the student to analyze, design, and implement systems. The student will be provided an opportunity to assimilate and synthesize those skills acquired during the course of study for the major. In addition a couple of standardized tests will be administered. Credit/No Credit Only. Prerequisites: CM 333 and CM 336 or CM 307 and 90 hour.

CM 631  Computational Intelligence  (3)
An introduction to the tools, techniques, and problem areas of artificial intelligence. These topics include: knowledge representation and reasoning; search and constraint satisfaction; history and ethical questions; logic and detection; uncertainty and planning. Prerequisites: Graduate standing and consent of instructor.

CM 632  Data Mining  (3)
The study of problem-solving through the analysis of data. Topics include: ethical issues, input design, knowledge representation, and basic data mining algorithms including decision rules and trees, statistical and linear models, and clustering techniques. Prerequisites: Graduate standing and consent of instructor.

CM 731  Computational Intelligence  (3)
An introduction to the tools, techniques, and problem areas of artificial intelligence. These topics include: knowledge representation and reasoning; search and constraint satisfaction; history and ethical questions; logic and deduction; uncertainty and planning. Prerequisites: Graduate standing and consent of instructor.
Computer Repair & Networking (CRN)

CRN 115 PC Hardware Fundamentals (4)
PC Hardware Fundamentals provides an introduction to the computer hardware skills needed to help meet the requirement for entry-level information and communication technology professionals. The curriculum covers the fundamentals of PC hardware technology, networking, laptop, and printer, operational procedures, and also provides an introduction to advanced concepts in ever-growing Computer Technology. Students who complete this course will be able to describe the internal components of a computer, assemble a computer system, install an operating system, and troubleshoot using system tools and diagnostic software. Hands-on labs help students develop critical thinking and complex problem-solving skills.

CRN 125 PC Troubleshooting & Maintenance (4)
PC Troubleshooting & Maintenance provides an introduction to the computer hardware skills needed to help meet the requirement for entry-level information and communication technology professionals. The curriculum covers the fundamentals of PC hardware and software troubleshooting and maintenance. Students who complete this course will be able to describe the internal components of a computer, assemble a computer system, install an operating system, and troubleshoot using system tools and diagnostic software. Hands-on labs help students develop critical thinking and complex problem-solving skills.

CRN 135 PC Software Fundamentals (4)
PC Software provides a comprehensive overview of the computer operating system and introduction to advanced concepts. Students who complete this course will be able to describe the internal components of a computer, assemble a computer system, install an operating system, and troubleshoot using system tools and diagnostic software. Practical application will include connecting computers to the Internet and share resources in a networked environment.

CRN 146 Fund of Computer Networking (4)
This course prepares students with the knowledge and skills to install and configure Windows desktop operating system. The course focus is in four areas: installing, securing, networking, and browsing. At the completion of the course, the student will have installed and configured a Windows 7 desktop OS that is secure, on the network, and ready for browsing.

CRN 156 Network Operating Systems I (4)
This course introduces students to a broad range of Network Operating System (NOS) concepts, including installation and maintenance. The course focus is on Microsoft Windows 2008/2012 operating system concepts, management, maintenance, and the required resources.

CRN 165 Network Operating Systems II (3)
This course introduces students to a broad range of Network Operating System (NOS) concepts, including installation and maintenance. The course focus is on Linux Network Operating System concepts, management, maintenance, and the required resources.

CRN 166 Network Operating Systems II (4)
This course introduces students to a broad range of Network Operating System (NOS) concepts, including installation and maintenance. The course focus is on Linux Network Operating System concepts, management, maintenance, and the required resources.

CRN 176 Desktop Operating Systems (4)
This course provides an introduction to operating system basics with the intent of giving a student a deeper understanding of various operating systems. Operating systems covered include Windows 7 through Windows 10 desktop operating systems, Windows Server, UNIX/Linux, and Mac OS X operating systems. Students will learn some networking basics and information involving how to create mixed environments. Advanced configuration and troubleshooting will also be part of this course.

CRN 221 Intro to Enterprise Networking (2)
These concurrent courses introduce the architecture, structure, functions, components, and models of the Internet and other computer networks. The principles and structure of IP addressing and the fundamentals of Ethernet concepts, media, and operations are introduced to provide a foundation for the curriculum. By the end of these courses, students will be able to build simple LANs, perform basic configurations for routers and switches, and implement IP addressing schemes.

CRN 226 Intro to Enterprise Networking Lab (3)
These concurrent courses introduce the architecture, structure, functions, components, and models of the Internet and other computer networks. The principles and structure of IP addressing and the fundamentals of Ethernet concepts, media, and operations are introduced to provide a foundation for the curriculum. By the end of these courses, students will be able to build simple LANs, perform basic configurations for routers and switches, and implement IP addressing schemes.

CRN 231 Routing & Switching Essentials (2)
These concurrent courses describe the architecture, components, and operations of routers and switches in a small network. Students learn how to configure a router and a switch for basic functionality. By the end of this course, students will be able to configure and troubleshoot routers and switches and resolve common issues with standard access control lists and Network Address Translation for IPv4 and static and dynamic routing, virtual LANs, inter-VLAN routing, and Dynamic Host Configuration Protocol for both IPv4 and IPv6 networks. Prerequisite: Successful completion of CRN221 and CRN 226.

CRN 236 Routing/Switching Essentials Lab (3)
These concurrent courses describe the architecture, components, and operations of routers and switches in a small network. Students learn how to configure a router and a switch for basic functionality. By the end of this course, students will be able to configure and troubleshoot routers and switches and resolve common issues with standard access control lists and Network Address Translation for IPv4 and static and dynamic routing, virtual LANs, inter-VLAN routing, and Dynamic Host Configuration Protocol for both IPv4 and IPv6 networks. Prerequisite: Successful completion of CRN221 and CRN 226.

CRN 240 Workplace Skills I (2)
This course prepares students to write and present documents often found in technical settings. Students will create technical summary documents, sets of instructions, technical illustrations, and technical presentations. Students will develop and enhance appropriate workplace appearance and behavior. Prerequisite: Concurrent enrollment in CCNA I and CCNA II.
CRN 241 Scaling Networks (2)
These concurrent courses describe the architecture, components, and operations of routers and switches in larger and more complex networks. Students learn how to configure routers and switches for advanced functionality. By the end of this course, students will be able to configure and troubleshoot routers and switches and resolve common issues with OSPF, EIGRP, STP, EtherChannel, and HSRP in both IPv4 and IPv6 networks. Prerequisite: Successful completion of CRN 231 and CRN 236 or valid CCENT certification.

CRN 245 CCNA III (2)

CRN 246 Scaling Networks Lab (3)
These concurrent courses describe the architecture, components, and operations of routers and switches in larger and more complex networks. Students learn how to configure routers and switches for advanced functionality. By the end of this course, students will be able to configure and troubleshoot routers and switches and resolve common issues with OSPF, EIGRP, STP, EtherChannel, and HSRP in both IPv4 and IPv6 networks. Prerequisite: Successful completion of CRN 231 and CRN 236 or valid CCENT certification.

CRN 250 CCNA III Lab (3)

CRN 251 Connecting Networks (2)
These concurrent courses discuss the WAN technologies and network services required by converged applications in a complex network. The courses enable students to understand the selection criteria of network devices and WAN technologies to meet network requirements. Students learn how to configure and troubleshoot network devices and resolve common issues with data link protocols, extended and IPv6 access control lists, and Quality of Service (QoS). Students will also develop the knowledge and skills needed to implement common security and monitoring techniques in complex networks. Prerequisite: Successful completion of CRN 241 and CRN 246.

CRN 255 CCNA IV (2)

CRN 256 Connecting Networks Lab (3)
These concurrent courses discuss the WAN technologies and network services required by converged applications in a complex network. The courses enable students to understand the selection criteria of network devices and WAN technologies to meet network requirements. Students learn how to configure and troubleshoot network devices and resolve common issues with data link protocols, extended and IPv6 access control lists, and Quality of Service (QoS). Students will also develop the knowledge and skills needed to implement common security and monitoring techniques in complex networks. Prerequisite: Successful completion of CRN 241 and CRN 246.

CRN 265 Workplace Skills II (2)
This course prepares students for the documents and skills needed to enter the competitive technical field job market. Students will create and enhance their cover letter and résumé. Interview techniques and job application skills will be developed. Students will learn to identify available professional resources and levels of professional certification. Students will develop and enhance appropriate workplace appearance and behavior. Prerequisite: Concurrent enrollment in Enterprise Networking and Network Technology Application.

Cosmetology (COS)

COS 130 Cosmetology Clinical (1-12)
Cosmetology students who still have contact hours to complete, due to lack of attendance. This is usually after the original contact/credit semesters have ended.

COS 131 Scientific Concepts (1)
This course provides classroom instruction in sanitation, hair and scalp, skin, and nails for as prescribed by the Kansas Board of Cosmetology.

COS 132 Scientific Concepts (2)
This course provides classroom instruction in sanitation, hair and scalp, skin, and nails for as prescribed by the Kansas Board of Cosmetology.

COS 133 Scientific Concepts (3)
This course provides classroom instruction in sanitation, hair and scalp, skin, and nails for as prescribed by the Kansas Board of Cosmetology.

COS 134 Scientific Concepts (4)
This course provides classroom instruction in sanitation, hair and scalp, skin, and nails for as prescribed by the Kansas Board of Cosmetology.

COS 135 Scientific Concepts (5)
This course provides classroom instruction in sanitation, hair and scalp, skin, and nails for as prescribed by the Kansas Board of Cosmetology.

COS 141 Physical Services (1)
This course provides both classroom and clinical instruction in shampoos and rinses, scalp and hair care, facials and make-up, manicuring, pedicures and artificial nail enhancements.

COS 142 Physical Services (2)
This course provides both classroom and clinical instruction in shampoos and rinses, scalp and hair care, facials and make-up, manicuring, pedicures and artificial nail enhancements.

COS 143 Physical Services (3)
This course provides both classroom and clinical instruction in shampoos and rinses, scalp and hair care, facials and make-up, manicuring, pedicures and artificial nail enhancements.

COS 144 Physical Services (4)
This course provides both classroom and clinical instruction in shampoos and rinses, scalp and hair care, facials and make-up, manicuring, pedicures and artificial nail enhancements.

COS 145 Physical Services (5)
This course provides both classroom and clinical instruction in shampoos and rinses, scalp and hair care, facials and make-up, manicuring, pedicures and artificial nail enhancements.

COS 146 Physical Services (6)
This course provides both classroom and clinical instruction in shampoos and rinses, scalp and hair care, facials and make-up, manicuring, pedicures and artificial nail enhancements.

COS 147 Physical Services (7)
This course provides both classroom and clinical instruction in shampoos and rinses, scalp and hair care, facials and make-up, manicuring, pedicures and artificial nail enhancements.

COS 151 Design Services (1)
This course provides both classroom and clinical instruction in basic hair shaping, hair styling, and thermal techniques.

COS 152 Design Services (2)
This course provides both classroom and clinical instruction in basic hair shaping, hair styling, and thermal techniques.

COS 153 Design Services (3)
This course provides both classroom and clinical instruction in basic hair shaping, hair styling, and thermal techniques.

COS 154 Design Services (4)
This course provides both classroom and clinical instruction in basic hair shaping, hair styling, and thermal techniques.
COS 155 Design Services (5)
This course provides both classroom and clinical instruction in basic hair shaping, hair styling, and thermal techniques.

COS 156 Design Services (6)
This course provides both classroom and clinical instruction in basic hair shaping, hair styling, and thermal techniques.

COS 157 Design Services (7)
This course provides both classroom and clinical instruction in basic hair shaping, hair styling, and thermal techniques.

COS 161 Chemical Services (1)
This course provides classroom instruction in Chemical Hair care services. Virgin application, retouch application, foiling techniques, free hand techniques, permanent waving, and chemicals services that are for textured hair, relaxing, and curl reformation.

COS 162 Chemical Services (2)
This course provides classroom instruction in Chemical Hair care services. Virgin application, retouch application, foiling techniques, free hand techniques, permanent waving, and chemicals services that are for textured hair, relaxing, and curl reformation.

COS 163 Chemical Services (3)
This course provides classroom instruction in Chemical Hair care services. Virgin application, retouch application, foiling techniques, free hand techniques, permanent waving, and chemicals services that are for textured hair, relaxing, and curl reformation.

COS 164 Chemical Services (4)
This course provides classroom instruction in Chemical Hair care services. Virgin application, retouch application, foiling techniques, free hand techniques, permanent waving, and chemicals services that are for textured hair, relaxing, and curl reformation.

COS 165 Chemical Services (5)
This course provides classroom instruction in Chemical Hair care services. Virgin application, retouch application, foiling techniques, free hand techniques, permanent waving, and chemicals services that are for textured hair, relaxing, and curl reformation.

COS 166 Chemical Services (6)
This course provides classroom instruction in Chemical Hair care services. Virgin application, retouch application, foiling techniques, free hand techniques, permanent waving, and chemicals services that are for textured hair, relaxing, and curl reformation.

COS 167 Chemical Services (7)
This course provides classroom instruction in Chemical Hair care services. Virgin application, retouch application, foiling techniques, free hand techniques, permanent waving, and chemicals services that are for textured hair, relaxing, and curl reformation.

COS 231 State Law (1)
This course provides classroom instruction in the Kansas Board of Cosmetology General Laws, Rules and Regulations.

COS 232 State Law (2)
This course provides classroom instruction in the Kansas Board of Cosmetology General Laws, Rules and Regulations.

Criminal Justice (CJ)

CJ 100 Crime & Justice in America (3)
This is an introductory course in the field of criminal justice. It introduces the student to the nature and extent of crime in America and provides a detailed description of the components of the American criminal justice system: police, courts and corrections. In the second portion of the course, the role of the crime victim and the principal functions of criminal justice agencies are considered.

CJ 110 Introduction to Law Enforcement (3)
This course examines the history and major functions of modern law enforcement agencies and personnel. Special attention to career opportunities and alternatives in the field of law enforcement.

CJ 115 Introduction to Forensic Investigations (3)
This course introduces students to forensic science and is a primer to more advanced courses in the field of forensic science. The history of forensic science is explored, with particular emphasis on forensic investigations, as well as the developing and changing nature of the field. The role that forensic science plays within the American Criminal Justice System is a focus of study. The various technologies used are reviewed as are the limitations of forensic science. Prerequisite: None.

CJ 120 Introduction to Corrections (3)
Contemporary correctional activities and the functions performed by correctional agencies and personnel. Includes an overview of the functions performed by correctional institutions and agencies for juveniles and adults.

CJ 130 Public & Private Security (3)
History and philosophy of security, goals and measures of businesses, security firms, military services, and governmental agencies.

CJ 210 Criminal Law (3)
Review of substantive criminal law theory and specific elements common to index offenses will be presented. Course will offer a brief synopsis of the historical development of penal codes, as well as application of the Model Penal Code. Special emphasis will include a review of established defenses to criminal liability such as the insanity, self-defense and diminished mental capacity defenses.

CJ 220 Criminal Justice Communications (3)
Methods of gathering and reporting information essential to effective criminal justice operations are reviewed, discussed, and practiced. Emphasis is on developing effective interviewing skills and accurate reporting of information gathered by criminal justice practitioners.

CJ 225 Jail Workshop (3)
This course provides the student an overview of the history, functions, design and operation of the American jail.

CJ 230 Principles of Investigation (3)
Gathering information; principles and procedures used for crime scene protection and search; collection and preservation of evidence; interviewing and interrogation of complainants, witnesses, suspects, and victims; and scientific applications to a variety of investigations conducted in criminal justice setting.
CJ 235 Traffic Law & Investigation (3)
Provides a basic introduction to the traffic regulation function in modern society with particular emphasis on the impact on technology, judicial decisions, Federal mandates and societal expectations on the enforcement of traffic laws and the investigation of related violations.

CJ 245 Officer Survival (3)
Comprehensive police officer survival seminar designed for basic and in-service police training. Includes examination of the laws regarding use of force, civil and criminal liability, mental conditioning, post shooting trauma, the dynamics of lethal force and other special topics, including biomedical hazards, dealing with gangs and plainclothes and off-duty officer survival. Strenuous physical activity expected. Advise instructors of any medical condition that would prevent involvement in the training.

CJ 250 Patrol Procedures (3)
Provides a comprehensive study of police patrol procedures, beginning with a historical overview of local policing and moves into current patrol practices. Includes presentations of old training films, as available, to allow students to critique early methods with techniques learned. Includes legal issues and their impact on police methods.

CJ 260 Independent Study (1-3)
Criminal Justice majors may pursue an independent research project approved by faculty in consultation with the Department Chair. Independent Study may not be used in place of any courses required of the criminal justice major. Independent Study courses must meet equivalencies to Federal definition of a credit hour. Prerequisites: 6 hours of CJ course work.

CJ 290 Special Topics (1-3)
Topics will vary from semester to semester and will be announced in advance. May be taken for more than one semester for variable credit. Prerequisite: Consent of instructor.

CJ 303 Diversity in American Culture (3)
This course is designed to explore the relationship between culture and the criminal justice system. Emphasis is given to understanding the historical, theoretical, and structural perspectives of racial/ethnic and minority groups in society.

CJ 305 Crime & Justice in Film (3)
The course is intended to survey modern America’s attitudes about our criminal justice system through analysis of several motion pictures dealing with various facets of the system.

CJ 310 Police Problems & Practices (3)
Analysis of police functions and problems commonly encountered in the performance of those functions. Problem-solving methods and techniques are reviewed, discussed, and practiced. Prerequisite: CJ 110 or consent of instructor.

CJ 315 Drug Abuse & Criminality (3)
Societal reaction to drug abuse in terms of legal sanctions, treatment alternatives, and the criminal justice response (law enforcement, the courts, corrections). How substance abuse and criminal behavior are interrelated.

CJ 318 Juvenile Justice (3)
This course provides an overview of the American Juvenile Justice System, including theories and measurements of juvenile offending: the roles and relationships of law enforcement, courts, probation and parole, diversion programs, service agencies, and correctional institutions. Prerequisites: CJ 100.

CJ 320 Correctional Treatment Strategies (3)
Treatment strategies employed in adult and juvenile corrections programs, focusing on classification, types of institutional programming, as well as community and aftercare facilities. Prerequisite: CJ 120 or consent of instructor.

CJ 323 Serial Killers (3)
This course will review the methods used by criminal justice agencies to identify and track serial killers, examine various aspects of this particular criminal profile and review the impact of such criminal activity on our society. Case studies of convicted serial killers will be used to demonstrate the various factors that influence the development of this abnormal criminal mind. Prerequisite: None.

CJ 324 Evidenced Based Corrections (3)
This course is designed to explore best practices in corrections that are based on research. Emphasis is given to studying the findings from program evaluations to better understand EBP that have reduced recidivism and enhanced public safety. Prerequisites: CJ 120.

CJ 325 Applied Criminology (3)
Applied criminology will examine various criminological theories including delinquent subculture, differential association, and conflict theories, and their application by criminal justice professionals. In addition, the student will understand and practice the application of criminological theory in dealing with an individual offender.

CJ 330 Judicial Process (3)
Historical development and contemporary structure of state and federal trial courts and courts of appellate review will be presented. Constitutional and statutory authority for courts, court procedure, and defendant rights in the judicial process will be reviewed to include due process, public and speedy trial, jury composition, self-incrimination, punishment and state and federal post-conviction relief and/or appellate review. Other statutory and administrative/regulatory laws will be reviewed pertaining to the Code of Professional Responsibility as it applies to respective judicial officers. Close analysis is offered of the respective roles, duties performed, and career paths for judicial officers such as judges, prosecutors and defense counsel.

CJ 332 Law of Corrections (3)
This course is designed to explore the law of corrections by providing an in-depth examination of the court system with particular focus on prisoners’ post-conviction rights. Topics covered include the various sources of correctional law, prisoners’ statutory and constitutional rights, potential liability for corrections employees, and other controversial legal issues in corrections. Prerequisites: CJ 120.

CJ 337 Sex Offenders (3)
This course concerns sex offenders, sexual offending behavior and the policy responses of this type of crime. The course will cover “typical” sex offender characteristics, at least as much as the behavior can be typified. It will investigate the nature and procedure of sexual offending behavior. Policy targeted toward preventing or curbing behavior will also be explored. Prerequisite: None.

CJ 340 Crime Prevention (3)
Situational crime prevention, environmental design, physical security measures, defensible space, opportunity theories, crime displacement, rational choice theory, and crime prevention studies. Prerequisite: CJ 130 or consent of instructor.
CJ 342 Capital Punishment in America: The Death Penalty (3)
An overview of capital punishment in America with specific application to Kansas. The course covers different philosophical and religious positions on the death penalty; pro and con arguments related to retribution, deterrence, and incapacitation; the relative costs of the death penalty vs. permanent incarceration; innocent people on death row, discrimination, and arbitrariness in the application of the death penalty; and the role of judges, prosecutors, defense attorneys, juries, and witnesses in death penalty cases. Prerequisite: CJ 100 or consent of instructor.

CJ 345 Homicide (3)
An in-depth examination of homicide investigation and the tools required to bring the case to a successful completion. Prerequisite: CJ 110 or CJ 115, or consent of instructor.

CJ 350 Legal Issues in Security and Safety (3)
Civil and criminal liability of security officers and employers, security laws of arrest/search/seizure, security regulations, security licensing and training, OSHA standards and legal requirements, and case studies. Prerequisite: CJ 130 or consent of instructor.

CJ 352 Firearms Decision Making (3)
Firearms decision making provides students with the opportunity to examine the legal aspects of police use of force incidents. During the course students will learn about firearms and the proper safety, usage and storage of weapons. Each student will be provided the opportunity to use the Firearms Training System (FATS) and the simmunitions weapons system and experience split second decision making in a use of force incident. Finally, students will study the basic preparation for dealing with critical incidents and the aftermath of a shooting incident. An additional fee is associated with this course. Prerequisite: CJ 100 or consent of instructor.

CJ 355 Women in Criminal Justice (3)
An overview of the theories and facts on female criminality, employment practices and on-the-job problems that affect female criminal justice workers, and factors relative to female victims of crime.

CJ 360 Independent Study (1-3)
Criminal Justice majors may pursue an independent research project approved by faculty in consultation with the Department Chair. Independent Study may not be used in place of any courses required of the criminal justice major. Independent Study courses must meet equivalencies to Federal definition of a credit hour. Prerequisites: 6 hours of CJ course work or consent.

CJ 362 Human Trafficking (3)
An advanced undergraduate course that focuses on contemporary human trafficking and slavery. Types of trafficking and slavery to be covered include sex trafficking, bonded labor, forced labor, child soldiers, chattel slavery, and domestic servant slavery. The contributing roles of the state, organized crime, the media, culture, and corruption will be examined. Debates about defining trafficking and the connection between sex trafficking and prostitution will be reviewed. Course materials may include testimonies and autobiographies by survivors, research reports, theoretical essays, policy statements, expert testimonies, podcasts and videos. Prerequisite: Junior Standing or permission of the course instructor.

CJ 364 Homeland Security (3)
This course will provide an introduction and general overview of homeland security in the United States. The course will focus on helping students understand the key elements of homeland security strategies and operational policies. The role and purpose of homeland security strategy will be evaluated in regard to its implementation in a contemporary democratic society. Prerequisite: None.

CJ 365 Police & the Community (3)
Relevant literature and the scope of the problem, psychological and sociological considerations; and viable programs that effectively improve communications between the police and the public. Prerequisite: CJ 110 or consent of instructor.

CJ 367 Firearms and Tool Mark Examination (3)
This course will provide an understanding of the history and scope of firearms and toolmark examination as well as introducing students to basic methods of firearms and toolmark identification and examination. An emphasis will be placed on the use of this type of evidence as a means of facilitating effective crime scene investigations. The theory of firearms and toolmark evidence identification will be discussed as students are able to develop a better understanding of the scientific method and how it is applied to criminal investigations. Prerequisite: CJ 115 or consent of instructor.

CJ 368 Introduction to Bloodstain Pattern Analysis (3)
This is the first of two courses in Bloodstain Pattern Analysis (BPA). Each course will cover different aspects of BPA. In combination, the two courses will meet all the requirements of the International Association of Bloodstain Pattern Analysis (IABPA) Basic BPA Course. BPA is an investigative tool utilized by forensic scientists, crime scene technicians and investigators to identify bloodstain patterns at a crime scene, which may assist in reconstructing events. This course will introduce students to bloodstain pattern identification and analysis. Attention will be focused on how bloodstain analysis can be used to help facilitate criminal investigations. Prerequisite: CJ 115 or consent of instructor.

CJ 369 Advanced Bloodstain Pattern Analysis (3)
This is the second part of two courses in Bloodstain Pattern Analysis (BPA). Each course will cover different aspects of BPA. In combination, the two courses will meet all the requirements of the International Association of Bloodstain Pattern Analysis (IABPA) Basic BPA Course. BPA is an investigative tool utilized by forensic scientists, crime scene technicians and investigators to identify bloodstain patterns at a crime scene, which may assist in reconstructing events. Prerequisite: CJ 368.

CJ 370 Fire Investigation and Prevention (3)
Examines the principles of fire investigation, burn patterns, arson, fraud, industrial and commercial fire prevention, hazard recognition, fire control and suppression methods. Prerequisite: CJ 115 or consent of instructor.

CJ 375 Forensic Psychological and Criminal Profiling (3)
This course introduces students to the diverse ways in which the forensic psychologist participates in the legal system. Particular attention is given to the role of the forensic psychologist in criminal proceedings as it relates to the state of mind of the offender. The course also introduces students to basic theories of criminal profiling and ethical considerations in the use of profiling. Prerequisite: CJ 110 or CJ 115, or consent of instructor.

CJ 380 Terrorism (3)
An exploration of the incidence and threats of terrorism and an investigation of the security and law enforcement measures needed to combat it. Topics such as assassination, kidnapping, hijacking, extortion, sabotage, bomb threats/searches, hostage negotiations, victims’ survival, and medical/tactical reaction teams will be discussed as they relate to executive protection and terrorism.

CJ 382 Security Technologies (3)
This course provides an overview of the technologies used by security professionals and criminals working in public safety. Emphasis is given to methods of assessing public and private security threat and managing security protection in government and industrial agencies, and digital, cyber and protective services. Prerequisites: CJ 130.
CJ 390 Special Topics (1-3)
Topics will vary from semester to semester and will be announced in advance. May be taken for more than one semester for variable credit. Prerequisite: Consent of instructor.

CJ 395 Seminar in Metropolitan Criminal Justice (3)
An overview of the functions, interrelations and problems of metropolitan law enforcement, judicial and correctional agencies is provided through lectures, assignments and agency visitations. Usually conducted in the Kansas City metropolitan area over a five-day period. Prerequisite: Consent of instructor.

CJ 400 Criminal Justice Research Methods (3)
This course allows students to learn and demonstrate knowledge of research methodology within the criminal justice system and become acquainted with the range and scope of quantitative and qualitative tools available to the criminal justice researcher. Prerequisite: 12 hours Criminal Justice or consent of instructor.

CJ 401 Criminal Justice Ethics (3)
An advanced exploration of the field of ethics as specifically applied to the criminal justice field. Theoretical ethics will be examined alongside a pragmatic and applied focus on the application of these ethical principles in a contemporary criminal justice professional environment. Prerequisite: None.

CJ 410 Criminal Procedure and Evidence (3)
Advanced analysis of the constitutional statutory foundations of modern criminal procedure will be emphasized, with particular focus on the 4th, 5th, and 6th Amendments. The law of search and seizure, interrogations and confessions, warrants, indictment/information, pretrial suppression and exclusionary rule applications will be presented. Rules pertaining to obtaining, qualifying and admitting evidence will be discussed, to include direct and cross examination, application of the hearsay rule, recognized privileged communications, and common evidentiary objections will be offered in the criminal prosecution/defense perspective.

CJ 415 Advanced Forensic Investigations (3)
Examines the role of forensic science in the investigation and solution of crime. Each type of physical evidence normally encountered in criminal investigation is studied with regard to collection and packaging techniques which maximize evidentiary value, the current types of scientific analyses available, and the significance and limitations of the scientific results. The history of forensic science is also briefly examined. Prerequisite: CJ 115 or consent of instructor.

CJ 416 Forensic Applied Science Laboratory (3)
This skills application course is designed to complement CJ 415 Forensic Investigations in Criminal Justice. Emphasis is given to the application of forensic investigation techniques and practices related to the preservation of evidence and the processing of crime scenes, including: processing latent prints, gathering trace evidence, documenting firearms and toolmarks evidence, and the collection of illicit drugs. Preparations for court testimony and presentation of evidence in court proceedings are covered. This course must be taken the same semester as CJ 415. Prerequisite: CJ 115 or consent of instructor.

CJ 417 Probation, Parole and Community Based Corrections (3-6)
Crime scene investigation internships are created for CSI students to put their classroom-learned skills to real-life applications. Moreover, having an on-the-job training under a crime scene investigation unit will expose you to different specializations of your career choice such as photography skills at crime scenes; this way, you can choose which aspect of a CSI job to concentrate on. This internship requires summative reflection, serving as a culminating experience for Bachelor's degree students. Prerequisites: CJ 115, CJ 415, and Consent of Instructor.

CJ 420 Probation, Parole And Community Based Corrections (3)
Probation and parole, including the administration, procedures, and techniques used in the treatment and supervision of offenders. Also, the history and trends of probation and parole, and professional training in these fields. Prerequisite: CJ 120 or consent of instructor.

CJ 425 White Collar Crime (3)
Occupational crime, fraud, theft, computer crimes, environmental crimes, business and governmental crimes, and prevention measures. Prerequisite: CJ 110 or consent of instructor.

CJ 440 Enforcement Administration (3)
CJ 445 Drug Enforcement Policies and Programs (3)
The role in establishing alcohol and other drug policy and the development of regulation for the implementation of federal policy. Officials from federal, state, and local agencies describe agency functions and effects at addressing the drug problem. The course will also examine the impact of federal drug policy at the local level. Prerequisite: CJ 110 or consent of instructor.

CJ 446 Criminal Justice Planning (3)
Criminal Justice planning, including analysis of crime data and systems interrelations, forecasting, problem identification, establishing goals and objectives, and developing plans for implementation and evaluation.

CJ 470 Internship in Security (3-6)
CJ 475 Police Experience (3)
Travel to law enforcement agencies, guest lectures and class discussion. Prerequisite: CJ 110 or consent of instructor.

CJ 485 Internship in Criminal Justice (3-6)
Supervised observation & participation in the functions of a federal, state, or local criminal justice agency. Assignment supervision is received from experienced agency personnel and an orientation to agency operations is provided. Students may participate in specific law enforcement, corrections, forensic investigation, and/or security administration activities. The criminal justice internship may be taken in one semester or over the course of two semesters. Experience may be concentrated in one agency or divided among more than one agency. Placement and continuation in the internship requires approval of the criminal justice agency where the student completes their internship experience. This internship requires summative reflection and serves as a culminating experience for criminal justice students. Prerequisite: Permission of the course instructor.
CJ 495 Correctional Experience (3)
Impact course designed to provide the student with the opportunity to "experience" the correctional institution and draw a unique insight into corrections. Students visit correctional institutions, observe their operations, and interact with correction practitioners and confined offenders. Institutions have been chosen for visitation to provide the student with as broad a correctional experience as possible, beginning with juveniles through adults, including county, state, and federal institutions. Prerequisite: CJ 120 or consent of instructor.

CJ 499 International Travel Experience in Criminal Justice (1-3)
This course will provide students with an opportunity to earn course credit for participation in educational travel opportunities. These opportunities will incorporate elements of both travel and education, providing students with an applied opportunity to learn as they explore different locations. Prerequisite: Permission of the course instructor.

CJ 600 Seminar in Criminal Justice Systems (3)
This is a professional graduate seminar designed to engage the first-semester criminal justice graduate student in the analysis of the array of issues in the process of justice administration. Criminal Justice system operations are reviewed, and key issues impacting criminal justice theory and practice are explored. Prerequisite: Admitted to MCJ program or permission of MCJ Program Coordinator.

CJ 602 Criminal Justice Research (3)
The student will be able to develop and implement basic research designs and interpret findings. Both qualitative and quantitative methods will be examined. Instruction and application will focus upon criminal justice issues and the impact of criminal justice research upon the profession. Prerequisite: Admission to MCJ program or permission of MCJ Program Coordinator.

CJ 603 Issues in Criminal Procedure (3)
Current significant issues in criminal procedure will be addressed. Emphasis will be placed upon significance of recent judicial decisions to both enforcement and corrections. Additionally, the relationship between the judiciary and the other segments of the criminal justice system will be examined. Methods for conducting legal research will be examined. Prerequisites: Admission to MCJ program or permission of MCJ Program Coordinator.

CJ 604 Seminar in Criminal Justice Organization and Management (3)
This course will address the application of organizational, administrative and management principles in law enforcement, courts, and corrections. The course will examine issues in organizational structure, administration, problem solving, planning, and budgeting. Prerequisite: Admitted to MCJ program or permission of MCJ Program Coordinator.

CJ 605 Ethics in Criminal Justice (3)
The course will evaluate issues of professionalism and ethical behavior within the criminal justice profession. Key issues examined will include professional behavior of the individual and the agency. Current topics, such as sexual harassment, accreditation, and maintenance of standards, and community relations will be significant topics of focus. Prerequisite: Admission to MCJ program or permission of MCJ Program Coordinator.

CJ 610 Corrections in the United States (3)
This course will study the policies that affect modern correctional agencies in the United States. Corrections will be examined from a historical prospective to provide a benchmark for the analysis of current and future trends. Prerequisite: Admitted to MCJ program or permission of MCJ Program Coordinator.

CJ 620 Role of Law Enforcement in the United States (3)
Policies and human issues affecting law enforcement agencies in the United States will be addressed. Law enforcement will be examined from a historical prospective with analysis of current activities and expected future trends. Prerequisite: Admitted to MCJ program or permission of MCJ Program Coordinator.

CJ 625 Seminar In Criminological Theory (3)
Theories of crime causation and criminal behavior are discussed and researched. Theories are traced from the 1700's through modern times. Prerequisite: Admitted MCJ program.

CJ 630 Seminar in Correctional Administration (3)
The course will develop students’ capacity to develop and evaluate policies and procedures in all parts of the correctional administration arena. Judicial decisions which impact the legal status of the operation of correctional institutions and offender confinement will be examined. Prerequisite: Admitted to MCJ program or permission of MCJ Program Coordinator.

CJ 635 Organized and White Collar Crime (3)
This course examines organized crime, white collar crimes, and gang activity in the United States. Focus will be on the historical development of these criminal patterns with an evaluation of current activities as well as proposed intervention theories. Prerequisite: Admitted to MCJ program or permission of MCJ Program Coordinator.

CJ 640 Seminar in Legal Issues in Law Enforcement (3)
Current significant issues in enforcement administration will be addressed. Emphasis will be placed upon significance to federal, state, and local enforcement administrators, their agencies, and their communities. Prerequisite: Admitted to MCJ program or permission of MCJ Program Coordinator.

CJ 645 Comparative Criminal Justice Systems (3)
This course studies the criminal justice systems of four to six major countries. Each country’s different philosophical and practical approaches to criminal justice will be evaluated and compared. Field study will be utilized when possible. Prerequisite: Admitted to MCJ program or permission of MCJ Program Coordinator.

CJ 650 Seminar in Community Corrections (3)
The course will examine the traditional practices of probation and parole, as well as newer community methods. The major focus will be on the organization and integration of community-based programs into the modern criminal justice system. Prerequisite: Admitted to MCJ program or permission of MCJ Program Coordinator.

CJ 655 Seminar in Juvenile Justice And Delinquency (3)
This course addresses delinquency prevention policies, investigation of juvenile crime, dispositions of offenders, and judicial waiver issues. The Seminar also examines the roles and interaction of juvenile agencies’ operations and the administrative challenges to them as well as a review of the due process considerations mandated by courts. Prerequisite: Admitted to MCJ program or permission of MCJ Program Coordinator.

CJ 660 Seminar in Operational and Staff Planning (3)
This course will examine principles and practical applications of operational and staff planning as applied to law enforcement agencies. Emphasis will be placed on the development and implementation of organizational goals and objectives, strategic, and tactical planning and operational needs assessment. Prerequisite: Admitted to MCJ program or permission of MCJ Program Coordinator.
CJ 670 Seminar in Correctional Law (3)
This course studies correctional law as related to probation and parole, juvenile and adult institutions, local jails, legal liabilities, and legal research. Prerequisite: Admitted to MCJ program or permission of MCJ Program Coordinator.

CJ 675 Problems & Practices in Judicial Administration (3)
In this course, students will examine the problems that face judicial administration and how these problems affect other elements of the criminal justice system. Prerequisite: Admitted to MCJ program or permission of MCJ Program Coordinator.

CJ 680 Seminar in Staff Development (3)
This course examines the role of staff development in the management of human resources in criminal justice, and effective staff development methods and techniques. Emphasis will be placed on training and human resources development in criminal justice, organizationally determined outcomes, training needs assessment, performance standards, and assessment. Prerequisite: Admitted to MCJ program or permission of MCJ Program Coordinator.

CJ 685 Special Topics - Criminal Justice (1-3)
These courses offer an opportunity for students and faculty to explore topics of contemporary or historical interest that are not covered in regular course offerings. Prerequisite: Admitted to MCJ program or permission of MCJ Program Coordinator.

CJ 690 Directed Readings - Criminal Justice (1-3)
This course provides students with an opportunity to conduct an in-depth exploration of literature related to a particular criminal justice topic. Consent from the supervising professor is required. Directed readings courses must meet the Federal definition of a credit hour. Prerequisite: Admitted to MCJ program and Instructor consent or permission of MCJ Program Coordinator and instructor permission.

CJ 692 Analytical Research and Statistics (3)
Statistical methods and computer applications are covered as they relate to survey research, agency evaluation, and content analysis. Qualitative methods are also taught and include field methods, historical research, and legal bibliography. Prerequisite: Admitted to MCJ Program and CJ 662 or permission of MCJ Program Coordinator.

CJ 693 Capstone Experience (3)
A Capstone course is a graduate course that typically serves as a comprehensive assessment of the knowledge and skills of a graduate student in the major field of study. It is usually completed at the end of the degree program. This Capstone course is a self-directed, integrated, learning opportunity. It is designed to integrate and synthesize all coursework in the criminal justice graduate program and related areas so the student has a broad conceptual and practical understanding of the criminal justice career field. Prerequisite: Admitted to MCJ program, 24 hours of coursework completed (including all core coursework), and Instructor permission.

CJ 699 Thesis (1-6)
This course may be directed by any member of the criminal justice graduate faculty who accepts responsibility for supervising the thesis. The thesis topic must be pre-approved by the faculty advisor who serves as the student’s graduate committee chair. The student normally conducts original empirical research which involves the collection and analysis of new data, or re-analyzing existing data to arrive at certain conclusions. The written Thesis report is submitted to the student’s Thesis Committee for evaluation and approval. An oral defense of the Thesis is required for graduation. Prerequisite: Admitted to MCJ program, 24 hours of MCJ coursework (including all core coursework), and instructor permission.

CJ 777 Continuous Enrollment (1-3)
This course is to allow students additional time to complete Capstone, Thesis or Practicum requirements. Prerequisite: Instructor permission.

Culinary Arts (CUA)

CUA 100 Culinary Math (4)
This course develops students’ math skills that are vital to the food service industry. These skills include working with conversions of weights, measuring and calculating food cost, portion costs, labor control, and portion control which are all vital skills in becoming a great chef.

CUA 110 Sanitation/Safety (3)
This course covers sanitation and food safety by instructing the students on the regulations imposed by the State of Kansas Food Code that must be followed during the production of food for consumption by the public. It is a prerequisite to all other courses in the culinary arts program. Successful completion of the course will provide the student with methods of controlling the spread, growth, and elimination of bacteria and other food borne pathogens, as well as controlling physical contamination threats to foods. The student will also be able to perform safely in all areas of kitchen operations including the lifting and transporting of food and equipment, and have an awareness of safely handling hazardous materials along with knowledge of fire awareness, suppression, and avoidance, as well as avoidance of burns and lacerations. Safe equipment operation, maintenance, and cleaning are explained and no student is allowed to operate any power equipment until having its operation demonstrated by the instructor. Proper knife selection and handling is explained and demonstrated by the instructor. Sanitation and safety are continually brought by and related to current activities throughout the length of the program.

CUA 120 Basic Cooking Principles (5)
This course covers the most basic and some of the most important concepts in culinary arts profession. This course is a prerequisite for all later courses in the program. Upon completion of the student will have full vocabulary of cooking terminology and be able to identify the moist and dry heat methods of heat transfer as well as how equipment and materials provide heat and affect the cooking process. The student will be able to identify the components of recipes as well as how to read, interpret, price, and convert them. The student will be capable of utilizing the various ways product in the kitchen are measured and portioned along with the economic ramifications of proper implementation of these skills. Topics also include menu design and the factors involved in it along with the basic nutritional considerations and terminology that relate to it. Students also will be conversant on kitchen organization, prioritization of tasks, and time management in the face of deadlines. Students will use basic preparation tasks and knife skills. This course includes lecture, demonstration, and lab opportunities to apply knowledge and skills in food preparation.

CUA 128 Food Prep 1-A (3)
This course presents relevant information and training about standard commercial and institutional food preparation as it relates to the preparation of stocks, sauces, and soups. Upon completion, the student will be able to identify the ingredients and methods of production of stocks, reductions, and glazes. They will be capable of classifying and preparing sauces, thickening agents used, sauce families, production methods, finishing techniques, and producing and classifying soups. This course includes lecture, demonstration, and lab opportunities to apply knowledge and skills in food preparation.
CUA 130 Food Prep I (6)
This course presents relevant information and training about standard commercial and institutional food preparation as it relates to the preparation of stocks, sauces, soups, and red meats. Upon completion, the student will be able to identify the ingredients and methods of production of stocks, reductions, and glazes. They will be capable of classifying and preparing sauces, thickening agents used, sauce families, production methods, finishing techniques, and producing and classifying soups. The student will understand the composition, structure, and quality factors involved in utilizing red meats. Topics such as the basic cuts available and carcass structure, as well as selection of the various market forms available and an overview of cooking methods as it relates to tenderness and methods of determining doneness of meats will be explored. This course includes lecture, demonstration, and lab opportunities to apply knowledge and skills in food preparation.

CUA 135 Food Prep II (6)
This course presents relevant information and training about standard commercial and institutional food preparation as it relates to the understanding and preparation of poultry, seafood, and vegetables. Upon completion, the student will conversant in the composition and classification of poultry, seafood, and vegetables. The student will be able to properly handle, butcher, prepare, and determine doneness of these products. This course includes lecture, demonstration, and lab opportunities to apply knowledge and skills in food preparation. This is a 6 credit hour intermediate level course consisting of 45 hours of classroom work and 90 hours of lab experience.

CUA 210 Basic Management Skills (3)
This course introduces the student to the nature of food service management philosophy. It gives the student an overview of management goals in the industry. Cost and sales concepts are discussed along with control processes. Cost, volume, and profit relationships are also examined along with customer service concepts are examined as well. Students will have hands-on experience with scheduling, conducting inventory, along with menu development and costing.

CUA 215 Food Prep III (5)
This course presents relevant information and training relating to commercial and institutional preparation of vegetables, potatoes, legumes, pastas, and other starches, along with salads and dressings. The student will be able to use various preparation methods in order to control changes in the color, flavor, texture, and nutritional content of these products. Topics included are the vegetarian diet as well the preparation of the various types of salads, dressings, and the types of emulsions involved in preparing them. This course includes lecture, demonstration, and lab opportunities to apply knowledge and skills in food preparation.

CUA 220 Workplace Skills (1)
This course utilizes Key Train software to assist in advancement of knowledge. A Level 4 in Applied Math and Reading for Information and a Level 3 in Locating Information Work Keys assessments are required prior to exiting the program. Students will also be required to attend seminars provided through the Career Resource Center. Seminar which includes interview techniques, developing and preparing a resume, completing job applications, ethics, and teamwork.

CUA 230 Food Prep IV (3)
This course presents relevant information and training relating to commercial and institutional preparation of sandwiches, hors d’oeuvres, breakfast preparations, and dairy and cheese products. The student will be able to prepare various common types of sandwiches and canapés, cocktails, relishes, and dips using typical methods. The student will also be able to prepare egg products and custards, dairy and cheese products, and breakfast beverage preparations. This course includes lecture, demonstration, and lab opportunities to apply knowledge and skills in food preparation.

CUA 235 International Cuisine (4)
This course gives students the opportunity to learn about other countries and cuisines from around the world. Students will investigate imports and exports, produce indigenous foods, and apply new cooking techniques from a variety of countries around the world.

CUA 240 Baking Principles I (4)
This course presents relevant information and training relating to commercial preparation of bakery products and ingredients used. This includes discussion of baking formulas and baking percentages. Dough and batter mixing and the information of gluten are covered along with the baking process. Primary ingredients and their use in the bake shop are examined. An initial look at bakery production is made through examining artisan and sour dough breads and the production of lean and rich dough yeast breads.

CUA 245 Baking Principles II (4)
This course presents relevant information and training relating to commercial and institutional preparation of bakery products and ingredients used. This includes the preparation of quick breads, syrups, creams, sauces, pies, pastries, tarts, cakes, cookies, and decorative sugar and chocolate pieces.

Data Analytics (DA)

DA 348 Data Discovery and Management (3)
Students will identify and manipulate data that will provide actionable information to solve business problems. Prerequisite: CM 105 or CM 111; EC 211, BU 248, and BU 250

DA 358 Data Methods and Warehousing (3)
Students will learn methods to process a variety of data types (unstructured and semi-structured) and to use technologies that convert, analyze and store large volumes of data. Unstructured and semi-structured data will be converted into information useful for problem solving. Prerequisite: DA 348

DA 368 Data Mining and Modeling (3)
Students will learn technologies that can be used to discover relationships among data. These relations can be used to create models used to predict or classify new data. Prerequisite: DA 348

DA 478 Data Analytics Applied - Practicum (3)
Students will apply the data analytics process, including data discovery, transformation, organization, and modeling, to a real-world project and to effectively communicate the solutions. Prerequisite: DA 358 and DA 368.
Diesel Mechanics (DEM)

DEM 111 Shop Skills & Safety Fundamentals (1)
The focus of this course is the ability to safely work with shop equipment commonly found in a diesel servicing and repair facility. Emphasis is placed on using, maintaining, and servicing shop equipment such as hoists, lifts, safety stands, cranes, presses and grinders. The location and usage of personal protective equipment (PPE) and common hand tools is included.

DEM 113 Electrical/Electronic Systems (5)
Systems studies the principles of electricity through operations and testing procedures and provides an introduction to electronics. Diagnostics and repair of starting and charging electrical systems are covered, in addition to practical applications of the principles of electricity. Electronic management programs are referenced and studied.

DEM 116 Workplace Skills (1)
Overview and practice of general workplace skills including personal effectiveness, time management, teamwork, and critical thinking in the workplace. The course incorporates skill development in the following three units: overview of diesel technology, workplace communication and customer service, and job application.

DEM 123 Hydraulics (5)
Principles of basic hydraulics, introduction to hydraulics systems: open center, closed center, and pressure and flow compensating type systems.

DEM 134 Scanner Diagnostics (1)
Scanner Diagnostics focuses on the hands-on application of aftermarket diagnostic equipment and tools such as the Snap-on Pro-link and Modis as well as OEM systems utilized by Cummins, CASE and others.

DEM 138 Suspension and Steering (3)
Suspension and Steering addresses the theory, operations and troubleshooting of various steering and suspension system components.

DEM 142 Welding for Diesel (3)
Introduction to basic concepts of general welding; hands-on lab activities to apply knowledge and develop skills in the following areas: shop safety, cutting (oxy/acetylene) SMAW (Shielded Metal Arc Welding).

DEM 143 Brakes (3)
Brakes will cover the theory and operations of hydraulic and air brake systems, teaching troubleshooting, disassembly, inspection and adjustments of hydraulic and air brake systems, including ABS.

DEM 144 Brakes for Construction (2)
Brakes will cover the theory and operations of hydraulic and air brake systems, teaching troubleshooting, disassembly, inspection and adjustments of hydraulic and air brake systems, including ABS. Common braking system utilized on construction equipment are highlighted.

DEM 146 Welding for Diesel (4)
Introduction to basic concepts of general welding; hands-on lab activities to apply knowledge and develop skills in the following areas: shop safety, cutting (oxy/acetylene) SMAW (Shielded Metal Arc Welding). Participants will work independently and as small teams in completing the lab activities.

DEM 147 Welding for Locomotive (2)
The course includes basic oxy-acetylene heating, cutting, brazing and welding and basic shielded Metal Arc Welding (SMAW) typically used in the railroad industry. Safety and set-up are emphasized and the student will perform the fundamentals of the processes as they produce acceptable welds and cuts.

DEM 148 Advanced Electrical/Electronic Systems (5)
Construction machine electrical schematic reading, troubleshooting, diagnosis, and repair of monitoring systems, instrumentation, and other specialized electronic and computer-controlled equipment on CASE Construction machinery and heavy equipment. Students will determine proper use of wiring schematics to troubleshoot electrical systems on light through heavy vehicles.

DEM 150 EST Diagnostics (1)
The CASE EST (Electronics Scan Tool) Diagnostics course on the hands-on application of CASE and aftermarket diagnostic equipment and tools such as the Snap-on Pro-link and Modis as well as OEM systems utilized by Cummins, CASE and others.

DEM 202 Advanced Machine Electrical (3)
Construction machine electrical schematic reading, troubleshooting, diagnosis, and repair of monitoring systems, instrumentation, and other specialized electronic and computer-controlled equipment on CASE Construction machinery and heavy equipment.

DEM 203 Locomotive FRA (3)
This course is the fourth in a series of four courses in Locomotive Mechanics. This course is designed to introduce the student to the Federal Railroad Administration and Department of Transportation Code of Federal Regulations Title 49, Parts 209, 218, 229, 231, and 232.

DEM 204 Advanced Machine Electrical (4)
Knowledge and skills learned in DEM113 are the foundation for the study of CASE Construction equipment electrical systems such as monitoring systems, instrumentation, lighting and other specialized electronic and computer-controlled systems. Troubleshooting, diagnosis, and repair of these systems is performed utilizing electrical testers, meters, and scan tools such as the CASE EST (Electronic Service Tool). The use of wiring schematics and repair manuals in the diagnosis process is emphasized. Prerequisite: DEM113 Electrical Electronics Systems

DEM 206 Basic GE Mechanical (3)
This is the second in a series of four courses in Locomotive Mechanics. This course is designed to introduce the student to the basic operation, maintenance, repair requirements and troubleshooting for GE diesel engines and support systems.

DEM 208 Basic EMD Mechanical (3)
This is the first in a series of four courses in Locomotive Mechanics. This course is designed to introduce the student to the basic operation, maintenance, repair requirements and troubleshooting for EMD diesel engines and support systems.

DEM 212 EST & Telematics Systems (3)
Theoretical and practical application of CASE Construction EST (Electronic Service Tool) and telematic systems as related to construction equipment; emphasis on software, product information, calibration and hardware functions.

DEM 221 Drive Trains (3)
The Drive Trains 1 course will include classroom and/or shop exercises in: characteristics and principles of power trains units. Specific topics include introduction to diesel drive trains, drive shafts, power take-offs, and standard transmissions. Also the procedures in disassembly, wear analysis, and failure analysis. Instruction will be included in these types of transmissions and differentials: Mack, Rockwell Eaton and Dana Spicer. Students will be expected to observe and comply with all safety rules and regulations.
DEM 223 Advanced Hydraulic Systems (2)
This course includes instruction on Hydraulic and hydrostatic systems used on construction equipment; diagnosing and testing to solve system problems; interpretation of fluid hydraulic schematic and diagrams; electronic and computer-controlled systems.

DEM 224 Advanced Hydraulic Systems (3)
Knowledge and skills learned in DEM123 are the foundation for the study of the hydraulic and hydrostatic systems used on CASE construction equipment. Diagnosing and testing to solve system problems; interpretation of fluid hydraulic schematic and diagrams; electronic and computer-controlled systems are all covered. Prerequisite DEM123 Hydraulics

DEM 230 Brakes Service (2)
The focus of this course is hands-on work on common light, medium and heavy truck hydraulic and air brake systems and components. Basic operating theory is covered at the level required to understand or perform the operation, maintenance, inspection, diagnosis, wear pattern interpretation, failure analysis, reconditioning, disassembly, re-assembly of systems.

DEM 231 Diesel Engines I (5)
Diesel Engines I introduces the theory of operation and the use of the engine's mechanical components; disassembling, inspecting, measuring, reassembling and performing maintenance procedures on diesel engines.

DEM 232 Service Department Implementation (3)
Simulation of a service department including diagnostic work, disassembly work, repair work and assembly work on CASE CONSTRUCTION equipment. Students will practice accurate and precise labor documentation.

DEM 233 Locomotive Air Brake (3)
This course is the third in a series of four courses in Locomotive Mechanics. It is designed to provide the student an introduction to the operation, testing, maintenance, and troubleshooting for 26L and 30 ACDW locomotive air brake systems. This course also emphasizes FRA air brake requirements applicable to locomotives.

DEM 238 Suspension & Steering Service (2)
The focus of this course is hands-on work on common light, medium and heavy truck suspension and steering systems and components. Basic operating theory is covered at the level required to understand or perform the operation, maintenance, inspection, diagnosis, wear pattern interpretation, failure analysis, reconditioning, disassembly, re-assembly of systems including a basic alignment. Basic usage of Oxyacetylene equipment is also covered.

DEM 241 Advanced Diesel Engines (5)
Advanced Diesel Engines course will include classroom and/or shop exercises: basic principles of the various engine systems, the disassembly and inspection, reconditioning of component parts to include various fuel systems. In addition, engine diagnosis and maintenance will be discussed and performed in various engine systems. Students will be expected to observe and comply with all safety rules.

DEM 242 Heavy Equipment I (4)
Introduction to heavy highway trade of trucks and heavy equipment. Content includes: Setup, repair and operational field testing of new and used construction equipment; procedures and components of trucks, heavy equipment, below grade construction, earthmoving, plant operations, paving, and structures.

DEM 243 BNSF Worksite Observation (1)
This one hour Locomotive-Mechanic worksite observation is designed to allow the Locomotive Diesel students to view the engine components at the worksite to coincide with the courses for EMD and GE diesel engines and support systems in the NARS curriculum.

DEM 244 Heavy Equipment Operation (2)
Operation and operator-level service and inspection of typical heavy construction equipment such as bulldozers, backhoes, loaders, track hoes, uni-loaders, and off road trucks. Pre-operation inspections, setup, and operational field testing of new and used construction equipment.

DEM 248 Drive Trains II (3)
Drive Trains II builds on the knowledge, skills and abilities obtained in DEM221. Systems utilized in light, medium and heavy truck drive trains including: automatic transmissions, drive axles, procedures in disassembly/assembly, wear analysis, and failure analysis in drive trains, pressure and flow testing of drive train systems, timing of drive train systems, and theory and operation of final drives and shuttles are included. Prerequisite: DEM221 Drive Trains

DEM 250 Engine Performance (2)
Engine Performance covers the engine control and emission control systems such as fuel injection, air induction, exhaust, exhaust gas treatments/filters utilized on light, medium and heavy diesel trucks. Students are introduced to diagnostic equipment and tools such as the Snap-on Pro-link and Modis as well as OEM systems utilized by Cummins, CASE and others.

DEM 252 Power Trains for Construction (3)
Drive trains and components of construction equipment, clutch systems, transaxles, differentials, axles; emphasis on disassembly, reassembly and component identification; pressure and flow testing of powertrains used in construction equipment; calibrations of transmissions, theory and operations of final drives and shuttles. Emphasis: Understanding of operation of mechanical, power shift, power shuttle, S type power shift, and hydrostatic transmissions to include tracking and adjustments.

DEM 255 Engine Performance (3)
Provides theory, diagnosis, and service of diesel fuel and emission systems. Included are opportunities to analyze fuel and emission components and systems with emphasis on practical application of computer controlled fuel and emission systems.

DEM 258 Drive Trains II (2)
The Power Trains 2 course will include classroom and/or shop exercises in the following courses in the Power Trains unit: automatic transmission and torque converters, clutches, drive axles, special drives; and procedures in disassembly, wear analysis, and failure analysis in power trains. Instruction will include these types of transmissions and differentials: Mack, Rockwell Eaton, Arvin Meritor, and Dana Spicer. Students will be expected to observe and comply with all safety rules and regulations.

DEM 268 Aux Power Units/Refrigeration (2)
The function and purpose of Auxiliary Power Units (APUs) that power system when the primary engine is not in use, such as refrigeration units on tractor-trailers, are covered. This course includes basic air conditioning service, diagnostic, and repair on applications used in the diesel field and Section 509 Refrigeration certification by the Mobile Air Condition Society (MACS).

DEM 272 Auxiliary Power Units (2)
Course emphasizes the study and practices of additional and exterior units that are crucial to the diesel industry, such as machine hydraulics and auxiliary power units and trailers.
Economics (EC)

EC 100 Introduction to Economics (3)
Factors determining the general levels of employment and inflation are examined as well as an analysis of markets, prices and production. Current economic problems are used to illustrate these concepts. Not open to students who have credit in EC 200 or EC 201. EC 100 may not be used as a substitute for EC 200 or EC 201.

(EC General Ed Social Science. Quan and Sci Reason Lit.)

EC 200 Principles of Microeconomics (3)
The fundamentals of price theory. A study of the interaction of markets and decisions made by consumers and firms. Market structure, allocation of resources, and efficiency issues are addressed. Prerequisites: MA 116 (recommended) or MA 112, or higher. (Formerly EC 202)

(EC General Ed Social Science. Quan and Sci Reason Lit.)

EC 201 Principles of Macroeconomics (3)
Nature and performance of the American economy considered in the aggregate. Topics include the determinants of aggregate output, unemployment, and inflation. Analyses of national income, business cycles, fiscal and monetary policies, and international trade are introduced. Prerequisites: EC 200, MA 116 (recommended) or MA 112, or higher.

(EC General Ed Social Science. Quan and Sci Reason Lit.)

EC 211 Statistics for Business and Economics (3)
The application of statistical methods to decision problems in business and economics. Topics include sampling distributions and their properties, statistical inference, simple linear and multivariate regression analysis, application of regression and smoothing techniques to time series analysis, analysis of variance, distribution-free and chi-square test procedures, and concepts of statistical quality control. Prerequisites: MA 140, or its equivalent, and MA 116 (or MA 141 or MA 151 or higher), or their equivalents with grades of C or better.

EC 300 Microeconomic Analysis (3)
An in-depth analysis of the behavior of individual economic units and various economic policies is developed, using the tools of price theory and game theory. Prerequisites: EC 200, EC 201, MA 141, and 2.0 GPA.

EC 301 Macroeconomic Theory (3)
A study of the determinants of the level of aggregate income, employment, and prices. Analyses of secular and cyclical changes in economic activity, and of the effects of public policy on aggregate economic experience. Integration of international trade and finance into macroeconomic models. Classical, Keynesian, and Monetarist theories are analyzed. Prerequisites: EC 200, EC 201, MA 141, and 2.0 GPA.

EC 306 Game Theory and Applications (3)
Acquaints the student with concepts and tools of game theory and their use in strategic decision making. Applications of game theory to business, sociology, political science, and evolutionary biology are discussed. Prerequisites: MA 140 and MA 141 or higher.

EC 310 History of Economic Thought (3)
Comparative study of the historical origin, content, and impact of selected schools of economic thought. Emphasis upon tracing evolution of economic theories out of specific historical contexts. Major schools of economic thought from the Greeks through Adam Smith to the present. Prerequisites: EC 200 and EC 201.

EC 313 Industrial Organization and Policy (3)
An in-depth look at market structures and their effect on tactics and strategies of firms. Includes economic analysis of government efforts to regulate and control business activities. Prerequisites: EC 200 and EC 201.

EC 341 Labor Economics (3)
An analysis of the market for labor in the United States. Investigates issues of wage determination, worker productivity, labor supply and demand analysis, employment, and education and training. May include income inequality, discrimination, promotion, compensation, and immigration. Prerequisites: EC 200 and EC 201.

EC 388 Urban & Regional Economics (3)
The location of economic activity for firms, industries and cities used as a base for considering regional growth and decline and urban economic structure, problems, and policies. Prerequisites: EC 200 and EC 201.

EC 403 Special Topics/Economics (3)
Selected topics announced in advance. May be taken more than one semester. Prerequisites will be specified for each topic.

EC 404 Independent Study-Economics (3)
Individual study of an economic problem. Course activity must be supervised by a member of the full-time faculty with professorial rank in the School of Business. Prerequisite: Consent of directing faculty member prior to enrollment.

EC 405 Honors Research in Economics (3)
Restricted to those students seeking to qualify for honors in the major field. The study is designed to provide an intellectual challenge for superior students with a strong interest in scholarship. Course activity must be supervised by a member of the full-time faculty with professorial rank in the School of Business. Prerequisite: Consent of directing faculty member prior to enrollment.

EC 409 Introductory Econometrics (3)
An introduction to analysis and its applications. Investigates the use of linear regression models, their standard assumptions, and correction for violation of these assumptions. Special topics may include qualitative explanatory variables, distributed lags, and simultaneous equation models. Prerequisites: EC 200, EC 201, and EC 211 (or MA 343).

EC 410 International Economics (3)
The theory of international trade and international finance. Costs and benefits of international economic interdependence. Discussion of current issues in trade policy and the international economic system. Prerequisites: EC 200 and EC 201.

EC 480 Public Finance (3)

EC 485 Money & Banking (3)
The economic principles and institutional features of money, the payments system, and the financial system, with emphasis on commercial banking. Analyzes the Federal Reserve System and the effect of monetary policy on the economy. Prerequisites: EC 200 and EC 201.
EC 499 Internship in Economics (3)
Professional work experience with a government agency, financial institution, or other business firm in the area of economic analysis or planning. The work situation must create a new learning experience for the student. Credit hours in this course will not count toward the minimum 63 hours in the School of Business required for the BBA. The student's grade will be awarded on a pass/fail basis, as determined by the supervising faculty member. Prerequisites: Consent of major area faculty, appropriate background, at least seventy-five (75) semester credit hours, at least a 2.5 overall GPA and meet the general qualifications specified by the sponsoring business firm or governmental agency.

EC 525 Economic Environment (3)
Nature and scope of economics, the firm in a market environment, level of economic activity, international aspects, and policy alternatives.

EC 652 Managerial Economics (3)
Management problems from an economic point of view. The content focuses on the applications of economic theory to day-to-day managerial decision making. Prerequisite: EC 525 OR EC 200 and EC 201.

Education (ED)
ED 150 EPIC Experience I (1)
Supervised school-based field experience in PreK-Secondary school settings designed for potential teacher candidates to investigate teaching as a profession. A minimum of 35 hours in an assigned school setting is required. Orientation to the Washburn teacher education program is included during university classroom sessions. ED 150 must be taken prior to admission to the Professional Teacher Education Program.

ED 155 Teaching, Learning, Leadership (3)
This course is designed to acquaint students with the education profession and to help them develop a realistic understanding of teaching, learning, and leadership. Students will examine motives for teaching, explore the qualities of effective teachers and leadership, and discuss the various diversities teachers encounter as well as the implications for teachers and learning. Students will begin to identify strategies and options for successful classroom practice. Ethical, legal, and controversial issues affecting education today will be addressed along with how to become a teacher leader in the profession. Prerequisite: None.

ED 160 Introduction to Early Childhood Education (3)
This course encourages students to explore their suitability for a career in early childhood education through academic class work and observation of children from birth through third grade. In addition to child development, birth through age 10, students develop a working knowledge of the history, philosophy, theories, goals and practices of educating young children in educational settings. ED 160 is a prerequisite for all other early childhood education courses.

ED 161 Essentials of Early Childhood Education I (4)
Six competency areas of the Child Development Associate (CDA) Program are covered: safety; health; learning environment; physical development; cognitive skills; and communication skills. Both CDA and non-CDA students will be required to participate in field experiences in early childhood settings and to prepare individual portfolios that document proficiency in each of these areas. Prerequisite: ED 160.

ED 162 Essentials of Early Childhood Education II (4)
A continuation of ED 161 covering six additional competency areas of the Child Development Associate (CDA) Program (creativity; self-concept; social skills; guidance; family; program management; and professionalism). Prerequisite: ED 160.

ED 165 Ed. 1, Examining Teaching as a Profession: Diversity 1, Literacy 1, Technology 1 (3)
First in a series of four courses that comprise the foundational education program for future teachers. The four courses address four topics that are essential to establishing and maintaining a successful learning environment: Classroom Management, Diversity, Literacy and Technology. Topics in the first phase are centered around diversity, literacy, and technology. The foundational courses are sequential in nature and build upon the previous course. The courses are intended to be taken in consecutive semesters.

ED 217 Introduction to STEM Education (3)
This course, introduces the history and current state of STEM (Science, Technology, Engineering and Mathematics) and STEM education while giving students the opportunity to explore the various components of STEM and STEM careers. A strong emphasis is placed upon critical STEM areas (specifically underrepresented populations in STEM and how STEM impacts people and the environment) and STEM in the Community. Students will explore various STEM careers. Prerequisite: None.

ED 225 Becoming an Educational Professional (3)
An overview of professional expectations of teachers. Students will be introduced to an overview of professional expectations of teachers. Students will also be introduced to a variety of teaching models; processes for developing short and long term teaching plans; and strategies for assessing student learning. A review of influences of P-12 students’ individual, family, and community characteristics on the teaching and learning process will be explored. The process for developing a professional portfolio is also included. A minimum of 24 hours of school/community field experiences is required. ED 225 must be taken prior to admission to the Professional Teacher Education Program.

ED 243 Infants & Toddlers Early Childhood Education (3)
This course integrates all aspects of developmental early care and education of children from birth to age three, which includes child growth, development, and learning. Prerequisite: ED 160; Concurrent enrollment in ED 245/ED 345.

ED 245 Practicum Infants & Toddlers Education (3)
This course provides students with opportunities to apply the knowledge and concepts of child development with children from birth to age three. Prerequisite: ED 160; Concurrent enrollment in ED 243/ED 343.

ED 261 Techniques-Early Childhood Guidance & Class Management (3)
In this course students will learn ways in which healthy development is fostered within developmentally appropriate child guidance. Techniques and typical guidance procedures appropriate for children from birth through age eight will be explored through readings, class discussion, and observations in group settings. Prerequisite: ED 160 or permission of instructor.

ED 267 Curriculum Development in Preschool Education (3)
The overall purpose of this curriculum development course is to explore teaching/learning strategies and how to support and encourage children in the development of cooperation, creativity, cognition (literacy, mathematics, science and social studies), and motor skills in developmentally appropriate curriculum. Prerequisites: ED 160, ED 243/ED 343, and ED 245/ED 345.
ED 269 Student Teaching in Preschool Education (3)
A supervised field experience in a pre-school setting and a seminar exploring child development issues. This course includes planning, teaching, and assessing developmentally appropriate activities for preschoolers in field placements. Prerequisites: ED 160, ED 343, ED 345, and permission of the instructor; Concurrent enrollment in ED 267/ED 367 and ED 268/ED 368.

ED 275 Ed. 2 Exploring Teaching as a Profession (Classroom Management 1, Diversity 2, Technology 2) Ed. 2 (3)
Second in a series of four courses comprise the foundational education program for future teachers. The four courses address four topics that are essential to establishing and maintaining a successful learning environment: Classroom Management, Diversity, Literacy and Technology. Topics in this phase are centered around further building on diversity and technology, and introducing classroom management. The foundational courses are sequential in nature and build upon the previous course. Prerequisite: ED 165

ED 285 Educational Psychology (3)
The purpose of this course is for students to develop a working knowledge of theories, concepts and models derived from the discipline of psychology as they apply to teaching, learning, and other aspects of educational practice. In addition to theories of learning, motivation, intelligence, students study child and adolescent development. Students also address social, cultural, and family influences on human behavior and human development as well as the experiences of diverse student populations in school settings. ED 285 must be taken prior to admission to the Professional Teacher Education Program. Prerequisite: None.

ED 295 Ed. 3 Experiencing Teaching as a Profession (Classroom Management 2, Diversity 3, Literacy 2) (3)
Third in series of four courses comprise the foundational education program for future teachers. The four courses address four topics that are essential to establishing and maintaining a successful learning environment: Classroom Management, Diversity, Literacy and Technology. Topics in the third phase are centered on reinforcing and enhancing previously covered topics in classroom management, diversity, and literacy. The foundational courses are sequential in nature and build upon the previous course. Prerequisite: ED 275

ED 300 Integrating Technology into Curriculum (3)
This course is designed to equip early childhood, elementary, and secondary preservice teachers with the necessary skills to develop instructional practices that will allow them to incorporate technologies successfully in their classrooms. Prerequisites: Admission to teacher education, CM 101 (or equivalent), MU 123 or KN 333.

ED 301 Classroom Management, Safety, Planning, Pedagogy (3)
This course is a stand-alone course for individuals who need some background in classroom management, safety and planning. The course will provide or strengthen a solid foundation for individuals who are currently or soon to be professional teachers/instructors. Specifically the course will address the needs of individuals who require some additional support in these areas or are teaching under provisional licenses and have not yet completed a licensure program.

ED 302 Teaching Exceptional Learners (3)
A survey of the characteristics and educational needs of all types of exceptional learners, with particular emphasis given to those students included into the regular classroom. Instructional strategies and appropriate resources for various exceptionalities are explored in detail. Prerequisite: Admission to teacher education.

ED 305 Language & Literacy (2)
An overview of language development and the relationship of oral language and literacy. Students learn to assess and stimulate oral language development and emergent literacy skills. Prerequisite: Admission to teacher education.

ED 310 Teaching Math in Elementary School (3)
One course in the unified block in the teaching of mathematics and science. Investigates general content and teaching strategies for each strand of the elementary mathematics program. Problem solving and mental computation will be integrated and the development and use of manipulatives will be stressed. Current curriculum trends and the role of will be explored. Prerequisites: Admission to teacher education and a grade of “C” or better in both MA 112 or MA 116 and MA 228; Concurrent enrollment in ED 315 and ED 317.

ED 314 Chemistry Methods for STEM Edu (3)
ED 315 Teaching Science in Elementary School (3)
One course in the unified block in the teaching of mathematics and science. Methods and materials for teaching knowledge, processes, and applications in physical, earth and life sciences will be developed. Emphasis will be placed on activity-oriented programs. Prerequisites: Admission to teacher education, PS 126, BI 100, and BI 101; Concurrent enrollment in ED 310 and ED 317.

ED 317 Math/Science Practicum (2)
A supervised field experience in the teaching of mathematics and science in the elementary grades. Prerequisites: Concurrent enrollment in ED 310 and ED 315, and admission to teacher education.

ED 318 Earth/Space Science for STEM E (3)
ED 319 STEM Practicum I (0)
ED 320 Teaching Reading in Elementary School (3)
The theory and practice of teaching reading including word attack, comprehension, and study skills. Special emphasis is given to the use of basal and other instructional materials in regular and special reading classes. Prerequisite: Admission to teacher education; Concurrent enrollment in ED 325 and ED 327.

ED 321 STEM Practicum II (3)
ED 324 Curriculum & Methods of Elementary School Physical Education (4)
Methods in planning, presenting, and administering a physical education curriculum in the middle and elementary schools.

ED 325 Teaching Language Arts & Children's Literature (3)
The theory and practice of teaching oral and written communication skills. Special emphasis is given to the interrelationship between literature for young people and the language arts skills of listening, speaking, reading and writing. Prerequisite: Admission to teacher education; Concurrent enrollment in ED 320 and ED 327.

ED 326 Methods in Secondary School Physical Education (3)
Methods in planning, presenting, administering, and evaluating physical education for middle and secondary school teachers.

ED 327 Literacy Practicum (2)
A supervised field experience in the teaching of literacy skills in the K-6 classroom. Prerequisite: Admission to teacher education; Concurrent enrollment in ED 320 and ED 325.
ED 330 Teaching Social Studies through Integrating Curriculum (3)
This course includes content, methods, and learning theory for effective social studies instruction. Methods for integrating social studies instruction with other content areas, including the arts will be addressed. Special attention is given to methods which promote critical thinking abilities necessary for participation in a diverse democratic society. Prerequisite: Admission to teacher education; Concurrent enrollment in ED 330 and ED 337.

ED 335 Creative Experiences in Early Childhood Through Middle School (2)
This course explores various elements of aesthetics including art and music. The relationship of such activities to the teaching/learning environment is also developed. The use of creative activities to enrich other content areas is given special attention. Prerequisite: Admission to teacher education; Concurrent enrollment in ED 330 and ED 335.

ED 337 Social Studies Practicum (1)
One course in a unified block in the teaching of social studies and aesthetics. This course requires students to develop and teach social studies lessons in the elementary school classroom. Prerequisite: Admission to teacher education; Concurrent enrollment in ED 330 and ED 335.

ED 340 Teaching in Adolescent Middle Level Environment (2)
Understanding the unique nature of middle level education will be the focus of this course. Based upon readings, field experience, and class discussion, students will study the nature of adolescent development, curriculum and instruction, programs and collaborative interactions that support an effective middle school program. Prerequisite: Admission to teacher education; Concurrent enrollment in one of the following practicum sections, ED 346, ED 348 or ED 349.

ED 343 Infants & Toddlers in Early Childhood Programs (3)
Integrates all aspects of developmental early care and education of children from birth to age three, which includes child growth, development, and learning. Prerequisite: ED 160 and admission to the Professional Teacher Education Program. Concurrent enrollment in ED 345.

ED 345 Practicum Infants & Toddlers Education (3)
Provides students with opportunities to apply the knowledge & concepts of child development with children from birth to age three. Prerequisite: ED 160 and admission to the Professional Teacher Education Program. Concurrent enrollment in ED 343.

ED 346 Middle Level History Practicum (1)
A supervised field experience in the teaching of history in the middle level classroom. Prerequisite: Admission to teacher education; Concurrent enrollment in ED 340.

ED 348 Middle Level English/Language Arts Practicum (1)
A supervised field experience in the teaching of English/Language Arts in the middle level classroom. Prerequisite: Admission to teacher education; Concurrent enrollment in ED 340.

ED 349 Middle Level Mathematics Practicum (1)
A supervised field experience in the teaching of mathematics in the middle level classroom. Prerequisite: Admission to teacher education; Concurrent enrollment in ED 340.

ED 350 General Secondary Methods (3)
Extensive laboratory and simulated classroom experiences with field-based observation. All secondary majors are required to have at least one methods course, and this course fills the basic requirement when a "special area" methods course is unavailable. All students who enroll in this methods course participate in a field-based teaching experience at various secondary schools. Prerequisite: Admission to teacher education.

ED 352 Methods of Teaching Science in Secondary School (3)
Principles and philosophy of science education; development of the secondary science curriculum; and organization, presentation, and evaluation of science in middle/secondary schools. Includes extensive laboratory and simulated classroom experiences as well as field based observation and class-room participation. Prerequisites: Admission to teacher education and permission of instructor.

ED 353 Assessment & Evaluation in Early Childhood Education (3)
Students in this course will learn how to assess and evaluate young children's development and learning. Typical assessment procedures appropriate for children from birth through third grade will be studied. Techniques will be developed to record children's behavior individually and in group settings. Prerequisite: Admission to teacher education.

ED 354 Curriculum and Assessment (3)
The curriculum and assessment course provides students with an opportunity to examine how to design implement and assess curriculum to address the needs of all learners. Prerequisites: Admission to Teacher Education and ED 275.

ED 355 Principles of Vocational Education & Student Organizations (3)
The development and role of vocational education in public education, the federal vocational education legislation, and the development of student organizations. Prerequisite: Permission of instructor.

ED 362 Methods of Teaching English in Secondary School (3)
The study of and practice in the methods of teaching literature, language, and writing, in the secondary schools. Major concerns include teaching theory; the relationship between oral and written language; language development; language used in various social, regional, and cultural settings; curriculum development and evaluation; and the assessment of students' progress in reading and writing. Students participate in a field-based experience at various secondary schools. Prerequisites: Admission to teacher education and permission of the instructor.

ED 363 Methods of Teaching Math in Secondary School (3)
Principles and methods of teaching the process and content of secondary school mathematics. Includes emphasis and training in general mathematics, algebra, geometry, as well as advanced mathematics. All students who enroll in this course participate in field based teaching experiences at various secondary schools. Prerequisites: Admission to teacher education and permission of the instructor.

ED 366 Methods of Teaching Social Studies in Secondary School (3)
Principles and methods of teaching the process and content of the social studies. Includes emphasis and training in locating information, developing instructional units, and using instructional aids. All students enrolled in this course participate in field-based teaching experiences at various secondary schools. Prerequisites: Admission to teacher education and permission of the instructor.
ED 367 Curriculum in Preschool Education (3)
The overall purpose of this curriculum development course is to explore teaching/learning strategies and how to support and encourage children in the development of cooperation, creativity, cognition (literacy, mathematics, science and social studies), and motor skills in developmentally appropriate curriculum. Prerequisites: ED 160, ED 343, ED 345 and admission to the Professional Teacher Education Program. Concurrent enrollment in ED 369.

ED 368 Methods of Teaching Foreign Language (3)
Principles and methods of teaching foreign languages. Extensive laboratory and simulated classroom experiences with field experiences with field based observation. Discussion of problem situations observed in the classroom. Emphasis given to proficiency oriented teaching of various target languages, developing instructional units, use of multimedia resources, and principles of foreign language testing. Prerequisites: Admission to teacher education and permission of instructor.

ED 369 Student Teaching in Preschool Education (3)
A supervised field experience in a pre-school setting and a seminar exploring child development issues. This course includes planning, teaching, and assessing developmentally appropriate activities for preschoolers in field placements. Prerequisite: ED 160, ED 343, ED 345, and admission to the Professional Teacher Education Program. Concurrent enrollment in ED 367.

ED 370 Teaching Science in Middle School (3)
This course investigates basic content/pedagogy, and the importance of science in a middle school program. How students learn science and effective strategies including inquiry, use of technology, and laboratory experiences will be investigated. Current curriculum trends will be explored and lesson plans will be developed based on national and state standards. Prerequisite: Admission to the Professional Teacher Education Program.

ED 376 Family, School, and Community Collaboration in Early Childhood Education (3)
Students will examine trends that promote inter-agency and interdisciplinary approaches to serving the needs of young children and their families. The role of the teacher or other education-focused entity of a program will be examined in terms of primary service providers and in terms of team membership at local, state and federal levels. Skills that foster communication and cooperation among families of various cultures will be studied. Prerequisite: Admission to teacher education.

ED 380 Elementary Art Education (3)
Study of the artistic development of children, practice with art materials, techniques, and concepts appropriate to the elementary grades including planning and presentation of art lessons. Production, aesthetics, criticism, and history of artworks is emphasized as the basis for children's growth in art learning. Cross-listed as AR 380.

ED 381 Craft Techniques in Middle/Secondary School (3)
The artistic development of middle and sr. high art students and how it relates to technical/artistic skills. Safety and health hazards of the public schools art room. Hands-on experience with metalry, papermaking, fibers, and earthenware craft processes. The philosophy, traditions, and current position of crafts in the art world. Cross-listed as AR 381.

ED 382 Methods & Philosophy in Art Education (3)
Examination of historical and current theories or art education, the development of personal philosophy of art education, and the determination of curriculum goals and objectives. Effective teaching methods for lesson planning, presentation, and evaluation are studied. Cross-listed as AR 382. Prerequisite: Admission to teacher education.

ED 385 Foundations of Education (3)
A survey course describing the social, cultural, historical, and philosophical bases of American education. Encourages students to develop a professional perspective based upon an understanding of essential educational foundations. Prerequisite: Admission to teacher education.

ED 395 Ed. 4 Extending Teaching as a Profession (Classroom Management 3, Literacy 3, Technology 3) (3)
ED 395 Ed 4. Extending Teaching as a Profession (3) Fourth in series of four courses comprise the foundational education program for future teachers. The four courses address four topics that are essential to establishing and maintaining a successful learning environment: Classroom Management, Diversity, Literacy and Technology. Topics in the fourth phase are centered on reinforcing and enhancing previously covered topics in classroom management, literacy and technology. The foundational courses are sequential in nature and build upon the previous course. Prerequisite: ED 295

ED 400 Understanding the School (2)
Seminar course taught in conjunction with either ED 410, ED 420 or ED 440. Concurrent enrollment with ED 405. Conducted during the first three weeks of the professional semester and one week following the completion of the student teaching experience. Designed to help students synthesize their understanding of schools, to reflect upon their student teaching experience, and to integrate educational theory and practice. Prerequisite: Admission to the Professional Teacher Education Program and admission to Student Teaching.

ED 402 Teaching Struggling Learners (2)
This course is designed to assist the preservice teacher in understanding how to identify, assess, plan and teach individuals who are struggling in their learning. Preservice teachers will survey problems that block some students from successful achievement in reading, writing, math and general learning tasks. The preservice teacher will develop the knowledge and skills necessary to assess and analyze problems and to provide appropriate instructional strategies for specific learning problems. Prerequisite: Admission to the Professional Teacher Education Program and ED 302 or SE 476. Concurrent enrollment in Language Arts Block for K-6 licensure candidates.

ED 405 Classroom Management (1)
Various methods of managing classrooms and student behaviors in diverse learning environments. Concurrent enrollment in ED 400 and either ED 410, ED 420, or ED 440. Prerequisite: Admission to the Professional Teacher Education Program and admission to Student Teaching.

ED 410 Secondary Student Teaching (6-12)
Directed and supervised teaching of content in 6-12 classrooms. Students are assigned to Topeka and neighboring schools for a period of twelve weeks. Not available for graduate credit. May be taken on a Pass/ fail basis only. Prerequisites: Completion of appropriate professional education courses, and teaching specialization courses, and admission to student teaching.

ED 415 5th-8th Grade Student Teaching (4)
Directed and supervised teaching of content in 5-8 classrooms. Students are assigned to Topeka and neighboring schools for a period of six weeks. Not available for graduate credit. May be taken on a pass/ fail basis only. Prerequisites: Completion of appropriate professional education courses, middle school teaching content courses, and admission to student teaching.
ED 420 K - 6 Student Teaching (8-12)
Directed and supervised student teaching for a minimum 8 weeks in a K-6 classroom. Not available for graduate credit. May be taken on a pass/fail basis only. Prerequisites: Completion of appropriate professional education courses, and teaching specialization courses, and admission to student teaching.

ED 425 Observation and Supervision (1)
Supervised teaching in a P-12 classroom. This course may be taken for graduate credit and may be repeated. Prerequisite: Permission of the department chair.

ED 430 Student Teaching Birth to Grade 3 (4)
Directed and supervised student teaching in a kindergarten through grade three educational setting. Not available for graduate credit. May be taken on a pass/fail basis only. Prerequisites: Completion of appropriate professional education courses, and teaching specialization courses, and admission to student teaching.

ED 440 Student Teaching Grades P-12 (4-12)
Directed and supervised student teaching in grades Pre-Kindergarten through grade 12 educational setting. Not available for graduate credit. May be taken on a pass/fail basis only. Prerequisites: Completion of appropriate professional education courses, and teaching specialization courses, and admission to student teaching.

ED 450 Methods & Cross-Cultural Communication (3)
Emphasis on practical methods of teaching English as a Second Language and strategies for working with speakers of other languages. Includes a review of resource materials, lesson planning, and in-class teaching practice as well as an analysis of problems posed by conflicting cultural and language habits. Prerequisites: Admission to Teacher Education.

ED 456 Advanced Children's Literature (3)
Advanced survey and analysis of the literature written for children through middle school with instructional applications. A variety of literary forms are explored with emphasis on evaluation and development of specific strategies to enhance reader/listener comprehension and appreciation. Emphasis given to planning lessons which incorporate children's literature in instruction across the curriculum. Prerequisite: Senior standing.

ED 461 ESOL Assessment Administration Teacher Education (2)
This course focuses on language assessment theory and practice in ESOL settings. The content of the course will include purposes for assessment, types of assessment including alternative assessment and construction of assessment instruments. Central issues in the assessment of language will be presented and analyzed. Prerequisite: Admission to the program.

ED 463 ESOL Teaching and Learning (3)
This course is designed to provide students with a critical understanding of instructional delivery which caters for the linguistic and literacy needs of minority/heritage communities. The focus of this course is located within postmodernist principles of cultural capital, discursive practices and difference. Students will be required to engage with the political debates and resultant educational ramifications concerning bilingual education, dual language programs, ESOL education, as well as other issues such as power and inequalities in language education. This sociocultural-critical theoretical framework will provide students with the basis to then negotiate issues of second language learning, critical pedagogy, language varieties, multicultural communities as well as critical literacy and reading development. Prerequisite: Admission to the program.

ED 464 ESOL Practicum-Assessment & Administration Teacher Education (3, 4)
A supervised clinical experience with three ESOL learners of different levels (one elementary level learner, one middle level learner, and one secondary level learner). Students administer tests, analyze data, determine the learners' strengths and weaknesses, develop instructional plans for each learner, select and implement appropriate strategies and materials, and assess progress towards instructional goals using skills developed as critical and reflective professionals. Appropriate conduct is maintained with parents and classroom teachers with oral or written reports as deemed appropriate. Prerequisites: ED 450, ED 463, ED 461, and ED 462.

ED 466 Linguistics for ESOL Teachers (3)
This course provides an introduction to language as a system, with a particular focus on teaching English as a second language to students in public schools, in grades P-12. Among the topics addressed are: first and second language acquisition processes; English phonology, morphology, syntax, and discourse; implications for teaching English language learners the four language skills – listening, speaking, reading, and writing; and implications for teaching content-specific language (math, science, social studies). Prerequisites: Admission to Teacher Education.

ED 472 Issues in Modern American Education (3)
Critical analysis of contemporary problems and issues in American education. Consideration of historical, sociological, and philosophical foundations affecting problems and issues included. This course is part of the graduate core. May also be taken for undergraduate credit.

ED 474 Special Topics in Education (0-3)
Courses in special topics that will vary from semester to semester and will be announced in advance. ED 474 may be taken for more than one semester. Prerequisite: Permission of the DepartmentChairperson.

ED 497 Independent Study in Education (1-3)
Intensive guided study in a special topic in education. Independent Study in Education is available only to candidates for teaching licenses. Prerequisites: Admission to an approved program of study and written approval of the Chairperson of the Department of Education.

ED 614 Guidance in Elementary/Secondary Schools (3)
Role of the classroom teacher and administrator in guidance and counseling program of the elementary/secondary school. Emphasis on unique needs of elementary children in regular, mainstream, and special classes. Prerequisite: Permission of the instructor.

ED 633 Advanced Child Development (3)
Advanced course in theory and basic concepts of child development. Topics include assumptions and principles of five major approaches: normative-maturational, psychoanalytic, social learning, cognitive-development and behavior analysis. Includes historical background of developmental theory and cross cultural perspectives. Prerequisites: Graduate standing.

ED 641 Language and Literature Development in Early Childhood Education (3)
Students identify speech and language behaviors which are developmentally appropriate for young children birth to age eight. Students identify and practice methods and techniques necessary to foster listening, speaking, pre-writing, pre-reading, and pre-math skills in children birth to five years of age.
ED 644 Art in Elementary/Middle School  (3)
Understanding the purpose behind the creative process as it applies to teaching and evaluating art produced by the child. Relates various art experiences to students' developmental and emotional level. Applies elementary, middle, and secondary art experiences to the "regular" classroom.

ED 645 Introduction to Craft Techniques  (3)
Lectures and demonstrations covering a variety of craft materials utilized in the elementary, middle, and secondary schools. Includes experience and practice with block printing, fabric art, casting and molding techniques, and safety standards associated with the craft production.

ED 647 PreKindergarten and Kindergarten Methods  (3)
Focus on methods and materials that support physical, emotional, social and intellectual needs of the kindergarten and pre-kindergarten child.

ED 650 Graduate Seminar  (3)
This course serves as an orientation to the Washburn Teacher Education Program as well as an exploration of the teaching profession for students pursuing an initial teaching license at the graduate level. Students will be introduced to the social, historical, and philosophical foundations of education, as well as a variety of teaching models, and the planning and assessment practices expected of all teachers. A review of influences on P-12 students' individual family, and community characteristics on the teaching and learning process will also be explored. The process for developing the education department required professional portfolio is included. A minimum of a 35 hour school/community field experience is required. Prerequisite: Concurrent enrollment in ED 660.

ED 651 Language Problems of non-English Speakers  (3)
Emphasis on practical methods of teaching ESL and strategies for working with speakers of other languages. Includes a review of resource materials, lesson planning, and in-class teaching practice as well as an analysis of problems posed by conflicting cultural and language habits. May be taken for undergraduate credit and EN 499 for graduate credit.

ED 652 Cognitive & Language Development  (3)
Emphasizes study of two essential areas of human development as they apply to early childhood teaching and learning: theoretical perspectives and research on cognitive and language development and instructional knowledge which provides understanding of teaching and learning that demonstrate instructional strategies grounded in theory and research.

ED 653 Assessment & Evaluation in Early Childhood Education  (3)
Students learn ways in which young children's development is assessed and evaluated. Typical assessment procedures appropriate to children to age eight are studied. Techniques are developed to record children's behavior individually and in group settings. Prerequisite: Graduate standing.

ED 660 Advanced Educational Psychology  (3)
Explores advanced topics in educational psychology as they apply to teacher practice. Topics include learning theory, child and adolescent psychology, theories of motivation and achievement, and social and cultural influences on learning and development. Part of the graduate core curriculum. Prerequisite: Consent of instructor.

ED 661 Exceptional Infants & Young Children  (3)
Survey of exceptionality including etiology, curriculum, identification, adaptation of materials and environments, play, referral and development of an individual educational plan (IEP). Prerequisite: ED 343 or equivalent course in child development.

ED 662 Methods of Teaching English-Secondary  (4)
Study of and practice in the methods of teaching literature, language, and writing in the secondary schools. Major concerns include teaching theory; the relationship between oral and written language; language development; language used in various social, regional, and cultural settings; curriculum development and evaluation; and the assessment of students' progress in reading and writing. Students participate in a field-based experience at various secondary schools. Prerequisite: Admission to the Professional Teacher Education Program or consent of instructor.

ED 663 Advanced Social Studies  (3)
Advanced survey and analysis of issues and practice of social studies education in elementary/middle school. Innovative approaches for teaching history, social issues, psychology, political science, anthropology, and/or philosophy in the classroom are explored. Emphasis on the content and materials of a variety of topics within the social science field. May be taken for undergraduate or graduate credit.

ED 665 Introduction to Educational Research  (3)
Introduces graduate students to basic information needed to understand processes to plan, conduct, and report research on education-related issues and problems. Focus on increasing students' appreciation of the field of educational research, while increasing their ability to interpret and evaluate published research studies. Both qualitative and quantitative research methodologies are reviewed. Part of the graduate core curriculum.

ED 667 Curriculum Development and Evaluation - Elementary Education  (3)
Examination of social and psychological influences upon curricular design and implementation. Emphasis on study of the societal forces which affect school curricula, prominent instructional models and supporting theoretical rationale, barriers on implementation of innovative curricula, and systematic evaluation of educational programs. Students review the process of curricular modification from a perspective integrating theory and practice.

ED 668 Curriculum Development & Evaluation - Middle/Secondary Education  (3)
An examination of social and psychological influences upon curricula design and implementation. Emphasis is placed upon study of the societal forces which affect school curricula, prominent instructional models and their supporting theoretical rationale, barriers of effective implementation, innovative curricula modification from a perspective of theory and practice.

ED 669 Curriculum Development and Evaluation - Secondary Education  (3)
Examination of social and psychological influences upon curricular design and implementation. Emphasis on study of the societal forces which affect school curricula, prominent instructional models and supporting theoretical rationale, barriers on implementation of innovative curricula, and systematic evaluation of educational programs. Students review the process of curricular modification from a perspective integrating theory and practice.

ED 670 Curriculum Development and Evaluation - Middle/Secondary School  (3)
Examination of social and psychological influences upon curricular design and implementation. Emphasis on study of the societal forces which affect school curricula, prominent instructional models and their supporting theoretical rationale, barriers on implementation of innovative curricula, and systematic evaluation of educational programs. Students review the process of curricular modification from a perspective integrating theory and practice. May be taken for undergraduate or graduate credit.
ED 671 ESOL Teaching and Learning (3)
This course will provide an overview of curriculum and instruction as it relates to ESOL learners. Candidates will learn appropriate teaching strategies and subject matter content relevant to this population. An emphasis will be placed on understanding language and literacy acquisition and working with students with special needs.

ED 672 Issues in Modern American Education (3)
Critical analysis of contemporary problems and issues in American education. Consideration of historical, sociological, and philosophical foundations affecting problems and issues included. This course is part of the graduate core. Prerequisites: Consent of instructor.

ED 674 Special Topics/Education (0-3)
Courses in special topics which will vary from semester to semester and will be announced in advance. ED 674 may be repeated for credit. Prerequisites: Permission of Department Chairperson and the instructor.

ED 678 Organization & Administration of Early Childhood Education Program (3)
Organization and administration of early childhood programs. Emphasis on supervision of volunteers and paraprofessionals. Introduces the student to techniques for organizing staff as an instructional Early Childhood Education team.

ED 680 Integrating Technology in Curriculum (3)
Presents students with principles underlying selection and use of technology to enhance learning. Examines software and multimedia technologies contributing to the instructional process. Prerequisites: ED 667 or ED 669.

ED 682 Leadership in Technology (3)
Provides guidance regarding varying aspects of technology implementation, including software/hardware acquisitions, funding, and staff development. Prerequisite: Graduate standing.

ED 684 Multimedia in the Classroom (3)
Multimedia gives teachers and students powerful new tools for teaching and learning by combining technologies such as video, audio, graphics, interactivity and text. Students in this course will learn how to identify, choose, plan for, produce and integrate multimedia into instruction.

ED 685 Issues in Educational Technology (3)
Critical exam of historical, sociological, philosophical foundations and implications of the implementation and use of technology in an educational setting.

ED 686 Integrating Internet Into Instruction (3)
The Internet is providing many educational opportunities for the connected classroom. This course will investigate the various components of the Internet such as the World Wide Web, telecommunications and other resources for use in the classroom. Students will learn to find, identify, evaluate and utilize Internet resources for instruction.

ED 687 Emerging Technologies in Education (3)
Technology is a constantly changing and ever evolving process. Many new emerging technologies hold promise for application for learning in the classroom. Students in this course will explore new technologies, evaluate them and determine their applicability for the classroom.

ED 688 Using Technology with Special Needs Students (3)
Using technology, including computers to enhance education of students with exceptionalities. Prerequisite: ED 302, Graduate standing, and either ED 302, or SE 476.

ED 690 Tests and Measurements (3)
Evaluation procedures as an integral part of the teaching/learning process. Involves identifying and defining intended learning outcomes, writing educational objectives, constructing and selecting various evaluation instruments, and interpreting and using test results to improve instruction. Emphasis on criterion and norm-referenced tests of ability and achievement as well as tests of individual assessment. May be taken for undergraduate or graduate credit.

ED 694 Philosophy of Education (3)
Historical and contemporary analysis of philosophical perspectives concerning the educational process. Develops and traces schools of educational thought in an effort to help students clarify their own educational philosophy. Emphasis on relationship between educational philosophy and practice. May be taken for undergraduate or graduate credit.

ED 696 Thesis (3-6)
Research design and analysis of action research or library research study. Culminating activity for graduate students interested in research or advanced study. Professional lab experiences in child study, innovative problems constitute the typical projects for thesis designs. Prerequisite: ED 665 and permission of Education chair.

ED 697 Independent Study in Education (1-3)
Independent research for graduate students investigating a special problem in a specific areas. Prerequisite: Chair consent.

ED 698 Action Research Capstone (1)
Students will identify a question about their own teaching or school practices, review the current research literature, develop a plan to collect data, collect and analyze their data, identify emergent themes, write an action research paper, and present their project and findings to the faculty committee. The objectives of the action research project are to help students understand the research process in an educational setting; provide students with the opportunity to study and improve their own teaching through an action research project; and to show students how research can have a positive effect on school improvement and change. Prerequisites: Admission to the graduate program, successful completion of at least 18 credit hours of coursework and successful completion of ED 665 Educational Research.

Educational Administration (EA)

EA 663 Building a School Learning Culture (4)
This course is designed as a foundational course for aspiring Building Level Administrators. The course will provide building leaders information to develop a school vision and to build an environment for a successful school learning culture. Course assignments will help future building administrators learn how to create and sustain a collaborative school vision, how to assess and encourage a healthy learning culture, and how to develop and maintain a rigorous and coherent instructional program. The course will include a one-credit hour practicum where the building level candidate will practice and implement the course objectives in a real-life setting. Prerequisite: Departmental Permission.
EA 664 Creating and Evaluating the Instructional Program (4)
This course will prepare aspiring school building administrators to develop and revise curriculum and instruction within the building, including the differentiation of instruction to meet the needs of all students. Learning how to provide supports for all students will be an essential element of this course. Teacher evaluation models will be explored along with how professional development can improved and enhance teacher performance. The course will include a one-credit hour practicum where the building level candidate will practice and implement the course objectives in a real-life setting. Prerequisite: Chair & instructor consent.

EA 666 Building Level Management (4)
This course is one of the four courses required for building level leadership licensure. The course will cover topics regarding the management of a school building, including budgeting, facility management, instructional scheduling, building wide discipline management, and capacity for building leadership. The course will include a one-credit hour practicum where the building level candidate will practice and implement the course objectives in a real-life setting. Prerequisite: Departmental permission.

EA 667 Leading and Engaging a Collaborative Environment (4)
This course deals with communication within the school and the greater school community, including parents and community partners. Building relationships and practicing distributed leadership concepts are also a part of this course. All aspects of school improvement will be explored including the professional responsibility and ethics within the school community. The course will include a one-credit hour practicum where the building level candidate will practice and implement the course objectives in a real-life setting. Prerequisite: Departmental permission.

EA 673 Creating a Systemic District Learning Culture (4)
This course is designed as a foundational course for aspiring District Level Administrators. The course will provide district leaders information to develop a district vision and to build an environment for a successful district learning culture. Course assignments will help future district administrators learn how to create and sustain a collaborative district vision, how to assess and encourage a healthy learning culture, and how to maintain and support a rigorous and coherent instructional program. The course will include a one-credit hour practicum where the district level candidate will practice and implement the course objectives in a real-life setting. Prerequisite: Departmental permission.

EA 674 Spec Topics In Ed Admin (1-3)
Topics vary each semester & are announced in advance. May be repeated. Prerequisite: Chair & instructor consent.

EA 675 Creating and Evaluating a Systemic Instructional Program (4)
This course will prepare aspiring district administrators to review, evaluate, and lead revision of curriculum and instruction at a district level, including the differentiation of instruction to meet the needs of all students. District level supports of all students through special education, general education intervention, behavior interventions, and other supports will be addressed. Teacher and principal evaluation models will be explored along with how professional development can improved and enhance teacher and principal performance. The course will include a one-credit hour practicum where the building level candidate will practice and implement the course objectives in a real-life setting. Prerequisite: Departmental permission.

EA 676 District Level Management (4)
This course is one of the four courses required for district level leadership licensure. The course will cover topics regarding the management of a school district, including district finances and budgeting, facility management and maintenance, human resources, and policies for district welfare and safety. The course will include a one-credit hour practicum where the building level candidate will practice and implement the course objectives in a real-life setting. Prerequisite: Departmental permission.

EA 677 Building a Systemic Collaborative District Environment (4)
This course deals with communication with the school district and the greater school community, including parents, community partners, and school board relations. A particular focus on district improvement plans and the involvement of district leadership in this process will be an essential element of this course. The course will include a one-credit hour practicum where the building level candidate will practice and implement the course objectives in a real-life setting. Prerequisite: Departmental permission.

EA 681 Basic Concepts of Educational Administration (3)
Introduction to basic concepts underlying school building administration. Theory and practice of educational administration is analyzed and major concepts of formal organization, motivation, authority, leadership, decision making, conflict in organization, and organizational change are analyzed. Prerequisite: Graduate standing.

EA 683 School Supervision and Staff Development (3)
Improves the instructional competencies of teachers and to help those in supervisor positions develop competencies necessary to help others improve instructional performance. Topics include the characteristics of effective instruction, alternative instructional strategies and alternative supervisory models. Prerequisite: Graduate standing.

EA 684 School Finance & Business Administration (3)
Describes forms of school revenue including ad valorem tax and bonded indebtedness; appropriate school accounting methods according to the Kansas Department of Education; and models for effective business management. Prerequisite: Graduate standing.

EA 686 School Law and Ethics (3)
The legal rights, duties, and responsibilities of school personnel. Specific topics in this course include due process, tort liability, negligence, and contracts. Basic legal relationships between employer, colleagues, pupils, and adults are addressed. A focus is also placed on the basic principles of ethical behavior established by legal and professional organizations, moral and legal consequences of decision making in schools, and the relationship between ethical behavior, school culture, and student achievement. Prerequisite: Graduate Standing.

EA 688 Elementary/Middle School Principalship (3)
Role and responsibility of the principal in organizing, administering, and supervising the elementary school. Examines the multifaceted role of the building administrator. Prerequisite: Graduate standing.

EA 689 The Building Leader (3)
The role and responsibility of the school principal in organizing, administering, and supervising the pre-K-12 school. This course examines the multifaceted role of the building administrator. Prerequisite: Graduate standing.

EA 692 School Community Relationships (3)
Development of effective skills in communication, group facilitation, interpersonal relations, climate-building, conflict resolution, and relationships to the publics served. Prerequisites: Graduate standing.
Electricity (ELE)

ELE 120 National Electrical Code I  (4)
This is an introductory course on the use and interpretation of the current National Electrical Code. The student will develop a working knowledge of the code which will permit them to apply it to everyday applications. The course will include the requirements for electrical installation, wiring design and protection, methods and materials used, equipment for general use, special occupancies equipment, and condition.

ELE 125 AC/DC Circuits I  (4)
This course introduces students to the basic of alternating current and direct current circuits. The student will perform calculations using Ohm's law and the study the construction, operation and purpose of resistors, potentiometer, switches, fuses, relay capacitors, inductors, batteries, alternators, transformers, and series-parallel resonant circuits. Students will build basic AC and DC circuits using multi meter and oscilloscope.

ELE 127 International Res Code I  (1)
The IRC (International Residential Code) is the understanding of building of single and two-family dwellings. The student will develop a working knowledge of the code and standards of constructing a dwelling. The electrical student needs the understanding of basic building design to do their work more efficiently. The course will include the requirements for scope and administration, definitions, and building planning.

ELE 132 Print Reading  (2)
Print Reading introduces the student to the fundamentals of interpreting construction drawings. Students will learn to interpret plan views, elevation views, sections, details, schedules, specifications, symbols and abbreviations found on most residential, commercial, and industrial construction drawings.

ELE 135 Commercial Wiring  (4)
In Commercial Wiring I, the student will study the theory, practice, and National Electrical Code requirements for commercial wiring. The course consists of definitions, formulas, wiring methods, overcurrent protection, calculation and sample examinations. Wiring projects are also assigned to put the theories learned in the classroom into practice.

ELE 137 International Residential Code  (3)
The IRC (International Residential Code) is the understanding of building of single and two-family dwellings. The student will develop a working knowledge of the code and standards of constructing a dwelling. The electrical student needs the understanding of basic building design to do their work more efficiently. The course will include the requirements for scope and administration, definitions, and building planning. The course will also include general requirements, electrical definitions and services, branch circuit and feeder requirements, wiring methods, and power and lighting distribution.

ELE 140 Residential Wiring I  (4)
This course is an introduction to residential wiring methods that includes practical application and hands on experience in implementing code requirements. The student will gain the necessary skills to wire a residence to meet the minimum requirements as set forth in the current National Electrical Code for residential occupants.

ELE 142 National Electrical Code II  (4)
This course is a continuation of the National Electrical Code I course on the use and interpretations of the current national electric code (NEC Chapters 5-9).

ELE 147 International Res Code II  (1)
The IRC (International Residential Code) is the understanding of building of single and two-family dwellings. The student will develop a working knowledge of the code and standards of constructing a dwelling. The electrical student needs the understanding of basic building design to do their work more efficiently. The course will include general requirements, electrical definitions and services, branch circuit and feeder requirements, wiring methods, and power and lighting distribution.

ELE 220 Electricity II  (6)
This course features a highly illustrated design, technical hints and tips from industry experts, review questions and a whole lot more! Key content includes: Alternating Current, Motors: Theory and Application, Electric Lighting, Conduit Bending, Pull and Junction Boxes, Conductor Installations, Cable Tray, Conductor Terminations and Splices, Grounding and Bonding, Circuit Breakers and Fuses, Control Systems and Fundamental Concepts.

EA 694 Practicum I Educational Administration  (3)
Series of structured, field-based experiences in elementary, middle or secondary school to demonstrate competency in such administrative areas as: discipline, scheduling, counseling, financial management, line/staff relationships, professional personnel and other leadership skills. Prerequisite: Permission of instructor.

EA 695 Practicum II in Educational Administration  (3)
Supervised field-based experience for the superintendent candidate to demonstrate competencies identified through the NCATE/ELCC categories. Field candidates will demonstrate competency in the area of finance, facilities, human resources, curriculum leadership, and other designated leadership skills. Candidates will develop an experience portfolio to validate job skills. Prerequisite: Building level licensure/certification.

EA 696 Human Resources Management  (3)
This course deals with personnel policies and issues in the following areas of human resources: teacher recruitment, orientation, evaluation, promotion, termination, tenure, retirement, and related areas. Included will be an emphasis on adherence to legal aspects of the personnel function as well as dealing with professional organizations. Prerequisite: Building Level Licensure/Certification.

EA 697 School Planning/Facility Management  (3)
This course is designed for aspiring school superintendents and central office leaders. This course will prepare school leaders to be proactive in developing educational specifications for school buildings thereby enhancing the educational process. This course includes the planning procedures for new buildings, remodeling and/or retrofitting buildings. Community and school surveys, site selection, design and maintenance and operations of school buildings are also components of the course. Prerequisite: Building Level Licensure/Certification.

EA 698 The District Leader  (3)
This course is designed for individuals who wish to become central office administrators. The course emphasizes sound administration of financial, material, and human resources as necessary for optimal realization of the goals of the school district. Effective public school administrators must understand the systems principles and leadership potential which are found in the area of central office administration. Relationships with the board, community, staff, and students are a major focus. Prerequisite: Building Level Licensure/Certification.

EA 699 The Superintendent (3)
This course is designed for aspiring central office administrators. The course emphasizes sound administration of financial, material, and human resources as necessary for optimal realization of the goals of the school district. Effective central office administrators must understand the systems principles and leadership potential which are found in the area of central office administration. Relationships with the board, community, staff, and students are a major focus. Prerequisite: Building Level Licensure/Certification.
Dispatch Protocols course is intended to give the student an overview of the skills needed at the community and state levels for emergency operations involving all hazards. This class is appropriate for anyone interested in starting a career as a dispatcher. Students will learn to practice the knowledge and skills obtained during their training.

Emergency Communications (DPT)

DPT 101 Dispatch (5)
Students will learn the roles and responsibilities of a dispatcher. The student will learn to answer emergency calls and work with citizens and law enforcement to provide necessary services. Training will include collecting necessary information from callers, use of voice to calm and deescalate situations, determining when calls should be referred to other agencies as well as what resources are available and should be dispatched.

DPT 103 Introduction to Emergency Mgmt (1)
This course provides emergency preparedness personnel with an overview of the skills needed at the community and state levels for emergency operations involving all hazards. This class is appropriate for business and industry, firefighters, Emergency Managers, EMS, police and other interested parties. Participants will complete the NIMS 100 course online.

DPT 107 Dispatch Protocols (2)
The Dispatch Protocols course is intended to give the student an introduction to protocols as they apply to Emergency Communications.

DPT 109 Emergency Communications (3)
Basic emergency communications equipment and operating procedures; specialized equipment used specifically for emergency communications such as alert paging and interagency radio, telephone, and computerized equipment; practice in use of emergency communications equipment; professional responsibilities and career opportunities in emergency communications.

DPT 111 Dispatch Clinical (1)
Students will spend a minimum of 45 contact hours working with dispatchers at the county and city law enforcement offices handling calls as well as working with the fire department dispatchers.

DPT 112 Advanced Dispatch Clinical (2)
Students will spend a minimum of 90 contact hours working with dispatchers at the county and city law enforcement offices handling calls as well as working with the fire department dispatchers.

DPT 121 Advanced Dispatch (4)
This course will build on the competencies learned in the Dispatch Course (DPT101). It is designed for students who have decided that they are interested in pursuing a career as a dispatcher. Students will learn to determine how to work with other agencies, route calls to the appropriate agency, multitask and make good decisions.

Emergency Medical Technician (EMS)

EMS 100 Emergency Medical Technician (9)
This program is designed to provide instruction to those individuals desiring to provide medical care at the Emergency Medical Technician level, a vital link in the health care team chain. Participants will have the opportunity to gain special skills, knowledge, and teamwork concepts necessary for gaining certification and practicing as an EMT in the State of Kansas. This program is sponsored by Washburn Tech. This program must be approved by the Kansas Board of Emergency Medical Services (KSBEMS). This program is based on current information and techniques considered the responsibility of the EMT according to the United States Department of Transportation, National Standard Curriculum, as enriched by the KSBEMS. This course exceeds the state and national requirements.

Engineering (EG)

EG 105 Introduction to Engineering (3)
Introduction to the professional role of an engineer with an orientation to the academic requirements of engineering studies, responsibilities of engineering students and professionals, discussion of various engineering careers, job site duties, professional development and registration and engineering ethics. Included are problem definition and solution, engineering design and terminology and the role of technology and its influence on society.

EG 116 Engineering Graphics (3)
Elements of geometry of engineering drawing with emphasis on spatial visualization and applications. Freehand sketching, dimensioning, and graphs. Computer aided design and engineering analysis. Prerequisite: EG 105 or consent of instructor.

EG 250 Engineering Mechanics: Statics (3)
Vector notation; resultants of force systems; analysis of force systems in equilibrium including beams, frames and trusses; analysis of systems involving friction forces; determination of centroids, centers of gravity, second moments of areas, moments of inertia. Prerequisites: MA 151 and PS 281.
EG 320 Engineering for STEM Educators (3)
Designed to introduce concepts and applications of engineering to STEM educators. Course will explore various experimental, analysis, and design situations to develop knowledge about how objects work together to perform a function. Experiments will develop an understanding of basic engineering concepts such as motion, solid mechanics, fluid mechanics, thermodynamics, electricity, and magnetism. Analysis of experiments will provide recognition of experimental variables and their relationships to mathematical equations. Significant emphasis is on conceptual understanding of how mathematics and physics work together to solve engineering problems. This course does not satisfy any engineering prerequisite/requirement outside of the STEM education program. Prerequisite: BI 319 Biology for STEM Educators with a “C” or better; concurrent enrollment in MA 320 Mathematics for Middle School Teachers.

EG 351 Engineering Mechanics: Dynamics (3)
Displacement, velocity, and acceleration of a particle; relation between forces acting on rigid bodies and the changes in motion produced; translation; rotation; motion in a plane; solutions using the principles of force, mass and acceleration, work and energy, and impulse and momentum. Prerequisites: EG 250 and MA 152.

EG 360 Mechanics of Materials (3)
Elementary theories of stress and strain, behavior of materials, and applications of these theories and their generalizations to the study of stress distribution, deformation, and instability in the simple structural forms that occur most frequently in engineering practice. Prerequisites: EG 250 and MA 253.

English (EN)

EN 100 Developmental English (3)
Small classes and individual attention, focusing on developing the basic habits of good writing through short writings and culminating in the writing of organized and developed themes. Does not count towards degree credit hour requirements or general education requirements.

EN 101 First Year Writing (3)
Study of and practice with the processes of writing for college courses, especially discovering, drafting, reflecting, revising, and editing. Further attention given to research: rhetorical reading, citation integration, and effective documentation. Required, with a minimum grade of C, for graduation. Prerequisite: None. (Communication.)

EN 102 Freshman English Honors (3)
The analysis of texts that purport to gather facts, to structure experience into pleasing formal structures, to persuade others to action, judgment, or evaluation, and to articulate principles whose power shapes diverse experiences into meaningful patterns of coherence. The writing of expository prose that communicates thoughtfully and clearly the results of those analyses. Open to those students accepted into the University Honors Program and by invitation from the Composition staff.

EN 103 Academic Reading & Research (3)
This course provides training and practice in academic reading, writing, and research for students who desire more focused instruction in using academic texts, including syllabi, rubrics, textbooks, and articles. There will be instruction and practice in different methods of reading and responding to texts in writing and orally. Students will read a variety of texts, including a book-length text, and will create a culminating project which synthesizes their course reading with personal research. Students who complete the course will be more confident and competent in their interactions with college-level texts. Prerequisite: None. (General Ed Humanities. Communication.)

EN 105 Introduction to English Studies (3)
This course provides a firm grounding in English as an academic discipline, covering a variety of concepts and approaches critical to English studies. The course will emphasize building students’ critical and creative vocabulary, knowledge, and skills in order to foster future success both in English coursework and in their academic careers more generally. Prerequisite: None. (General Ed Humanities. Critical and Creative Thinking.)

EN 110 Multicultural American Literature (3)
A study of literature written by, and expressing the perspectives of, authors from diverse ethnic, racial, and cultural groups in the United States, including but not limited to Native Americans, African Americans, Asian Americans, and Latino/a Americans, as well as multiracial, multicultural, and other culturally diverse Americans. Course readings include poetry, drama, fiction, and autobiographical non-fiction. Prerequisite: None. (General Ed Humanities. Global Citizenship Ethics Div.)

EN 112 Masterpieces of American Literature (3)
Focuses on celebrated and influential works of fiction, drama, and poetry by American authors from the late eighteenth through the early twenty-first centuries. Prerequisite: None. (General Ed Humanities. Critical and Creative Thinking.)

EN 113 Medieval Popular Culture (3)
In this course, students will discover what life, literature, and culture were like in the Middle Ages and how medieval culture has continued to influence popular culture throughout history up until the present day. From Tolkien’s Lord of the Rings, to Game of Thrones in books and on TV, to Romances, to video games, to Renaissance painting and modern architecture, medieval culture has inspired all sorts of cultural forms and entertainments. Students’ investigations into the world of medieval popular culture will be both critical and creative, seeking to understand culture and history, connect culture across periods, and enjoy the fun ways cultural products and ideas, especially but not only literature, are recycled over time in new contexts and for new purposes. Prerequisite: None. (General Ed Humanities. Critical and Creative Thinking.)
EN 116 Mystery Literature (3)
Mystery fiction, still a popular form of literature today, is a longstanding genre that has been evolving for the last two centuries. The course will examine some of the most important mystery writers of the 19th and 20th centuries. The mystery genre has taken several forms over the years, in large part due to the social history and culture of a particular time period. Over time the mystery genre has shifted from "the novel with a secret" to more complicated examinations of character, an emphasis on psychology over plot, and further explorations of both setting and theme. Many of the novels read are written by authors who became well-known in the mystery genre for developing a certain literary type, technique, or situation that other writers would continue to explore in the years that followed. The course will explore several prominent themes in this type of fiction, in particular the propensity for violence, murder, crime, and the appeal of other taboo subjects. The role of the reader is also critical to the genre as the shadow figure who in part determines which secrets are revealed or disguised, how the characters are developed for a connection to or isolation from the reader, and how the drama itself is written expressly for readers seeking the "thrill" of the mystery. Prerequisite: None. (General Ed Humanities. Critical and Creative Thinking.)

EN 131 Understanding Short Fiction (3)
This course provides an introduction to reading and analyzing short fiction, with a particular emphasis upon the short story. Readings will include works of short fiction from a range of historical and cultural contexts and will represent a variety of genres. Students will develop a critical vocabulary and analytical skills to foster better understanding of and appreciation for short fiction as a literary form. (General Ed Humanities. Communication.)

EN 133 Stories Around the World (3)
Focuses on modern and contemporary fiction by European, Latin American, Asian, Middle Eastern, and African authors. (General Ed Humanities. Global Citizenship Ethics Div.)

EN 135 Introduction to Literature (3)
The appreciation of literature showing relationships through analysis of different genres. (General Ed Humanities. Critical and Creative Thinking.)

EN 138 Kansas Literature (3)
A study of Kansas through its poetry, short stories, novels, and journalism. Lectures on Kansas history provide background as an aid to better understanding the literature. A study of the literature of pioneering, the small town, and contemporary accounts of Kansas, its land and people. (General Ed Humanities. Critical and Creative Thinking.)

EN 145 Shakespearean Afterlives (3)
This course considers Shakespeare's plays and the methods and media used to revise and adapt those plays for modern audiences. Students will read selected Shakespeare plays and then read, watch, and play various adaptations and appropriations of those works, focusing on how and why Shakespeare and his plays continue to find new life in print and on-screen. Students will also have the opportunity to create and perform their own versions of Shakespeare's work in the course. Prerequisite: None. (General Ed Humanities. Critical and Creative Thinking.)

EN 177 Science Fiction (3)
Selected novels and short stories depicting innovations and discoveries in science and their impact on people, society, and the universe. (General Ed Humanities. Critical and Creative Thinking.)

EN 178 Fantasy (3)
Selected novels and short stories depicting fictive worlds that contemporary knowledge considers impossible. (General Ed Humanities. Critical and Creative Thinking.)

EN 190 Film Appreciation (3)
Film as a mode of artistic expression with emphasis on selected films, short and feature-length, American and foreign, for understanding and appreciation. Stress will be given to the development of a "vocabulary" with which to discuss, criticize, and otherwise enjoy film art. May be repeated with a change of content. (General Ed Humanities. Critical and Creative Thinking, Communication.)

EN 192 Literature & Film (3)
A study of literary texts and their adaptations into the medium of film, with emphasis on the comparative strengths and weaknesses of each version. Stress will be given to the critical vocabulary shared by these narrative forms. (General Ed Humanities. Critical and Creative Thinking.)

EN 193 Types of Popular Culture (3)
Examination of subjects and themes in popular literature, with focus on the relationship between popular genres and the traditional canon. May be repeated with change of content.

EN 206 Beginning Poetry Writing (3)
An introduction to and practice in the writing of poetry. Prerequisite: EN 101 or EN 102. (General Ed Humanities. Communication.)

EN 207 Beginning Nonfiction Writing (3)
An introduction to and practice in the writing of memoir, narrative essays, New Journalism, travel writing and other nonfiction forms. Prerequisite: EN 101 or EN 102. (General Ed Humanities. Communication.)

EN 208 Professional Writing (3)
A review of the basic essentials of business/technical usage and style, with emphasis on organizing ideas and managing basic business and technical writing forms. Prerequisite: EN 101 or EN 102. (General Ed Humanities. Communication.)

EN 209 Beginning Fiction Writing (3)
An introduction to and practice in the writing of the short story. Prerequisite: EN 101 or EN 102. (General Ed Humanities. Communication.)

EN 210 Mythologies in Literature (3)
A study of mythologies that have been a reference point for literature, focusing mainly on Greek and Roman materials, but drawing upon others such as Norse, Celtic, Gaelic, and Eastern. Readings will include both literary works and supplemental texts. (General Ed Humanities. Critical and Creative Thinking.)

EN 212 Sexuality & Literature (3)
Examines the various roles that sexuality, which includes categories such as intimacy, sex, gender, and sexual orientation, has played in literature and film. (General Ed Humanities. Critical and Creative Thinking.)
EN 214 Women & Literature (3)
This course surveys literature by women from the medieval to the contemporary periods. Particular attention is given to recurring themes and issues addressed by women writers, as well as how the intersection of gender with factors like class, race, and ethnicity impacts women's experiences and their literary representation. Readings consist of representative works of fiction, poetry, drama, and select nonfiction by women of diverse backgrounds.
(General Ed Humanities. Critical and Creative Thinking.)

EN 235 Survey of Drama I (3)

EN 236 Survey of Drama II (3)

EN 240 Introduction to Film Studies (3)
This course provides students with an introduction to the elements, techniques, and vocabulary critical to the study of film as a medium. The course will emphasize building students' critical vocabulary, knowledge, and skills through the discussion of numerous films from various genres and historical periods. Prerequisite: None.
(General Ed Humanities. Critical and Creative Thinking.)

EN 299 Special Topics - Reading/Writing (1-3)
A variable topic course in selected subject in literature and language. See schedule for current offering. Not regularly offered.

EN 300 Advanced College Writing (3)
Intensive writing and revision practice designed to help students develop skills needed to write successful analyses and arguments in their academic disciplines and their careers. Focus on critical thinking about how writing works in various appropriate contexts and on advanced research writing. Some sections for specific academic programs. Required, with a minimum grade of C, for graduation.
(Communication.)

EN 301 Literary Criticism & Theory (3)
Practical criticism and writing, stressing the types and methods of critical approaches to literature, ancient and modern, and their application in the interpretation of literary works. Students taking the course for graduate credit will write a substantial additional paper focusing on one aspect of the relationship between critical theory and an individual work or author. Prerequisites: EN 101 or EN 102 and EN 300. For EN 601, admission to MLS program or consent.

EN 305 Advanced Fiction Writing (3)
Continued practice in fiction writing with special emphasis on technique. Students taking EN 605 will, in addition to the short stories due as work for 305, revise and edit their stories and write an introduction that shows how their practice of craft has been shaped by their experience in the course. Prerequisite: EN 209 or consent. For EN 605, admission to MLS program or consent.

EN 306 Advanced Poetry Writing (3)
Continued practice in poetry writing with special emphasis on technique. Students taking EN 606 will be required to select at least five of the poems due as work for 306 and write an introduction to those five that shows how their practice of craft has been shaped by their experience in the course. Prerequisite: EN 206 or consent. For EN 606, admission to MLS program or consent.

EN 307 Advanced Nonfiction Writing (3)
Continued practice in the writing of creative nonfiction, including but not limited to personal essay, memoir, literary journalism, travel and science writing. Students taking EN 607 will develop writing projects of considerable length and/or research depth. Prerequisite: EN 207 or consent. For EN 607, admission to the MLS program or consent.

EN 308 Technical Writing (3)
A pre-professional writing course for students entering technical fields. Not regularly offered. Prerequisite: EN 300 or equivalent.

EN 309 ESL Methods & Cross-Cultural Communication (3)
Designed for those who work with non-English speakers. Special emphasis on improving intercultural understanding, on the interaction of language and culture, and on language learning and language teaching. Not regularly offered.

EN 310 English Grammar/Linguistics (3)
Description and analysis of English grammar, its smallest parts up through those parts are expressed as meaningful discourse. Instruction in how to understand and discuss the English language effectively. Studies the dynamics (formal, historical, social) of language as a particularly human form of communication. Investigates what language is and how it works, how language changes and varies over time and place, and how language is used in social contexts. Students will learn major linguistic categories of phonology (sounds), morphology (words), syntax (sentences), and semantics (meaning), and ask questions about rules and standards of usage, as well as issues of style and politics as they pertain to English language use. Graduate students must write a substantial paper developing in greater detail one of the topics covered in the course. Prerequisite for EN 610: admission to MLS program or consent.

EN 312 Theories of Persuasive Writing (3)
Study of theories about how people use language/writing persuasively to shape knowledge and opinion. The course focuses on selected theoretical readings from the history of mainstream and marginalized rhetorics. The course will build students’ understanding of rhetorical theory and their skill in using it to analyze persuasive writing in their areas of interest. Prerequisites: EN 101, First-Year College Writing. Completion of EN 300, Advanced College Writing, or simultaneous enrollment strongly recommended.
(General Ed Humanities. Critical and Creative Thinking.)

EN 315 Reading as Writers (3)
Practice in the study of literature from a writer’s perspective, primarily exploring the elements of craft involved in creating literary art (point of view, voice, style, prosody, figurative language, diction, syntax). Through critical analysis, aesthetic investigation, and imitation, students will discover the various tools writers employ to create meaning. Students taking EN 615 will be expected to write a paper of 20 pages analyzing the elements of craft involved in one or more essays by a non-fiction writer chosen in consultation with the professor. Prerequisite for EN 615: admission to MLS program or consent.
EN 320 Teaching Young Adult Literature (3)
This course provides pre-service teachers intensive instruction in ways to teach young adult literature at the middle school and high school levels, including a focus on reading strategies, response strategies, reading engagement and motivational strategies, discussion strategies, lesson design, and instruction. Attention will also be given to the content and history of young adult literature, the diversity inherent in the genre, and censorship and selection of young adult literature. Prerequisite: None.

EN 321 Teaching Composition (3)
Students will conduct, review, analyze, and discuss the teaching of composition, applying the best research-based strategies for elementary-and secondary-level learners from diverse perspectives. Pre-service teachers of literacy will explore writing as a process and develop instructional practices that will increase their students’ writing abilities across the curriculum. Students will also reflect on their learning as they study and practice instructional methods in microteaching opportunities. The course will emphasize the writing process, purposes of writing, grammar and conventions, response groups, multigenre writing, research writing, technology resources, struggling writer strategies, instructional practice and design strategies, and assessment and evaluation techniques. Prerequisites: EN 300.

EN 325 British Literature Through 1785 (3)
Covers major literary movements, major authors, and the careful reading of masterpieces through 1785. Students in 625 will write a substantial paper, including scholarship, on selected works of a single author from the Middle Ages, Renaissance, or 18th Century on a topic chosen in consultation with the professor. Prerequisite for EN 625: admission to MLS program or consent.

EN 326 British Literature since 1785 (3)
This course examines the major literary movements in Britain from the Romantic period to the present in relation to their historical and cultural contexts. This class also surveys how the genres of poetry, the novel, the short story, and drama emerge and evolve through the late eighteenth to the early twenty-first centuries. Students in EN 626 will write an extended research paper on a topic chosen in consultation with the instructor. Prerequisite for EN 626: admission to MLS program or consent.

EN 330 American Literature through 1650 (3)
The course provides a survey of early American literature from pre-Columbian legends through the end of the Civil War. Graduate students will be required to investigate in depth one of the following areas: colonial literature, early national literature, or the literature of the American Renaissance. Prerequisite for EN 630: admission to MLS program or consent.

EN 331 American Literature since 1650 (3)
The course provides a survey of American literature from the Civil War to the present in historical and generic contexts. It stresses close readings of individual texts of fiction, poetry, and drama. Graduate students will select one major author and examine his/her treatment in literary criticism during last fifty years. Prerequisite for EN 631: admission to MLS program or consent.

EN 332 Literature of American West (3)
Focuses on the fiction, but also includes the autobiographies, poetry, and/or essays, of authors shaped by the landscape, diverse peoples, and values of the American west. (General Ed Humanities. Critical and Creative Thinking.)

EN 336 Contemporary Theatre (3)
A study of developments in playwriting, directing, acting since WWI to the present with special emphasis on influences that have affected contemporary theatre and drama. Graduate students must prepare an oral report on an assigned work of literary (or dramatic) criticism and must write a research paper of 15-20 pages with full scholarly apparatus. Cross listed with TH 306. Cannot enroll for credit in both EN 336 and TH 306. Prerequisite for EN 636: admission to MLS program or consent. Not regularly offered.

EN 337 Short Story (3)
This course provides an introduction to the history and characteristics of the short story as a literary form. Students will read representative works of short fiction from a variety of cultural and historical contexts in order to better understand how writers have adapted the short story form to represent the diverse range of human experience.

EN 345 Shakespeare (3)
Students read, discuss, and write on some of Shakespeare’s poetry and a selection from the Comedies, Tragedies, and Histories. Consideration of historical and cultural contexts of the plays, as well as their performance history, will help us appreciate both the works and the culture which inspired them. Graduate students will conduct primary research on topics of their choosing. Prerequisite for EN 645: admission to MLS program or consent.

EN 350 Major Authors (3)
The advanced study of a major literary author or two authors. Special attention will be paid to the evolution of an author’s writing style within the historical and cultural framework in which he or she was writing. May be repeated with change of content. Prerequisite: None.

EN 360 World Literature through 1650 (3)
This course focuses on close readings of masterpieces in world literature to 1650 in relation to their historical and cultural contexts. Attention is given to authors and genres of central importance, and how emerging themes evolve over the centuries. Prerequisite: None.

EN 361 World Literature since 1650 (3)
This course focuses on close readings of masterpieces in world literature from 1650 to the present in relation to their historical and cultural contexts. Attention is given to authors and genres of central importance, and how emerging themes evolve. Prerequisite: None.

EN 370 Medieval Literature (3)
A survey of English literature in the Middle Ages with special emphasis on the works of Chaucer. Special attention to the contextual relationship of literature and the thought and culture of the period. Prerequisite for EN 670: admission to MLS program or consent.

EN 371 Renaissance Literature (3)
A survey of the literature written from 1475 to 1660, focusing on major poets and dramatists, such as Spenser, Shakespeare, Jonson, Donne, and Milton, but also lesser-known writers such as the Countess of Pembroke and Aemilia Lanyer. Special attention to the contextual relationship of literature and the thought and culture of the period. Graduate students will additionally write a substantial research paper on a topic of their choosing. The course also requires two class presentations on selected writers of the period, drawing on current scholarly criticism. Prerequisite for EN 671: admission to MLS program or consent.
EN 372 Restoration & 18th Century Literature (3)
A survey of the principal genres and major authors of literature written between 1660 and 1800. The course may emphasize a certain genre such as the novel or satire, or an individual author such as Jonathan Swift, Aphra Behn, Samuel Johnson, Henry Fielding, or Fanny Burney. Special attention to the contextual relationship of literature and the thought and culture of the period. Graduate students must present an oral report on an assigned work of literary (or dramatic) criticism and must additionally write a substantial research paper with full scholarly apparatus. Prerequisite for EN 672: admission to MLS program or consent.

EN 373 Romantic & Victorian Literature (3)
Readings in Romantic and Victorian literature. The course begins with Wordsworth’s expressions of religion in nature, working through selections from the other major Romantics, and concludes with the prophetic and public solutions to the problems of industrial England offered by Carlyle, Tennyson, Ruskin, and Arnold. Special attention to the contextual relationship of literature and the thought and culture of the period. Graduate students must present an oral report on an assigned work and must additionally write a substantial research paper with full scholarly apparatus. Prerequisite for EN 673: admission to MLS program or consent.

EN 374 Modern Literature (3)
Readings will cover the expressions of Modernism in all the major creative arts with primary focus on the reading and analysis of selected “modernist” literary writers from the genres of fiction, poetry, and drama. Some attention to defining the concept and historical parameters of “modernist”. Prerequisite for EN 674: admission to MLS program or consent.

EN 375 Contemporary Literature (3)
Readings in the literary milieu from 1960 to the present in poetry, short fiction, and the novel with attention to the cultural, social, and historical context of individual works and their authors. Graduate students will additionally write a substantial paper, including contemporary scholarship, examining one author, theme, or movement from this period. Prerequisite for EN 675: admission to MLS program or consent.

EN 376 Nineteenth Century American Literature (3)
Readings in nineteenth century American literature from the rise of literary nationalism through to the contemporary period. Graduate students will complete additional writing and research in consultation with the professor. Prerequisite for EN 682: admission to MLS program or consent.

EN 377 Modern Novel (3)
This course will examine the novel as a literary form, paying particular attention to the origins and development of the genre from the 18th century through to the contemporary period. Graduate students will complete additional writing and research in consultation with the professor. Prerequisite for EN 682: admission to MLS program or consent.

EN 378 Drama (3)
A study of drama as a literary form. Students will read representative works of drama from a variety of contexts. Graduate students will complete additional assignments appropriate to the post-baccalaureate level. Prerequisite for EN 681: admission to MLS program or consent.

EN 379 Topics in Women & Literature (1-3)
Variable specified content in literature related to women that will not be covered in detail in the courses offered by the department. May be repeated with change of content. Prerequisite: consent of instructor.

EN 380 Modern Poetry (3)
Major British and American poets from about 1890 to 1945, including Yeats, Eliot, and Frost. Prerequisites: None.

EN 381 Senior Seminar (3)
This capstone course serves as the culminating experience for the literature emphasis of the English major. Students work together as a class with a faculty member on a specific topic of ongoing research in the faculty member’s area of expertise. Prerequisites: English literature major, senior status, and consent.

EN 382 Internship (1-3)
Applicants should be majors and minors who have second semester junior or senior status, and the approval of their academic advisor and the internship coordinator. Interns will be supervised by the internship coordinator and a workplace supervisor(s). Prerequisites: 15 hrs. of English courses completed, including EN 105, EN 300, and 9 hours at the 300 level, as well as a 3.0 GPA in English coursework.

EN 383 Special Topics - Teaching and Study of English (1-3)
Special topics of a varying nature for teachers doing in-service work, for graduate students in education and English education, and upper-division English majors. Not regularly offered.

EN 384 Publishing Lab (3)
Students gather, evaluate and edit creative manuscripts to produce and publish a literary magazine. Prerequisite: EN 305, EN 306, or EN 307.

EN 385 Directed Reading/Writing/Research (1-3)
Designed to investigate a field of special interest which will not be covered in detail in the courses offered by the department. After securing the approval of the chairperson of the department and the consent of a member of the department who is prepared to supervise their reading, students will carry out their projects with the supervising teacher. Prerequisite: consent of instructor.

EN 386 Aspects of Film (2-3)
Variable specified content in film, such as the American novel into film, the science fiction film, western novels in film. May be repeated with change of content.

EN 387 Literature of Pop Culture (3)
The study of such individual literary topics as the western, detective fiction, sports literature, and prizewinning novels. Students taking this course as 693 will write a substantial paper, including scholarly research, examining one author, theme, or movement in the genre under consideration. The topic will be chosen in consultation with the instructor. May be repeated with change of content. Prerequisite for EN 693: admission to MLS program or consent.

EN 388 Topics in Romance Languages (1-3)
See schedule for the current offerings.

EN 399 Special Topics - Writing/Reading (1-3)
See schedule for the current offerings.

EN 400 Internship (1-3)
For graduate students in education and English education, and upper-division English majors. Not regularly offered.

EN 401 Topics in Women & Literature (3)
The study of such individual literary topics as the western, detective fiction, sports literature, and prizewinning novels. Students taking this course as 693 will write a substantial paper, including scholarly research, examining one author, theme, or movement in the genre under consideration. The topic will be chosen in consultation with the instructor. May be repeated with change of content. Prerequisite for EN 693: admission to MLS program or consent.

EN 402 Senior Seminar (3)
This capstone course serves as the culminating experience for the literature emphasis of the English major. Students work together as a class with a faculty member on a specific topic of ongoing research in the faculty member’s area of expertise. Prerequisites: English literature major, senior status, and consent.

EN 403 Internship (1-3)
Applicants should be majors and minors who have second semester junior or senior status, and the approval of their academic advisor and the internship coordinator. Interns will be supervised by the internship coordinator and a workplace supervisor(s). Prerequisites: 15 hrs. of English courses completed, including EN 105, EN 300, and 9 hours at the 300 level, as well as a 3.0 GPA in English coursework.

EN 404 Special Topics - Teaching and Study of English (1-3)
Special topics of a varying nature for teachers doing in-service work, for graduate students in education and English education, and upper-division English majors. Not regularly offered.

EN 405 Senior Seminar (3)
This capstone course serves as the culminating experience for the literature emphasis of the English major. Students work together as a class with a faculty member on a specific topic of ongoing research in the faculty member’s area of expertise. Prerequisites: English literature major, senior status, and consent.
EN 605 Advanced Fiction Writing (3)
Continued practice in fiction writing with special emphasis on technique. Additional requirement: Students taking EN 605 will, in addition to the 8 short stories due as work for EN 305, revise and edit 3 of their stories and write an introduction to those three that shows how their practice of craft has been shaped by their experience in the course. Prerequisites: EN 209 and admission to the MLS program or consent.

EN 606 Advanced Poetry Writing (3)
Continued practice in poetry writing with special emphasis on technique. Additional requirement: Students taking EN 606 will be required to select at least five of the poems due as work for EN 306 and write an introduction to those five that shows how their practice of craft has been shaped by their experience in the course. Prerequisites: EN 206 and admission to the MLS program or consent.

EN 607 Creative Writing, Nonfiction (3)
Continued practice in the writing of creative nonfiction, including but not limited to personal essay, memoir, literary journalism, travel and science writing. Students taking EN 607 will develop writing projects of considerable length and/or research depth. Prerequisites: EN 207 or consent. For EN 607, admission to the MLS program or consent.

EN 610 English Grammar/Linguistics (3)
Surveys different points of view about language, including traditional grammar and an introduction to transformational grammar. Topics include: phonology, morphology, history of the language, psycholinguistics, language acquisition, dialects, syntax and sentence combining, and their implications for language learning at all levels. Graduate students must write a 12-page paper developing in great detail one of the topics covered in class. Prerequisites: Admission to the MLS program and consent.

EN 615 Reading as Writers (3)
Practice in the study of literature from a writer's perspective, primarily exploring the elements of craft involved in creating literary art (point of view, voice, style, prosody, and figurative language, diction, syntax). Through critical analysis, aesthetic investigation and imitation, students will discover the various tools writers employ to create meaning. Additional requirements: Students taking EN 615 will be expected to write a paper of 20 pages analyzing the elements of craft involved in one or more essays by a nonfiction writer chosen in consultation with the professor. Prerequisites: Admission to the MLS program or consent.

EN 620 Teaching Young Adult Lit (3)
This course provides pre-service teachers intensive instruction in ways to teach young adult literature at the middle school and high school levels, including a focus on reading strategies, response strategies, reading engagement and motivational strategies, discussion strategies, lesson design, and instruction. Attention will also be given to the content and history of young adult literature, the diversity inherent in the genre, and censorship and selection of young adult literature. Prerequisite: Admission to the MLS program or consent.

EN 625 Survey of English Literature I (3)
Major literary movements, major authors, and the careful reading of masterpieces through the mid-eighteenth century. Special attention to the history of the English language as a literary medium. Additional requirements: students in EN 625 will write a fifteen-page paper on selected works of a single author from the middle ages, renaissance, or 18th century. The specific topic must be approved by the professor. Prerequisite: Admission to the MLS program or consent.

EN 626 English Literature II (3)
Major literary movements, major authors, and careful reading of masterpieces from the romantic period to the present. Additional requirements: Students in EN 626 will write a fifteen-page paper, including scholarship, on selected works of a single author from the period. The specific topic will be arranged in consultation with the instructor. Prerequisites: Admission to the MLS program or consent.

EN 630 American Literature I (3)
Survey of early American literature, from pre-Columbian legends through literature of 1850s. Graduate students are required to investigate in-depth one of the following areas: colonial, early national, or American Renaissance literature. Prerequisites: Admission to the MLS program or consent of instructor.

EN 631 American Literature II (3)
Survey of American literature from Civil War to present in historical and generic contexts. Stresses close readings of individual texts of fiction, poetry, and drama. Graduate students select one major author and examine their treatment in literary criticism during last fifty years. Prerequisite: Admission to MLS program and consent of instructor.

EN 636 Contemporary Theater (3)
A study of developments in playwriting, directing, and acting from WWI to the present with special emphasis on influences that have affected contemporary theater and drama. Additional requirements: Students must present an oral report on an assigned work of literary (or dramatic) criticism and must write a research paper of 15-20 pages with full scholarly apparatus. Prerequisites: Admission to the MLS program or consent.

EN 645 Shakespeare (3)
Students read, discuss, and write on some of Shakespeare's poetry and a selection from Comedies, Tragedies, and Histories. Consideration of historical and cultural context of the plays, as well as their performance history, to help appreciate the works and the culture which inspired them. Graduate students conduct primary research on topics of their choosing. Prerequisites: Admission to the MLS program and consent of instructor.

EN 660 World Literature I (3)
Readings in the great works of world literature in translation (from Europe, Asia, Latin America, Africa) from ancient times to 1600. Additional requirements: Students will write a paper of substantial length explaining how knowledge of some aspect of world culture helps in the understanding of a work discussed in class. Scholarly references must be included. Prerequisites: Admission to the MLS program or consent.

EN 661 World Literature II (3)
Readings in the great works of world literature in translation from 1600 to the present. Additional requirements: Students will write a paper of substantial length explaining how knowledge of some aspect of world culture helps in the understanding of a work discussed in class. Scholarly references must be included. Prerequisites: Admission to the MLS program or consent.

EN 670 Medieval Literature (3)
Survey of English literature in the Middle Ages. Emphasis on the works of Chaucer. Includes the contextual relationship of literature and the thought and culture of the period. Prerequisite: Admission to the MLS program or consent.
EN 671 Renaissance Literature (3)
A survey of the literature written from 1475 to 1660, focusing on major poets and dramatists, such as Spenser, Shakespeare, Jonson, Donne, and Milton, but also lesser-known writers such as the Countess of Pembroke and Aemilia Lanyer. Special attention to the contextual relationship of literature and the thought and culture of the period. Additional requirements: Graduate students will write one short analytical paper and a longer (15-20 pages) research paper on a topic of their choosing. The course also requires two class presentations on selected writers of the period, drawing out current scholarly criticism. Prerequisite for EN 671: Admission to the MLS program or consent.

EN 672 Restoration and Eighteenth-Century Literature (3)
A survey of the principal genres and major authors of literature written between 1660 and 1800. The course may emphasize a certain genre such as the novel or satire, or an individual author such as Jonathan Swift, Aphra Behn, Samuel Johnson, Henry Fielding, or Fanny Burney. Special attention to the contextual relationship of literature and the thought and culture of the period. Graduate students must present an oral report on an assigned work of literary (or dramatic) criticism and must write a research paper of the 15-20 pages with full scholarly apparatus. Prerequisites: Admission to the MLS program or consent.

EN 673 Romantic/Victorian Literature (3)
Readings in Romantic and Victorian literature. The course begins with Wordsworth's expressions of religion and nature, working through selections from the other major Romantics, and concludes with the prophetic and public solutions to the problems of industrial English offered by Carlyle, Tennyson, Ruskin, and Arnold. Special attention to the contextual relationship of literature and the thought and culture of the period. Additional requirements: Students must present an oral report on an assigned work and must write a research paper of 15-20 pages with full scholarly apparatus. Prerequisites: Admission to the MLS program or consent.

EN 674 Modern Literature (3)
Readings will cover the expressions of Modernism in all the major creative arts with primary focus on the reading and analysis of selected "modernist" literary writers from the genres of fiction, poetry, and drama. Some attention to defining the concept and historical parameters "Modernists". Prerequisites: Admission to the MLS program or consent.

EN 675 Contemporary Literature (3)
Readings in the literary milieu from 1960 to the present in poetry, short fiction, and the novel with attention paid to the cultural, social, and historical context of individual works and their authors. Additional requirements: Students will write a 20-page paper, including contemporary scholarship, examining one author, theme, or movement studied in the class. Prerequisites: Admission to the MLS program or consent.

EN 680 Modern Poetry (3)
Major British and American poets from about 1890 to 1945, including Yeats, Eliot, and Frost. Graduate students will write a paper of approximately 20 pages, including critical apparatus, examining one author, theme, or movement from this period. Prerequisites: Admission to the MLS program or consent.

EN 681 Drama (3)
The study of drama as a literary form. Additional requirements: Students will write a paper of 15-20 pages, including scholarly apparatus, examining one author, theme, movement, or context for dramatic literature. Prerequisites: Admission to the MLS program or consent.

EN 682 Modern Novel (3)
A survey of the art and vision of the novel as a modern expression of world literature. Special attention to the contribution of non-western literature to the development of the narrative form. Additional requirements: Students will write a paper of 15-20 pages, including scholarly apparatus, examining a novel or novels from this period, the work to be chosen in consultation with the professor. Prerequisites: Admission to the MLS program or consent.

EN 685 Directed Reading, Writing, Research (1-3)
Designed to investigate a field of special interest which will not be covered in detail in the courses offered in the department. May be repeated for credit when the approval of the chairperson of the department and the consent of a member of the department who is prepared to supervise their reading, students will carry out their projects with the supervising teacher. Prerequisites: Admission to the MLS program and consent of instructor.

EN 693 Literature of Popular Culture (3)
Study of such individual literary works as the western, detective fiction, sports literature, and prize-winning novels. May be repeated with change of content. Additional requirements: Students will write a paper of approximately 20 pages, including scholarly research, examining one author, theme, or movement in the genre under consideration. The topic will be chosen in consultation with the instructor. Prerequisites: Admission to the MLS program or consent.

EN 699 Spec Topics: Writing/Research (1-3)
A variable topic graduate-level course in selected subjects in literature and language. Prerequisites: Consent of instructor.

Foreign Language (FL)

FL 100 Specified Topics (2-4)
Custom designed curriculum for elementary-level training in foreign language.

FL 101 Beginning Foreign Language I (4)
Introduction to conversation, reading, grammar and composition in foreign languages not regularly offered. Development of aural/oral skills and emphasis on contemporary culture and social customs of the language area.

FL 102 Beginning Foreign Language II (4)
Continuation of FL 101. Prerequisite: FL 101 or consent of instructor. (General Ed Humanities. Global Citizenship Ethics Div.)

FL 190 Study Abroad in a Non-Program Language (1-12)
Students who are planning to study abroad in a country whose language is not offered in a Washburn University program must use this course to transfer their credits.

FL 200 Specified Topics/Foreign Language (3)
Continuation in the specified topic of FL 100. Prerequisite: FL 100.

FL 201 Intermediate Foreign Language I (3)
This course is intended as reinforcement of the 5 skills learned in FL 102: speaking, listening, reading, writing, and culture. This course is the continuation of FL 102.

FL 202 Intermediate Foreign Language II (3)
This course is the continuation of FL 201.

FL 207 Conversation (3)
Vocabulary expansion, stressing everyday practical usage. Development of oral/aural skills on cross-cultural topics. Stress on tradition and current political/social developments. May be repeated for credit when the language studied is different. Prerequisite Consent of Instructor.
FL 209 Reading & Conversation (3)
Development of oral/aural proficiency through the reading of short literary works as a basis for discussion. Comparison between materials read and life patterns in order to understand a different cultural heritage. May be repeated for credit when the language studied is different. Prerequisite FL 207

FL 290 Study Abroad in a Non-Program Language (1-12)
Students who are planning to study abroad in a country whose language is not offered in a Washburn University program must use this course to transfer their credits back. Prerequisite: 1st year of college level coursework in the target language.

FL 399 Spec. Tpcs in Frgn Lit/Citrt (3)
FL 399 Special Topics in Foreign Literature or culture: Study of individual authors, literary and/or cultural topics. May be repeated. Prerequisite: Consent of instructor.

French (FR)

FR 101 Beginning French I (4)
Introduction to conversation, reading, grammar, and composition. Development of oral/aural skills. Particular emphasis on contemporary culture and social customs in the French-speaking countries. An audiovisual program to develop phonological skills is a component of this course. Offered fall semester only. No prerequisite.

FR 102 Beginning French II (4)
Continuation of French 101. Offered spring semester only. Prerequisite: FR 101 or two years of high school French, or consent of instructor. (General Ed Humanities. Global Citizenship Ethics Div.)

FR 105 Intensive Beginning French I & II (8)
Same content as FR 101 and FR 102 but accomplished in one semester of intensive study. Equal emphasis of the development of the four skills - listening, speaking, reading, writing. Class conducted in French, active preparation and participation required. Not open to native speakers of French or students who receive credit in FR 101 and FR 102. Recommended for students who have already had some high school French.

FR 201 Intermediate French I (3)
This course is intended as reinforcement of the 5 skills learned in FR 102: speaking, listening, reading, writing and culture. Offered fall semester only. Prerequisite: FR 102 or 3 years of high school French with B or better. (General Ed Humanities. Global Citizenship Ethics Div.)

FR 202 Intermediate French II (3)
This course is the continuation of FR 201. Offered spring semester only. Prerequisite: FR 201 or consent of the instructor. (General Ed Humanities. Global Citizenship Ethics Div.)

FR 207 French Conversation (3)
Vocabulary expansion, stressing everyday practical usage. Development of oral/aural skills in conversations on cross-cultural topics. Stress on traditions and current political/social developments in French-speaking countries. Use of magazines, newspapers, and other topical materials as basis for conversation. Prerequisite: FR 202 or three years of high school French, or consent of instructor.

FR 274 Independent Study (1-3)
Directed study. May be repeated. Prerequisite: Consent of instructor.

FR 290 Study Abroad French Speaking Country (1-15)
Students who are planning to study in a French speaking country should enroll under this number after consultation with their major advisor. Prerequisite: 1st year university-level French (FR 101/FR 102) or equivalent.

FR 295 Faculty Led Program French Speaking Country (1-6)
Students who plan to study French in a French speaking country in a program led by a faculty member at Washburn should enroll in this class. Prerequisite: Consent of Faculty Group Leader.

FR 307 Contemporary French Civilization (3)
This course is an introduction to contemporary France. We will study France through its regions, its politics, and its relations with Europe and the United States. We will look at the different institutions that participate in the construction of identities in France, as well as moments when individuals or groups “disidentify” with the nation. THIS COURSE IS TAUGHT IN ENGLISH. French majors may enroll in this course and use it as an elective if they do not have FR 308 and FR 309. (General Ed Humanities. Global Citizenship Ethics Div.)

FR 308 French Literature in Translation (3)
This course introduces students to some of the most important French speaking thinkers (writers, poets, and film directors). An emphasis on historical and cultural context will provide students with a better understanding of literary texts and culture. Each course is organized around one theme or question subject to change. Students will enhance their skill of analyzing narrative [literature, films] and gain an understanding of historical and cultural aspects in the modern French-speaking world. Students will work on producing good academic prose, clear and concise essays on novels, plays, poems, films and/or theoretical works studied in class. Selected films in French will be shown with English subtitles. Class will be conducted in English and it is only valid for the major in the language as a correlated course. Prerequisite: Sophomore Standing or Consent of Instructor. (General Ed Humanities. Global Citizenship Ethics Div.)

FR 309 French Fiction and Films (3)
This class is taught in English and is intended for students who have an interest in French literature and French cinema. This course will include films which are adopted from novels or short stories and students will examine the influence of literature on films. The texts will be translated from the French and the films will be subtitled. No knowledge of French is necessary. French majors may enroll in this course and use it as an elective if they do not have FR 307 and FR 308. (General Ed Humanities. Global Citizenship Ethics Div.)

FR 311 French Grammar Review (3)
Comprehensive review of French Grammar with emphasis on the development of free composition. Stress on grammatical accuracy, clarity, and the appropriate use of idioms and syntax. Offered fall semester only. Prerequisite: FR 202 or consent of the instructor.

FR 312 French Composition (3)
Development of grammatical accuracy and proficiency in composition. Use of readings to illustrate grammatical points and form the basis for composition and discussion. Offered spring semester only. Prerequisite: FR 311 or consent of the instructor.

FR 315 Translation (3)
French-English and English-French translation of a variety of texts. Focus on techniques of translation and improving French grammar, syntax and idioms. Prerequisite: FR 312 or consent of instructor.
FR 320 French Phonetics (3)
Systematic study of the sound system of the French language meant for the student of French who wants to improve his/her pronunciation and learn how the sounds are formed. Prerequisite: FR 312 or consent of instructor.

FR 321 French for Business (3)
This course is meant for the student of French who already has a good command of written and oral French and who wants to acquire vocabulary of the business world. Topics such as banking, insurance, transportation are covered in the course. Prerequisite: FR 312 or consent of instructor.

FR 324 French Civilization (3)
A systematic study of France from its beginning to the present from a historical and social perspective. Prerequisite: FR 312 or consent of instructor.

FR 326 La France Contemporaine (3)
Readings from contemporary sources, including magazines and newspapers for discussion and composition. Prerequisite: FR 312 or consent of instructor.

FR 331 Introduction to French Literature (3)
Analysis of selected texts from various genres, poetry, theatre and novels. Emphasis on Explication de textes. Prerequisite: FR 312 or consent of instructor.

FR 350 Masterpieces of French Literature (3)
Readings of unabridged works from the Middle Ages through the 19th century. Written and oral discussion of the literary significance of the works, as well as their socio-historical background. Prerequisite: FR 312 or consent of instructor.

FR 353 Survey of 20th Century French Literature (3)
Readings of 20th century unabridged novels, plays, and poetry. Written and oral discussion of the literary significance of the works, as well as their socio-historical background. Prerequisite: FR 312 or consent of instructor.

FR 374 Independent Study (1-3)
Directed study. May be repeated. Prerequisite: Consent of instructor.

FR 375 French Seminar (3)
Application of the techniques of literary analysis to particular authors or literary movements. May be repeated. Prerequisite: Consent of instructor.

FR 390 Study Abroad French Speaking Country (1-15)
Students who are planning to study in a French speaking country should enroll under this number after consultation with their major advisor. Prerequisite: 2nd year university-level French (FR 201/FR 202) or equivalent.

FR 395 Faculty Led Program French Speaking Country (1-6)
Students who plan to study French in a French speaking country in a program led by a faculty member at Washburn should enroll in this class. Prerequisite: Consent of Faculty Group Leader.

FR 399 Special Topics/French (3)
Study of individual authors or literary topics. May be repeated. See chairperson and/or schedule for current offerings. Prerequisite: Consent of instructor.

FR 400 Senior Thesis (3-6)
A major research project culminating in a thesis which deals with a literary topic, or other topics as approved by the thesis director. May be presented to the departmental faculty for consideration for departmental honors. Prerequisite: Senior standing.

FR 674 Independent Study (3)
Directed study. May be repeated. Prerequisites: Admission to the MLS program and consent of instructor.

FR 699 Special Topics/French (3)
Study of individual authors or literary topics. Prerequisites: Admission to the MLS program or instructor consent.

Geography (GG)

GG 101 Introduction to Geography (3)
A study of the principal themes of geography: human and environment in interaction, the patterns of distribution of natural phenomena affecting human use of the earth, and the cultural patterns of occupancy and exploitation of the physical world. This course satisfies general education requirements.

(GG 102 World Regional Geography (3)
World regional geography is a comparative study of physical and human environments of world realms and the interplay of forces which gives each realm its distinctive character. This course satisfies general education requirements.

GG 151 Urban Geography (3)
This course examines the geographic origins and development of urbanism, with special emphasis on physical attributes of site and spatial attributes of situation.

GG 201 Environmental Geography (3)
Also known as physical geography, this course introduces students to the distribution and components of the natural environment, including climate, biomes, soils, vegetation and landforms. The course also examines the interactions between these elements, and the effects of humans on the natural environment. Prerequisite: GG 101.

GG 220 Special Topics/Geography (3)
Topics will vary from semester to semester and will be announced in advance. Prerequisite: 3 hr GG or consent

GG 300 Special Topics/Geography (3)
Topics will vary from semester to semester and will be announced in advance. Prerequisite: 3 hr GG or consent

GG 302 Natural Resources Conservation (3)
A study of the principles of natural resource conservation and management, particularly as they relate to human populations, soil conservation and agriculture, water and air pollution and energy resources. Human activities that affect preservation, conservation, and multiple uses and options in a sustainable economy and society are emphasized. Prerequisite: GG 101.

GG 303 Introduction to Land Use (3)
Students are introduced to the conceptual basis of land use planning as it relates to the determinants, classification and survey, and environmental and fiscal impact analysis of the controlled use of land. The course also examines zoning and subdivision regulations in the approaches to land use planning at local, state and national levels. Prerequisite: GG 101.
GG 304 Geography of Kansas (3)
This course is a survey of the distributions and interrelationships of various physical, cultural and economic phenomena of the state. Topics include physiographic regions, settlement patterns, agricultural and urban geography. The High Plains, the Southeastern mining areas, and the urban Northeast regional cultures are examined. Prerequisite: Second semester sophomore status.

GG 325 Introduction to GIS (3)
As one of the most important areas in geography, Geographic Information System (GIS) is widely used in various disciplines for storing, sharing, displaying, analyzing and managing geographically referenced information. The objectives of this class are to provide a firm conceptual and technical understanding of how to present, synthesize, process and analyze geographic data. This class will have both a lecture and a lab session and the lab is taught using ArcGIS 10.5.1 (ESRI, Inc.). This class serves as a prerequisite for the class of GG 326 Advanced GIS. No prerequisites.

Geology (GL)

GL 101 Physical Geology (3)
Special emphasis on the observation of the phenomena of erosion, mountain formation, and stream and glacial action. Lecture-recitation and some field trips.
(General Ed Natural Science. Quan and Sci Reason Lit.)

GL 103 Historical Geology (3)
For students interested in the history and evolution of the planet Earth. Lecture and in-class laboratory work will include exercises with commonly found fossils and geologic-topographic maps. Will provide information about the environment of the early Earth and changes through time.
(General Ed Natural Science. Quan and Sci Reason Lit.)

German (GE)

GE 101 Beginning German I (4)
Introduction to conversation, reading, grammar, and composition. Development of oral/aural skills. Particular emphasis on contemporary culture and social customs in the German-speaking countries. An audiovisual program to develop phonological skills is a component of this course. Offered fall semester only. No prerequisite.

GE 102 Beginning German II (4)
Continuation of German 101. Offered spring semester only. Prerequisite: GE 101 or two years of high school German, or consent of instructor.
(General Ed Humanities. Global Citizenship Ethics Div.)

GE 105 Intensive Begin German I & II (8)
Same content as GE101 and GE102 but accomplished in one semester of intensive study. Equal emphasis on the development of the four skills – listening, speaking, reading, writing. Class conducted in German, active preparation and participation required. Not open to native speakers of German or students who receive credit in GE 101 and GE 102. Recommended for students who have already had some high school German.

GE 201 Intermediate German I (3)
This course is intended as reinforcement of the 5 skills learned in GE 102: speaking, listening, reading, writing and culture. Offered fall semester only. Prerequisite: GE 102 or 3 years of high school German with B or better.
(General Ed Humanities. Global Citizenship Ethics Div.)

GE 202 Intermediate German II (3)
This course is the continuation of GE 201. Offered spring semester only. Prerequisite: GE 201 or consent of the instructor.
(General Ed Humanities. Global Citizenship Ethics Div.)

GE 207 Basic German Conversation (3)
Vocabulary expansion, stressing everyday practical usage. Development of oral/aural skills in conversations on cross-cultural topics. Stress on traditions and current political/social developments in German-speaking countries. Use of magazines, newspapers, and other topical materials as basis for conversations. Prerequisite: GE 202, two years of high school German or consent of instructor.

GE 214 German Reading & Conversation (3)
Prose and poetry selected from German literature, folk culture and public media form the topics for conversation. Prerequisite: GE 202 or consent of instructor.

GE 274 Independent Study (1-3)
Directed study. May be repeated. Prerequisite: Consent of instructor.

GE 290 Study Abroad German Spkg Cntry (1-15)
Students who are planning to study in a German speaking country must enroll under this number after consultation with their major advisor. Prerequisite: 1st year university-level German (GE 101 - GE 102) or equivalent.

GE 295 Fac Led Prog German Spkg Cntry (1-6)
Students who plan to study German in a German speaking country in a program led by a faculty member at Washburn should enroll in this class. Prerequisite: Consent of Faculty Group Leader.

GE 307 Contemp German Civilization (3)
This course is an introduction to contemporary Germany. We will study Germany through its regions, its cultural diversity, its politics, and its relations with Europe and the United States. We will look at the various factors which have impacted modern German life as represented through literature, art, music, and pop culture. THIS COURSE IS TAUGHT IN ENGLISH. German majors may enroll in this course as an elective if they do not have GE 308.
(General Ed Humanities. Global Citizenship Ethics Div.)

GE 308 German Lit in Translation (3)
This course introduces students to some of the most important German speaking thinkers (writers, poets, and film directors). An emphasis on the historical and cultural context will provide students with a better understanding of literary texts and culture. Each course is organized around one theme or question subject to change. Students will enhance their skill of analyzing narrative [literature, films] and gain an understanding of historical and cultural aspects in the modern German-speaking world. Students will work on producing good academic prose, clear and concise essays on novels, plays, poems, films and/or theoretical works studied in class. Selected films in German will be shown with English subtitles. Class will be conducted in English and it is only valid for the major in the language as a correlated course. Prerequisite: Sophomore Standing or Consent of Instructor.
(General Ed Humanities. Global Citizenship Ethics Div.)

GE 311 German Grammar Review (3)
Comprehensive review of German grammar with emphasis on the development of free composition. Stress on grammatical accuracy, clarity, and the appropriate use of idioms and syntax. Readings illustrate grammatical points and form the basis for composition and discussion. Offered fall semester only. Prerequisite: GE 202 or consent of instructor.
GE 312 Contemporary Written German (3)
Readings from contemporary sources, including magazines, newspapers, and literature form basis for discussion and composition. Development of written style as well as grammatical accuracy and the proper use of idioms. Offered spring semester only. Prerequisite: GE 311 or consent of instructor.

GE 315 Translation (3)
German-English and English-German translation of texts from diverse areas. Focus on techniques of translating German prose texts and improving German grammar, syntax and the use of idioms. Prerequisite: GE 311 or consent of instructor.

GE 321 Business German (3)
Introduction to concepts, vocabulary and language practices basic to doing business with German-speaking people. This course will include components to tie abstract concepts to realities of international business in Kansas. Prerequisite: GE 312 or consent of instructor.

GE 324 German Civilization (3)
Study of geography, the visual arts, architecture, music, literature, the economy, customs, and politics from a historical perspective in order to understand present conditions in German-speaking countries. This course will examine these aspects of German civilization from its beginning to the middle of the twentieth century. Prerequisite: GE 312 or consent of instructor.

GE 326 Contemp German/Austrian Civil. (3)
Continuation of GE 324; deals with the politics, the economy, the social structures, the arts and the geography of these countries from the mid-twentieth century to the present. Prerequisite: GE 312 or consent of instructor.

GE 331 Intro to German Literature (3)
Reading of selected works from various genres, including poetry, theater, and narrative prose fiction, with an emphasis on literary analysis. Prerequisite: GE 312 or consent of instructor.

GE 350 Masterpieces of German Lit (3)
Readings of unabridged works from the Middle-Ages through the 19th century. Written and oral discussion of the works as well as their socio-historical background. Prerequisite: GE 312 or consent of instructor.

GE 353 German Lit of the 20th C. (3)
Readings of modern unabridged novels, plays, short stories and poetry. Written and oral discussion of the literary significance of the works as well as their sociohistorical background. Prerequisite: GE 312 or consent of instructor.

GE 374 Independent Study (1-3)
Directed study. May be repeated. Prerequisite: Consent of instructor.

GE 375 German Seminar (1-3)
Application of the techniques of literary analysis to particular authors or literary movements. May be repeated. Prerequisite: Consent of instructor.

GE 390 Study Abroad German Spkg Cntry (1-15)
Students who are planning to study in a German speaking country should enroll under this number after consultation with their major advisor. Prerequisite: 2nd year university-level German (GE 201 - GE 202) or equivalent.

GE 395 Fac Led Prog German Spkg Cntry (1-6)
Students who plan to study German in a German speaking country in a program led by a faculty member at Washburn should enroll in this class. Prerequisite: Consent of Faculty Group Leader.

GE 399 Special Topics/German (1-3)
Study of individual authors or topics. May be repeated. See chairperson and/or schedule for current offerings. Prerequisite: Consent of instructor.

GE 400 Senior Thesis (3-6)
A major research project culminating in a thesis which deals with a literary topic, or other topics as approved by the thesis director. May be presented to the departmental faculty for consideration for departmental honors. Prerequisite: Senior standing.

GE 674 Independent Study (3)
Directed study. May be repeated. Prerequisites: Admission to the MLS program and consent of instructor.

GE 699 Special Topics/German (3)
Study of individual authors or topics. May be repeated. Prerequisites: Admission to the MLS program and consent of instructor.

Graphics/Printing Technology (GRP)

GRP 110 Graphic Design I (4)
The purpose of this course is to summarize the role served by graphic communications in a technological society and to identify the basic functions of the industry. This course also covers the fundamental principles and elements of design and general layout principles used by graphic designers in the production of visual images. This course introduces students to design software such as Adobe InDesign, Adobe Illustrator and Adobe Photoshop.

GRP 120 Color Theory/Composition (4)
This course will teach color theories and composition as they relate to imaging rules of creative element placement and design of an image, including the effects of light, exposure, and image tone. Students will further learn color theories and composition as they are used in graphic design and complement theories used in digital imaging.

GRP 121 Color Composition (4)
This course will introduce the use of color and composition as they relate to imaging rules of creative element placement and design of an image. Students will learn the psychology of color and how color can affect the message of the design.

GRP 132 Digital Imaging I (4)
This course incorporates the introduction to imaging techniques relating to basic camera operation, basic composition, basic lighting as it relates to exposure, and image reproduction. Students learn good camera handling techniques, and establish the ability to operate their digital camera using manual settings.

GRP 133 Page Layout (4)
This course will teach composition techniques and procedures utilizing page layout software such as Adobe InDesign. The student will explore formatting, alignment, spacing, breaks, tabs, tables, lists, drop caps, margins, columns, and become familiar with typographic details. They will also apply page layout techniques to create balanced and professionally designed materials.

GRP 141 Graphic Design II (4)
This course covers the intermediate principles and elements of design and general layout principles used by graphic designers in the production of visual images. This course will give students the opportunity to work within groups and begin development of skills used when working with clients. This course continues with intermediate skills in design software such as Adobe InDesign, Adobe Illustrator and Adobe Photoshop.
GRP 143 Typography (2)
This course will introduce the use of different styles of typography and how to use them more creatively. Students will learn how different styles of typography can affect the message of the design as well as add impact to their designs.

GRP 148 Vector Based Graphics (3)
A study and use of vector graphics for production. Skill development in the use of the tools and transformation options of Adobe Illustrator to create complex vector illustrations for print and web-based media. Mastery in manipulation of both text and graphics with emphasis on the use of the pen tool as well as the correct use and management of different color modes. Focus on software tools and techniques to capture, correct, create and combine images for print and web. Topics include input devices, resolution, tone and color correction, retouching, painting, drawing, image manipulation, compositing, automation, graphic formats, design and reproduction considerations, interview skills with clients to obtain information. This course continues to master skills in design software such as Adobe InDesign, Adobe Illustrator and Adobe Photoshop.

GRP 152 Digital Imaging II (4)
A continuation in camera technique will be explored with emphasis on exposure techniques that will produce the proper reproducible tone and image production. Image editing software will be given to produce and enhance a photograph to create a desired impact.

GRP 153 Vector Based Graphics (5)
A study and use of vector graphics for production. Skill development in the use of the tools and transformation options of Adobe Illustrator to create complex vector illustrations for print and web-based media. Mastery in manipulation of both text and graphics with emphasis on the use of the pen tool as well as the correct use and management of different color modes.

GRP 163 Digital Printing (3)
Principles of digital imaging technology and the different types of equipment and methods involved in electronic image capture are learned in this course. Students also learn how to prepare digital design and imaging files for successful output. This course will teach proper workflow techniques from file generation to print production. Emphasis is placed on troubleshooting and managing files as well as determining proper file structure based on the required output.

GRP 170 Lighting Theories (2)
This course provides a basic understanding of the elements of light, how lighting works and its effect on recording an image. Students will learn to see with light and establish the knowledge of the tonal limits and contrast as they relate to a given image.

GRP 210 Paper & Bindery (2)
This course covers the different types of paper and other substrates used for printing in the graphics industry. The course also covers various finishing methods and binding techniques.

GRP 220 Digital Printing (2)
Principles of digital imaging technology and the different types of equipment and methods involved in electronic image capture are learned in this course. Students also learn how to prepare digital design and imaging files for successful output.

GRP 233 Graphic Design III (5)
This course covers the advanced principles and elements of design and layout principles used by graphic designers in the production of visual images. The projects will become directed more toward working with clients and workplace skills. Students learn to evaluate the project and determine appropriate timeline and tools needed to accomplish the task. Students also learn how to manage multiple projects and deadlines successfully. The students will be given the opportunity to begin working with clients either in person or online. This course continues with advanced skills in design software such as Adobe Indesign, Adobe Illustrator and Adobe Photoshop.

GRP 235 Studio Lighting (2)
Students will practice portrait and commercial lighting techniques in the studio to develop an understanding of how lighting affects the varying differences of people. Commercial lighting will also be used to provide the maximum detail and representation for a given object.

GRP 241 Paper & Bindery (3)

GRP 242 Digital Imaging III (4)
This course establishes a higher level of camera operation and pre-visualization, along with an opportunity to enhance creative levels in composition and design. In addition, usage of editing software is introduced to enhance images created for projects. Students will have the opportunity to work with clients.

GRP 244 Raster Based Graphics (4)
This course will teach image composition techniques and procedures utilizing raster graphics software such as Adobe Photoshop. Focus on software tools and techniques to capture, correct, create and combine images for print and web. Topics include input devices, resolution, tone and color correction, retouching, painting, drawing, image manipulation, compositing, automation, graphic formats, design and reproduction considerations.

GRP 246 Graphic Design III (4)
This course covers the advanced principles and elements of design and layout principles used by graphic designers in the production of visual images. The projects will become directed more toward working with clients and workplace skills. Students learn to evaluate the project and determine appropriate timeline and tools needed to accomplish the task. The students will be given the opportunity to begin working with clients either in person or online. This course continues with advanced skills in design software such as Adobe InDesign, Adobe Illustrator and Adobe Photoshop.

GRP 248 Graphic Design IV (5)
Students who have met grade and attendance requirements will work directly with clients. Students will advance the skills learned in Graphic Design III by further mastering the use of a tracer system and interview skills with clients to obtain information. This course continues to master skills in design software such as Adobe Indesign, Adobe Illustrator and Adobe Photoshop.

GRP 251 Graphic Design IV (4)
Students who have met grade and attendance requirements will work with clients. Students will advance the skills learned in Graphic Design III by further mastering the use of a tracer system and interview skills with clients to obtain information. This course continues to master skills in design software such as Adobe InDesign, Adobe Illustrator and Adobe Photoshop.
Health Careers (HCT)

HCT 100 Intro to Human Body (4)
This course introduces HealthCare Technology students to the basic science of body structure and function. It will familiarize the students to the human body and its levels of organization. Intro to Human Body is a component of and incorporated into the semester long program.

HCT 105 First Aid & CPR (1)
This course is an introduction to basic first aid and included CPR certification. The course provides the basic information and skills needed to meet the AMercian Heart Association standards. Participants will be allowed to practice the skills in a real life based environment that will test their learned skills.

HCT 108 Health Occupations I (4)
This course introduces Health Care Technology students to the basic science of body structure and function. It will familiarize the students to the human body and its levels of organization. Health Occupations I is a component of and incorporated into the semester long program.

HCT 118 Medical Math (1)
This course familiarizes the HealthCare Technology student to basic medical math used in a nursing care setting. It is a component of and incorporated into the semester long program.

HCT 122 Medical Terminology (2)
The course introduces the student to the language of the medical field. Medical prefixes, suffixes, and combining forms are introduced to the student so they may have a thorough knowledge and understanding of what they are reading and writing in the medical field. An emphasis is placed on terms, pathological conditions, and diagnostic terms.

HCT 124 Lab Skills & Patient Care (2)
This course provides the student with knowledge and practical application of basic laboratory skills with a focus on patient care. Students learn and practice basic skills in personal care, sterile technique, patient safety, documentation, and medication administration. There is major emphasis on the critical elements of laboratory procedures and the scientific rationale for performing the procedures correctly.

HCT 125 Lab Skills & Patient Care (3)
This course provides the student with knowledge and practical application of basic laboratory skills with a focus on patient care. Students learn and practice basic skills in personal care, sterile technique, patient safety, documentation, and medication administration. There is major emphasis on the critical elements of laboratory procedures and the scientific rationale for performing the procedures correctly.

HCT 128 Nurse Aide (5)
This course provides the student with the knowledge and skills necessary to secure employment as a CNA in the workplace through a combination of classroom instruction, nursing lab skill demonstration/practice, and the opportunity to gain instructor supervised experience in a work setting. This program meets state guidelines for the Kansas Nurse Aide certification testing through Kansas Department of Aging and Disability Services.
HCT 131 Human Development (3)
This course provides an introduction to physical, cognitive, emotional, and social aspects of human development throughout the life span. It emphasizes developmental processes beginning with conception and continuing throughout childhood, adolescence, adulthood, later life and death. The course focuses on developmental processes, cultural influences, and other factors that make each individual unique. This course takes an inter-disciplinary approach toward human development that is based on science and applied toward the goal of solving important human problems.

HCT 132 Anatomy & Physiology (4)
This course is designed to introduce the student to the structure and function of the following body systems: skeletal, muscular, nervous, sensory, circulatory, respiratory, digestive, and urinary systems. This class offers information concerning normal human structures and functions and the developmental changes that occur during an individual’s life span. Students will learn specific information about factors associated with expected and abnormal anatomical and physiological changes associated with the body’s major organ systems. This course is designed for students who are interested in pursuing a career in a health occupation.

HCT 133 Anatomy & Physiology Lab (2)
This course provides opportunities to observe various anatomical parts and to investigate physiological phenomena. The student will relate specimens, models, microscope slides, and whole body information learned in lecture and read about in the textbook. Study of anatomy of major organ systems includes use of anatomical models and selected preserved animals and organs.

HCT 134 Human Growth & Development (3)
This course provides an introduction to physical, cognitive, emotional, and social aspects of human development throughout the life span. It emphasizes developmental processes beginning with conception and continuing throughout childhood, adolescence, adulthood, later life and death. The course focuses on developmental processes, cultural influences, and other factors that make each individual unique. This course takes an inter-disciplinary approach toward human development that is based on science and applied toward the goal of solving important human problems.

HCT 135 CPR (0)
This course is an introduction to basic first aid and included CPR certification. The course provides the basic information and skills needed to meet the American Heart Association standards. Participants will be allowed to practice the skills in a real life based environment that will test their learned skills.

HCT 136 Human Anatomy & Physiology (4)
This course is designed to introduce the student to the structure and function of the following body systems: skeletal, muscular, nervous, sensory, circulatory, respiratory, digestive, and urinary systems. This class offers information concerning normal human structures and functions and the developmental changes that occur during an individual’s life span. Students will learn specific information about factors associated with expected and abnormal anatomical and physiological changes associated with the body’s major organ systems. This course is designed for students who are interested in pursuing a career in a health occupation.

HCT 137 Human Anatomy & Physiology Lab (2)
This course provides opportunities to observe various anatomical parts and to investigate physiological phenomena. The student will relate specimens, models, microscope slides, and whole body information learned in lecture and read about in the textbook. Study of anatomy of major organ systems includes use of anatomical models and selected preserved animals and organs.

HCT 138 Home Health Aide (2)
This course is designed for the person seeking to provide direct care services to clients in their home. Home Health Aides assist other health care professionals in maintaining and restoring the client to optimum levels of physical and emotional well-being while allowing the client to remain at home. Upon completion of the course students are eligible to receive a certificate after passing the Kansas Department of Aging and Disability Services exam. Prerequisites: CNA certification.

HCT 141 Nutrition (3)
This introductory course provides a basic knowledge of human nutrition. Students will learn the sources and functions of the various nutrients. They will also explore the interaction of diet, disease, prevention, and treatment. Through the use of computerized nutrition program, students will analyze their diets for nutritional deficiencies and excesses.

HCT 148 Medication Aide (5)
The Certified Medication Aide (CMA) course is designed for the person seeking work in a long-term care facility. The CMA course introduces the student to basic concepts of medication administration including drug classification, drug action, and nursing implications for specific drugs. Student’s participation in hands-on experience in a clinical setting is an integral part of the course. Upon completion of the course, students are eligible to receive a Medication Aide certificate after passing the Kansas Department of Aging and Disability Services exam. Prerequisite: CNA certification.

HCT 152 Phlebotomy (3)
The Phlebotomy course is designed to train individuals to properly collect and process blood and other clinical specimens for laboratory testing and to interact with health care personnel, clients, and the general public. Presentation includes equipment and additives, basic anatomy, and techniques for safe and effective venipuncture. Emphasis will be placed on collection techniques, specimen processing, work flow practices, referrals, and utilizing laboratory information systems.

HCT 154 Phlebotomy Clinical (3)
Phlebotomy Clinical is a health-related, work-based learning experience that enables the student to apply specialized occupational theory, skills, and concepts. Direct supervision is provided by the clinical laboratory professional. This course provides opportunities to practice phlebotomy skills in a clinical setting. Safety, quality control, and interpersonal communications will be stressed. The student will be eligible to apply for a national certifying examination upon successful completion.

HCT 155 Phlebotomy Clinical (2)
Phlebotomy Clinical is a health-related, work-based learning experience that enables the student to apply specialized occupational theory, skills, and concepts. Direct supervision is provided by the clinical laboratory professional. This course provides opportunities to practice phlebotomy skills in a clinical setting. Safety, quality control, and interpersonal communications will be stressed. The student will be eligible to apply for a national certifying examination upon successful completion.
HCT 162 Fundamentals of Phlebotomy (3)
This course is designed to train individuals to properly collect and process blood and other clinical specimens for laboratory testing and to interact with health care personnel, clients, and the general public. Presentation includes equipment and additives, basic anatomy, and techniques for safe and effective venipuncture. Emphasis will be placed on collection techniques, specimen processing, Order of Draw, departments in the clinical laboratory, the tests analyzed in each department, and work flow practices.

HCT 164 Phlebotomy Lab (2)
This course provides the student with knowledge and practical application of basic laboratory skills with a focus on patient care. Students learn and practice basic skills in venipuncture, sterile technique, patient safety, and documentation. There is major emphasis on the critical elements of laboratory procedures and the scientific rationale for performing the procedures correctly.

HCT 166 Phlebotomy Clinical Practicum (2)
A health-related, work-based learning experience that enables the student to apply specialized occupational theory, skills and concepts; direct supervision is provided by the clinical laboratory professional; course provides opportunities to practice phlebotomy skills in a clinical setting; safety, quality control and interpersonal communications will be stressed.

HCT 168 Phlebotomy National Exam Rev. (1)
This course is designed to prepare the student for the ASCP or NHA National Exam. The course will include practice test questions over the topics covered in the didactic course Fundamentals of Phlebotomy.

History (HI)

HI 100 Survey of Early World History (3)
Stone-age origins to c. 1200 CE. Basic introductory survey of earliest eras of world cultures and history. Covers late pre-history; first and classical age civilizations of Mediterranean, Asia, and Americas; and emerging peripheral cultures and civilizations of Africa, Asia, Europe and Americas. (General Ed Social Science. Global Citizenship Ethics Div.)

HI 101 Changing World History: Traditions and Transitions (3)
Basic introductory survey of world developments, c. 1200-1750 CE. Begins with Mongol conquests. Continues with resurgence and change in established civilizations of Asia, Africa, Europe and Americas. Traces emergence and impact of modernizing West, early era of world explorations and empire building, and development of global trading networks. (General Ed Social Science. Global Citizenship Ethics Div.)

HI 102 Modern World History (3)
Basic introductory survey of world developments, c. 1750 to present. Begins with industrialization and political change in the West, producing technologically-advanced Western economic, social and political world dominance. Traces power, processes of decolonization, emerging late 20th-century world economies, states and societies. (General Ed Social Science. Global Citizenship Ethics Div.)

HI 105 Introduction to World Music and its History (3)
This course explores the history of world cultures by focusing specifically on the development of musical traditions from around the world. Students explore the history and cultural development of selected world cultures, and listen to and analyze the musical traditions from those cultures to understand how a culture’s music reflects both its traditions and its interaction with other cultures. Prerequisites: None. (General Ed Social Science. Global Citizenship Ethics Div.)

HI 111 History of the United States through the Civil War (3)
Survey of American history from the first encounters between American Indians, Europeans, and Africans through the period immediately following the Civil War, which introduces students to the study of the past and familiarizes them with records of American experiences. It exposes students to political, economic, social and intellectual forces shaping the American heritage and contributing to the nation's development. No prerequisites. (General Ed Social Science. Critical and Creative Thinking.)

HI 112 History of the United States since the Civil War (3)
Survey of American history from the emergence of an urban and industrial society after the Civil War to the present, which introduces students to the study of the past and familiarizes them with records of American experiences. Exposes students to political, economic, social and intellectual factors shaping the American heritage and contributing to the nation's development. No prerequisites. (General Ed Social Science. Critical and Creative Thinking.)

HI 300 Topics in History (1-3)
Topics will vary from semester to semester and will be announced in advance. Prerequisite: 3 hrs HI or consent.

HI 303 Colonial America to 1763 (3)
Study of the age of exploration and the establishment of the original colonies. Emphasis will be given to the British colonies of the western hemisphere, but the course will also include those colonies of other nations as they affect American growth and development. It will include a broad treatment of social, political, economic and intellectual forces to 1763. Prerequisite: 3 hrs HI or consent.

HI 304 American Revolutionary Period, 1763-1789 (3)
An examination of the problems of Great Britain and the colonies following the French and Indian War. The causes of the American Revolution as well as the events resulting from it will be studied in detail. The critical period, the writing of the Constitution and the laying of the foundations of our government by the Federalists will be analyzed. Prerequisite: 3 hrs HI or consent. (General Ed Social Science. Critical and Creative Thinking.)

HI 305 Early National United States (3)
This class examines topics and themes in American society, politics, economics, and culture between roughly 1787 and 1850. In this period, deep changes unfolded throughout the young nation. As we will see, America in these years was marked both by more inclusive democracy and greater hierarchy; it became simultaneously more confident and defined as an independent nation, but also more fragmented according to the regional, economic, gender, racial, and ethnic distinctions among its peoples. In our assessment of early national U.S. history, we will pay special attention to the profound economic and cultural upheavals historians refer to as the market revolution as a way to view the period as a whole and to understand the transformations in human experience and national identity that took place during it. Prerequisites: 3 hours of History or permission of instructor.

HI 307 American Civil War: 1848-1877 (3)
A survey of the sectional crisis beginning with the conclusion of the Mexican War in 1848 to resolution of the crisis by 1877. Themes include: the nature of Northern and Southern societies; the political crisis of the 1850s; the relative military strengths of each side; the major battles and campaigns; the Northern and Southern home fronts, the role African-Americans played in their own liberation; the process by which reconstruction first emerged and then collapsed. Prerequisite: 3 hrs HI or consent.
HI 308 Making of Modern America, 1880-1920 (3)
The history of the United States from the end of Reconstruction to World War I. Examines social, political and economical changes. Topics covered include industrialization and its effects, popular culture, reform movements, and immigration. Prerequisite: 3 hrs History or consent. (General Ed Social Science. Critical and Creative Thinking.)

HI 309 America in the 1920s & 30s (3)
History of the United States from the "Roaring Twenties" through the New Deal. Focuses on the dramatic shifts in American life in the interwar period. Topics of special interest include entertainment and leisure, youth culture, the Great Depression, and the expansion of the American state through New Deal programs. Prerequisite: 3 hrs History or consent.

HI 311 Cold-War America, 1945-1990 (3)
Examines the development of the US as it responds to the pressures of the Cold War, repercussions of the corporate economy, dynamics of changing race relations and the emergence of a New World Order in the 1980s. Prerequisites: 3 hrs. HI or consent.

HI 312 War's Impact on America (3)
A twentieth-century U.S. History course emphasizing social, economic, and cultural implications of American involvement in wars from the First World War through the Gulf War of 1991. The course addresses, from comparative perspective, mobilization and conscription issues, societal implications on the American home front, and civil liberties issues in wartime from the 1910s to the 1990s. Prerequisite: 3 hrs HI or consent.

HI 315 Women in US History (3)
American women's history from the nineteenth century to the present with an emphasis on their role in society, and how women's experiences have been affected by social, economic, and political changes. Prerequisite: 3 hrs HI or consent.

HI 316 History of American Childhood (3)
This course surveys the wide range of historical literature on children and youth in American culture, and considers evolving notions of childhood from America's colonial period to the present. This is a seminar-style, discussion-oriented course, complemented with lectures, films and students' research presentations. Readings will include historical monographs, autobiographies, and primary sources. Grading criteria will be based on students' research and essay-writing, class participation, and a final exam. This course can be utilized toward fulfillment of an upper-division requirement for American history. Prerequisite: 3 hours of History or permission of instructor.

HI 317 Topeka & Urban American History (3)
Explores the development of Topeka within the context of urban growth in America. The first half focuses on individuals, groups, institutions, and ideas that define the nation's urban experience, while the second half weaves Topeka into the pattern. Prerequisite: 3 hrs HI or consent.

HI 319 American Indian History (3)
Examines the history of American Indian societies, concentrating mainly on the period from the 17th century to the present. Emphasizes topics related to sovereignty, intercultural relations, political and economic trends, and the diversity of American Indian cultures. Prerequisite: 3 hrs History or consent.

HI 320 American West (3)
Focuses on the development of the west as a region. It addresses innovative institutions and practices, the changing environment, and the diversity and interaction of cultures. Prerequisite: 3 hrs HI or consent.

HI 322 Kansas History (3)
Social, economic and political history from Spanish explorations to the present, including the role of the native-American, non-English ethnic groups, and women, and the part played by Kansas and Kansans on the national scene. Prerequisite: 3 hrs HI or consent.

HI 325 American Religious History (3)
This course serves as an introduction to religion in American history by focusing upon the impact of religion on American culture and of American culture on religion. It examines the major figures, themes, and theological positions in American religious history from approximately 1600 to the modern era. Prerequisite: 3 hrs HI or consent.

HI 326 Anabaptism: The Radical Reformation and Beyond (3)
This course focuses on the major events, persons, literature, and practices of Anabaptist-related groups from the 16th-century Reformation to the present. History department faculty and guest speakers will trace the evolution of this religious movement from its multi-faceted European origins to diverse contemporary practices of Mennonites, Amish, Hutterites, and other Anabaptists on five continents. Course components include research projects, religious identity formation, storytelling about Anabaptists' lives and essays on novels and other literature drawn from Anabaptist experience. Students taking the course HI-526 for graduate credit will choose an appropriate topic for a research paper utilizing primary and secondary sources, in consultation with the professor. Prerequisites: 3 hours of History or permission of instructor. (General Ed Social Science. Critical and Creative Thinking.)

HI 328 African-American History (3)
The black experience in America from African origins to the present. Themes to be emphasized include: the process of enslavement, the emergence of African-American culture, the nature of slavery, the struggle for freedom, the migration to the North, the Civil Rights movement, and contemporary issues. Prerequisite: 3 hrs HI or consent.

HI 329 Civil Rights Movement (3)
Examines the way black and white Americans have redefined race relations between the mid-1950's and mid-1980's. Class discussion comprises a significant portion of the course. Prerequisite: 3 hrs HI or consent.

HI 330 Ancient/Medieval Europe to 1400 (3)
The development of Greek civilization through the Hellenistic period, the phases of Roman civilization, and the forms of civilization in Europe in the wake of the Roman collapse (including feudal and manorial structures, the spread of Christianity, and the first stages of the emergence of nation states). Prerequisite: 3 hrs HI or consent.

HI 331 Early Modern Europe, 1300-1750 (3)
Covering the Italian Renaissance and its diffusion to the north, the Reformation as social and political as well as a religious movement, the conditions that fueled the European Age of Exploration, the consolidation of nationstates, and the formation of a trans-Atlantic trade network grounded on slavery. Prerequisite: 3 hrs HI or consent.

HI 332 Modern Europe, 1750-Present (3)
Begin with Industrialization and its effects and continues to the French Revolution and its broader impact, the development of democratic institutions in the context of industrial consolidation in the 19th century through the total wars of the 20th century, the Soviet Revolution, trends toward broader democratization and welfare statism, the collapse of communism in the East, and current movements toward European union. Prerequisite: 3 hrs. HI or consent.
HI 334 Civilization of Ancient Rome (3)
This survey course covers the history of ancient Roman civilization from its origins to Late Antiquity. The course is divided into three major sections. The first section, FOUNDATIONS, covers the early development of Italy, the establishment and development of the Roman Republic, and key Roman cultural institutions, especially the Roman state religion. The second section, TRANSFORMATION, examines the slow disintegration of the institutions of the Republic, and its eventual collapse under the weight of the political ambition of senators such as Marius, Sulla, Pompey and Julius and Augustus Caesar. The third section, IMPERIUM, covers the history of the empire from Augustus to its collapse in the West in 476 and beyond, with special attention to the development of new religions to challenge the older order, namely Christianity and the other Mystery Cults. Throughout the semester we will be exploring sub-themes, such as the legitimacy and usefulness of drawing parallels between the histories of Rome and the United States, and the ever-changing perception of Rome in the modern popular imagination as evidenced in film. Also part of the course will be an extended simulation of the Roman Senate in the aftermath of the assassination of Julius Caesar, with students representing senators faced with the conflict between the achievement of personal ambition and the good of the state in troubled times. Prerequisite: 3 hrs History or permission of the instructor. (General Ed Social Science. Global Citizenship Ethics Div.)

HI 336 History of England (3)
Origins and historical development of England in its political, economic and social aspects from the earliest times to the present. Prerequisite: 3 hrs HI or consent.

HI 338 Victorian Britain, c. 1830-WWI (3)
Intensive study of British history and life during the Victorian era, 1837-1901. Emphases will include the impact of industrialization, the continued evolution of parliamentary rule, changing women's and family roles, Victorian culture and the expansion of Empire. Prerequisite: 3 hrs HI or consent. (General Ed Social Science. Global Citizenship Ethics Div.)

HI 339 History of France (3)
Study of the development of French history and culture from the earliest times to the present. Prerequisite: 3 hrs HI or consent.

HI 340 French Revolution & Napoleon (3)
A study of the decade of revolution, 1789-1799, and of the Napoleonic regime. Constitutional, political, societal, economic, and cultural issues will be considered. Prerequisite: 3 hrs HI or consent.

HI 342 History of Germany (3)
Study of the development of German history and culture from the earliest times to the present. Prerequisite: 3 hrs HI or consent.

HI 343 The European Reformation (3)
A survey of the history and theology of the Magisterial, Radical, and Roman Catholic Reformation movements of the early sixteenth century, with particular emphasis on the religious ideas and practices of leading reformers such as Luther, Zwingli, Calvin, and Ignatius Loyola. Reformation ideas will be examined within the context of the experiences of these principal figures and of the public they addressed and by whom they were interpreted. The reformation will be considered in relation to the cultural, social, economic, and political changes of the early modern period. Prerequisite: 3 hrs HI or consent.

HI 344 The Holocaust: A Seminar (3)
In consultation with the instructor, students will select a topic related to the Holocaust, research it, make a class report, be critiqued by their peers and the instructor, and prepare a research paper. Prerequisite: 3 hrs HI or consent.

HI 354 History of Middle East (3)
Origins, historical development and interaction of the major events, ideas, figures, and patterns shaping the history of the Middle East from the rise of Islam to the present. Prerequisite: 3 hrs HI or consent.

HI 357 History of Traditional China (3)
Origins, historical development and interplay of major forces, events and characteristics of Chinese Civilization from pre-history to c. 1800. Prerequisite: 3 hrs HI or consent.

HI 358 History of Modern China (3)
Origins, historical development and interplay of major forces, events and characteristics of Chinese Civilization from c. 1800 to the present. Prerequisite: 3 hrs HI or consent.

HI 360 History of Mexico (3)
Origins of Mexican Civilization in the blending of the Indian and Spanish races and civilizations and the historical development of that civilization to the present. The interaction of physical, economic, political and social forces in the shaping of that civilization is emphasized. Prerequisite: 3 hrs HI or consent.

HI 361 Colonial Latin America (3)
The course surveys Latin American history from the pre-Columbian era to 1820. Through the exploration of the fundamental events of colonial Latin American history using primary sources, the course identifies and analyzes key political, social, economic, and religious institutions of the colonial experience in Latin America, evaluates the role of state and religion in society, examines intersections of race, class, and gender, and assesses the causes of and wars of independence. Prerequisite: 3 hrs HI or consent.

HI 362 History of Latin America (3)
Latin American history from 1820 to the present. The course will focus on the interaction of social, cultural, economic, political, and international factors in the creation of the reality lived by Latin Americans from all socioeconomic backgrounds from the nineteenth century to the present. Prerequisite: 3 hrs HI or consent.

HI 363 Borderlands and Beyond (3)
The course explores Latino history in the United States within the broader U.S., Latin American, and global economic perspective. Beginning during the Spanish colonial period and including the major formative events in U.S./Mexican/and Latin American history, (Mexican Independence, Texas Independence, Mexican-American War, Mexican Revolution, Spanish-American-Cuban War, etc.), the course asks students to think about the multiple meanings of borders, past and present, as well as the changing role of migration and immigration within that historical context. Prerequisite: 3 hrs HI or consent. (General Ed Social Science. Global Citizenship Ethics Div.)

HI 364 History/Literature of Latin America (3)
This course focuses on the relationship between history and literature in modern Latin America. Through the study of novels, poetry, film, and other genres the course examines how authors use literature to interpret the meaning of history and society as well as moments in which literature became part of the historical process. Prerequisite: HI 100, HI 101, or HI 102, or consent.
HI 370 Modern Africa, c. 1700-Present (3)
Covers the basic developments in sub-Saharan African history since 1700. Begins with the intensification of slave trading, widening trade networks within Africa and linking Africa to the Atlantic world, and continues with the New Imperialist conquest of Africa and its consequences from the 19th century on. Closes with the rise of nationalist movements, decolonization and formation of independent states in Africa. Prerequisite: 3 hrs HI or consent.

HI 380 Women in World History (3)
Surveys major figures, philosophies, patterns and events shaping women's changing roles and status within human society, origins of civilization to current industrial society. Traditional civilizations covered include Classical Mediterranean World, Confucian Asia, and Islam; significant emphasis will also be placed on understanding the impact of industrialization and modern political revolution both within the west and in the developing world. Prerequisite: 3 hrs HI or consent.

HI 381 History & Psychology of Sex & Gender (3)
Team taught by an historian and a psychologist. Surveys historic and current experience of being male and female within changing western society. Examines past roles and ideas about distinctions between sexes and surveys current psychological research in the area. See Psychology for cross-listing. Prerequisite: 3 hrs Social Science or consent.

HI 383 Film and History (3)
In this course, students will survey and evaluate films about historical subjects, seeking to understand the role film plays in shaping popular attitudes towards history and trying to assess the sort of history that film versions of the past promulgate. The main business of the class will be watching films and then discussing them, primarily through E-mail exchanges and debates, a required component of the course. In addition, students will do two book reports and a research paper. Prerequisite: 3 hrs HI or consent.

HI 395 History Forum (3)
A seminar on the nature of history and its application. Prerequisites: any three 100 level HI courses.

HI 397 Internship in Historical Agencies (3)
A program for junior/senior level undergraduates principally offered in cooperation with the Kansas State Historical Society and the Brown v. Board of Education National Historic Site on a limited basis, in Museum Display, History Education, Archives and Manuscripts. Prerequisites: HI 111, HI 112, 6 hours upper division HI, consent.

HI 398 Directed Readings (1-6)
Directed readings in selected fields of history. Regular conferences. May be taken until six credit hours are earned. Prerequisite: Senior history major or approval of the department chair.

HI 399 Historical Methods & Research (3)
Research and bibliographical techniques and practice in the application of these techniques in selected research. A capstone course required of history majors. Prerequisites: HI 111, HI 112, HI 395 and two of The World History courses.

HI 526 Anabaptism: The Radical Reformation and Beyond (3)
This course focuses on the major events, persons, literature, and practices of Anabaptist-related groups from the 16th-century Reformation to the present. History department faculty and guest speakers will trace the evolution of this religious movement from its multi-faceted European origins to diverse contemporary practices of Mennonites, Amish, Hutterites, and other Anabaptists on five continents. Course components include research projects on religious identity formation, storytelling about Anabaptists' lives and essays on novels and other literature drawn from Anabaptist experience. Students taking the course HI-526 for graduate credit will choose an appropriate topic for a research paper utilizing primary and secondary sources, in consultation with the professor. Prerequisites: 3 hours of History or permission of instructor.

HI 534 Civilization of Ancient Rome (3)
This survey course covers the history of ancient Roman civilization from its origins to Late Antiquity. The course is divided into three major sections. The first section, FOUNDATIONS, covers the early development of Italy, the establishment and development of the Roman Republic, and key Roman cultural institutions, especially the Roman state religion. The second section, TRANSFORMATION examines the slow disintegration of the institutions of the Republic, and its eventual collapse under the weight of the political ambition of senators such as Marius, Sulla, Pompey and Julius and Augustus Caesar. The third section, IMPERIUM, covers the history of the empire from Augustus to its collapse in the West in 476 and beyond, with special attention to the development of new religions to challenge the older order, namely Christianity and the other Mystery Cults. Throughout the semester we will be exploring sub-themes, such as the legitimacy and usefulness of drawing parallels between the histories of Rome and the United States, and the ever-changing perception of Rome in the modern popular imagination as evidenced in film. Also part of the course will be an extended simulation of the Roman Senate in the aftermath of the assassination of Julius Caesar, with students representing senators faced with the conflict between the achievement of personal ambition and the good of the state in troubled times. Prerequisite: 3 hours of History or permission of the instructor.

HI 600 Special Topics in History (1-3)
Topics will vary from semester to semester and will be announced in advance. Prerequisite: 3 hrs History or consent.

HI 604 American Revolutionary Period (1763-1789) (3)
Examination of the problems of Great Britain and the colonies following the French and Indian War. Causes of the Revolution as well as the events resulting from it will be studied in detail. The critical period, the writing of the Constitution, and the laying of the foundations of our government by the Federalists are analyzed. Prerequisites: 3 hours History or consent.

HI 607 American Civil War: 1848-1877 (3)
A survey of the sectional crisis beginning with the conclusion of the Mexican War in 1848 to resolution of the crisis by 1877. Themes include: the nature of Northern and Southern societies; the political crisis of the 1850s; the relative military strengths of each side; the major battles and campaigns; the Northern and Southern home fronts, the role African-Americans played in their own liberation; the process by which reconstruction first emerged and then collapsed. Prerequisites: 3 hours History or consent.

HI 611 Cold-War America, 1945-1990 (3)
Examines the development of the US as it responds to the pressures of the Cold War, repercussions of the corporate economy, dynamics of changing race relations and the emergence of a New World Order in the 1980s. Prerequisites: 3 hours History or consent.
HI 612 Wars’ Impact on America (3)
A twentieth-century U.S. history course, emphasizing social, economic, and cultural implications of American involvement in wars from the First World War through the Gulf War of 1991. The course addresses, from comparative perspective, mobilization, and conscription issues, societal implications on the American homefront, and civil liberties issues in wartime from the 1910s to the 1990s. Prerequisites: 3 hours History or consent.

HI 615 Women in U.S. History (3)
American women’s history from the nineteenth century to the present with an emphasis on their role in society, and how women’s experiences have been affected by social, economic, and political changes. Prerequisites: 3 hours History or consent.

HI 617 Topeka and Urban American History (3)
Explores the development of Topeka within the context of urban growth in America. The first half focuses on groups, individuals, institutions, and ideas that define the nation’s urban experience, while the second half weaves Topeka into the pattern. Prerequisites: 3 hours History or consent.

HI 620 The American West (3)
Focuses on development of the west as a region. Addresses innovative institutions and practices, interaction of culture, and the diversity and the changing environment. Prerequisites: 3 hours History or consent.

HI 622 Kansas History (3)
Social, economic and political history from Spanish explorations to the present, including the role of the Native-American, non-English ethnic groups, and women, and the part played by Kansas and Kansans on the national scene. Prerequisite: 3 hours History or consent.

HI 625 American Religious History (3)
This course serves as an introduction to religion in American history by focusing upon the impact of religion on American culture and of American culture on religion. It examines the major figures, themes, and theological positions in American religious history from approximately 1600 to the modern era. Prerequisite: 3 hrs History or consent.

HI 628 African American History (3)
The black experience in America from African origins to the present. Themes to be emphasized include: the process of enslavement, the emergence of African-American culture, the nature of slavery, the struggle for freedom, the migration to the North, the Civil Rights movement, and contemporary issues. Prerequisite: 3 hours History or consent.

HI 636 History of Britain (3)
Origins and historical development of England in political, economic and social aspects from the earliest times to the present. Prerequisite: 3 hours History or consent.

HI 638 Victorian Britain: c. 1830-WWI (3)
Intensive study of British history and life during the Victorian era, the dates 1837-1901. Emphases will include the impact of industrialization, continued evolution of parliamentary rule, changing women’s and family roles, Victorian culture and the expansion of Empire. Prerequisite: 3 hours History or consent.

HI 643 The European Reformation (3)
A survey of the history and theology of the Magisterial, Radical, and Roman Catholic reformation movements of the early sixteenth century, with particular emphasis on the religious ideas and practices of leading reformers such as Luther, Zwingli, Calvin, and Ignatius Loyola. Reformation ideas will be examined within the context of the experience of these principal figures and that of the public they addressed and by whom they were interpreted, and in relation to the cultural, social, economic, and political changes of the early modern period. Prerequisites: 3 hours History or consent.

HI 644 The Holocaust: A Seminar (3)
In consultation with the instructor, students will select a topic related to the Holocaust, research it, make a class report, be critiqued by their peers and the instructor, and prepare a research paper. Prerequisite: 3 hours History or consent.

HI 660 History of Mexico (3)
Origins of Mexican Civilization in the blending of the Indian and Spanish races and civilizations and the historical development of that civilization to now. The interaction of physical, economic, political and social forces in the shaping of that civilization is emphasized. Prerequisites: 3 hours History or consent.

HI 663 Borderlands and Beyond (3)
The course explores Latino history in the United States within the broader U.S., Latin American and global economic perspective. Beginning during the Spanish colonial period and including the major formative events in U.S./Mexican and Latin American history, (Mexican Independence, Texas Independence, Mexican-American War, Mexican Revolution, Spanish-American-Cuban War, Cold War, etc.), the course asks students to think about the multiple meanings of borders, past and present, as well as the changing role of migration and immigration within that historic context. Prerequisites: 3 hours History or consent.

HI 670 Modern Africa: c. 1700-Present (3)
Covers the basic developments in subsaharan African history since 1700. Begins with the intensification of slave trading, widening trade networks within Africa and linking Africa to the Atlantic world and continues with the New Imperialist conquest of Africa and its consequences from the nineteenth century on. Closers with the rise of nationalist movements, decolonization and formation of independent states in Africa. Prerequisites: 3 hours History or consent.

HI 680 Women in World History (3)
Surveys major figures, philosophies, patterns and events shaping women’s changing roles and status within human society, origins of civilization to current industrial society. Traditional civilizations covered include Classical Mediterranean World, Confucian Asia, and Islam; significant emphasis will also be placed on understanding the impact of industrialization and modern political revolution both within the west and in the developing world. Prerequisites: 3 hours History or consent.

HI 698 Directed Readings (1-6)
Directed readings in selected fields of history. Regular conferences. Prerequisites: Senior History major or approval of the department head. May be taken until 6 credit hours are earned.


Honors (HN)

HN 101 Honors First Year Experience (3)
HN 101 is a three credit hour course, designed for first-year honors students (incoming honors freshmen) providing students with a common first-semester experience. The course will substitute for WU 101 thereby fulfilling this university-wide requirement. Like WU 101, course content will focus upon information literacy, technology, and the transition into the Washburn University Community of Learning in addition to exposure to co-curricular activities (a.k.a., passport activities). Common themes such as the exploration of writing, study skills, research, wellness, technology, plagiarism, and others will be covered to introduce students to a series of best practices for success. HN 101 differs from WU 101 in general in that additional topics will be explored and some shared topics with WU 101 (e.g., writing) be emphasized more. For example, students will learn more about conducting research through instruction and by conducting a group research project, complete a service learning project, and actively participate in seminar-style discussions covering assigned readings. Prerequisite: Accepted into Honors program.

HN 201 Seminar Humanities Fine Arts (3)
An integrated humanities topics course that takes some special problem, theme, or subject matter and explores it from a humanistic perspective. Topics vary from semester to semester. Satisfies three hours of general education credit in the humanities and fine arts. May be taken more than once with different topics.

HN 202 Seminar in the Social Sciences (3)
An integrated social sciences topics course that takes some special problem, theme, or subject matter and explores it from the perspective of the social sciences. Topics vary from semester to semester. Satisfies three hours of general education credit in the social sciences. May be taken more than once with different topics.

HN 301 Seminar Humanities Fine Arts (3)
An integrated humanities topics course that takes some special problem, theme, or subject matter and explores it from a humanistic or fine arts perspective. Topics vary from semester to semester. May be taken more than once with different topics.

HN 302 Seminar in the Social Sciences (3)
An integrated social sciences topics course that takes some special problem, theme, or subject matter and explores it from the perspective of the social sciences. Topics vary from semester to semester. May be taken more than once with different topics.

HN 303 Seminar Natural Sciences & Mathematics (3)
A special topics course that takes some special problem or subject matter and explores from the perspective of the natural sciences or mathematics. Topics vary from semester to semester. May be taken more than once with different topics.

HN 305 Colloquium Liberal Arts Professional Disciplines (3)
A special topics course that involves the study of the relationship of the professional disciplines – for example, law, education, business, public planning and administration, social work or other applied studies, the health professions – to the liberal arts, or one of the liberal arts – for example, history, poetry, rhetoric, or philosophy.

HN 392 Directed Readings (1-3)
A special topics course designed to allow students and faculty the opportunity to explore and develop areas of study as a foundation for thesis work.

HN 399 Honors Thesis (1-6)
Independent research in a specified area approve by the Dean of University Honors.

Human Services (HS)

HS 100 Family and Human Services (3)
This course provides an introduction to the philosophical framework, major theoretical models, and interdisciplinary nature of family and human services. Students will examine various approaches to family and human services within historical, societal, and cultural contexts. Students will explore occupations, professional organizations, and community resources relevant to family and human services. Students will complete a 30 hour service learning project in a relevant agency in their own community. Prerequisite: None.

HS 131 Human Development (3)
This course provides an introduction to physical, sexual, cognitive, emotional, social and spiritual aspects of human development throughout the lifespan. It emphasizes developmental processes beginning with conception and continuing throughout childhood, adolescence, adulthood, later life and death. The course focuses on developmental processes within the domains of individual wellness, human sexuality, family issues, and cultural contexts. This course takes an interdisciplinary approach toward human development that is based on science and applied toward the goal of supporting individuals and families in solving important human problems. Prerequisite: None.

HS 201 Victimology (3)
This course provides an introduction to the history, development, theories, and major issues in the study of persons who are victims/survivors of crime. Using an ecological perspective of victimization, specific areas will be discussed, including domestic violence, sexual assault, child abuse, and homicide. Current research data will be discussed to enhance the understanding of victim trauma and recovery. Prerequisite: None.

HS 202 Victim/Survivor Services (3)
This course is an overview of the variety of human services provided to persons who are victims/survivors of crime. Settings to be studied are various criminal justice, medical, legal, crisis intervention, and advocacy agencies, and organizations that provide victim assistance. Emphasis is on current developments in the field. Prerequisite: None.

HS 220 Community Methods with Children & Youth (3)
This course is designed to introduce students interested in working with youth to the developmental and socialization influences that affect children. In addition, when one is concerned about children's development, one must also be concerned with children, families, and communities. This course will provide students the opportunity to become sensitized to the many issues that confront today's youth and critically look at what is being done. Many current topics will be covered in a survey format and students will investigate one topic in-depth. Prerequisite: None.
HS 221 Community Methods with Children & Youth (3)
This course will address environmental intervention with children and their families. Social networking and ecologically oriented programs will be the focus. Prerequisite: HS 220 or consent.

HS 222 Juvenile Justice (3)
The American system of juvenile justice, including the roles and relationships of law enforcement, courts, probation and parole, diversionary programs, service agencies, and correctional institutions. Prerequisite: None.

HS 231 Methods of Long Term Mental Health Care (3)
This course will build on the theoretical issues of basic health care, with emphasis on acquiring the skills to care for the health and safety concerns of people in long-term treatment programs. Prerequisite: None.

HS 232 Introduction to Community Mental Health Services (3)
This course is designed to familiarize students with the history and development of community mental health; federal, state and local policies impacting the delivery of community mental health services; and methods utilized in community mental health service delivery such as short-term counseling, crisis intervention, case management, prevention, education, and assessment of need for services. Prerequisite: None.

HS 240 Introduction to Intellectual Disabilities (3)
This is a survey course designed to introduce the student to a philosophy and set of practices for providing services to people with intellectual disabilities. Course topics include rights of individuals, legal issues, assessment and planning, communication, prevention, and supportive services for promoting independence and well-being. The course focuses on practical skill development for working with people with intellectual disabilities. Prerequisite: None.

HS 243 Fundamentals of American Sign Language (3)
This course is designed to provide students with a basic framework of knowledge regarding the nature of hearing loss and its extremely varied influence on the lives of people who are deaf, hard of hearing, late-deafened, and deaf with a dual diagnosis. Important issues within the field of deafness will be addressed, namely: Deaf culture, education of deaf people, technological advances, and political influences. Emphasis will be placed on learning the fundamentals of American Sign Language (ASL) while providing the student with a working vocabulary of approximately 500 signs. The student can expect sign demonstration and practice as well as lecture on various salient topics in deafness.

HS 250 Skills for Helping Professionals (3)
This course is designed to address foundational skills and techniques for providing family and human services. Students will engage in assignments to aid in their preparation for human services practice at the internship level. This course will explore ethics and professional conduct, goal setting, behavior-change strategies, communication skills, and relationships built on respect, compassion, and responsibility. Students will consider how values and biases influence helping. Special consideration will be given to understanding and working with diverse populations. Prerequisite: None.

HS 260 Directed Study (1-3)
Family and Human Services majors may pursue an independent study project if approved by the instructor in consultation with the Department Chair. A contract must be signed by all parties that specifies learning outcomes, assignments, deadlines, and assessment strategies. Independent Study courses must meet equivalencies to Federal definition of a credit hour. Prerequisite: Consent

HS 273 Gerontology Skills & Methods (3)
This course will allow students to build skills for delivering human services to elderly individuals and groups. Coursework will emphasize building relationships, assessment, and approaches to treatment. Prerequisite: None.

HS 290 Special Topics/Human Services (1-3)
Topics will vary from semester to semester and will be announced in advance.

HS 300 Prevention and Social Change (3)
This course will examine the foundational roles of prevention and social change in Family and Human Services. Content will focus on selection and implementation of social change and prevention strategies, with special attention to the importance of social justice in promoting a healthy society. Prerequisite: None.

HS 301 Working with Trauma (3)
This course provides information on the concept of psychological trauma as well as an overview of the common responses to trauma in individuals and families, PTSD diagnostic criteria, family stress theories, resource management, and resilience. Current treatment practices, both evidence-based and alternative, are reviewed. Principles for working with trauma-exposed populations in family and human services are emphasized. This course is required for the Trauma and Recovery Certificate in Family and Human Services. Prerequisite: None.

HS 302 Social Change & Advocacy/Human Services (3)
This course is designed to familiarize students with community organizing, mobilizing, and development. The content of the course will focus on an understanding of social action, change and advocacy in human service practice. Community organizing refers to a particular form of community participation in which “grassroots” people learn techniques to share in power. This implies that the model will focus on recruiting grassroots membership and target systems for change. The methods may include collaborative problem solving, strategic planning and confrontation. Targets for change may be individuals, systems, and families. Prerequisite: None.

HS 304 Case Management (3)
This course is designed to enhance students’ ability to provide case management services. This course will focus on serving children with severe emotional disturbance and adults with mental illness. In addition, students will investigate issues and responsibilities of case managers, community resources, the family support perspective, client advocacy, the strengths approach when working with people, and the fundamental philosophy and applications of wraparound community services. This course will be helpful for those students with the desire to work as case managers, social workers who would like to expand their knowledge of case management in community settings, bachelor level psychology students wanting to work in community mental health, and administrators/supervisors who have the desire to implement case management services within their agencies. Prerequisite: None.

HS 308 Working with Parents and Youth (3)
This course examines effective parenting strategies and parent education programs, with attention to contemporary sociocultural issues impacting families. Students will study evidence-based prevention and intervention practices for working with parents and youth that promote healthy child development, effective family functioning and resilience. Prerequisite: None.
HS 310 Human Sexuality (3)
This course will provide students the opportunity to develop basic background knowledge of human sexual anatomy, response, behavior, developmental aspects, problems, and laws. Students will increase vocabulary in the area of human development to describe and identify normal and problematic areas of human sexuality. Prerequisite: None.

HS 312 Substance Abuse and Co-occurring Disorders (3)
This course teaches students about effective addictions treatment for persons with co-occurring disorders. The course will provide students with an understanding of terms, services delivery systems, assessment, and strategies for working with clients with co-occurring disorders. The course will cover methods for providing individualized treatment based on a consumer's biological, psychological, social and spiritual needs. The content of this course is based on TAP 21 competencies. This is a required course for addictions counseling licensure with the Kansas BSRB. Prerequisite: None.

HS 316 Addictions Treatment (3)
This course describes the most generally accepted and scientifically supported models of treatment, recovery, relapse prevention, and continuing care for addiction and other substance-related problems. Students will be exposed to the principles and philosophy of prevention, treatment and recovery. The course will focus on the social, political, economic, cultural, and family context within which addiction and substance abuse exist, including risk and resiliency factors that characterize individuals and groups and their living environments. Emphasis will be given to the behavioral, psychological, physical health and social effects of psychoactive substances on the user and significant others and the importance of research and outcome data and their application in clinical practice. The content of this course is based in part on TAP 21 competencies. This is a required course for addictions counseling licensure with the Kansas BSRB. Enrollment in HS 516 requires department consent.

HS 321 Youth & Violence (3)
This course is designed to provide an overview of violence and youth, specifically the problems associated with it; including, but not limited to, such issues as definition, reporting, investigations, causes, treatment, the importance of family preservation and re-integration, institutional abuse, institutional neglect, parent training, parent support, prevention, the roles of foster care, state agencies, the court system, the schools, etc. The role of the human service worker in preventing and dealing with child abuse and youth violence will be an area of special focus. Child abuse will be viewed as a part of a continuum of personal/family violence. Prerequisite: None.

HS 323 Service Coordination (3)
This course focuses on the coordination of services for human services clients. Students will learn about intake, screening, assessment, diagnosis, client placement, treatment planning, discharge/transfer plans, report writing, referral and other aspects of service coordination. The course stresses a multidisciplinary approach to service coordination and examines the roles of professionals, agencies, families, community groups, and other support systems in the treatment process across the continuum of care. Students will learn effective, ethical ways to work with clients, with a focus on recovery-oriented systems of care. The content of this course is based in part on TAP 21 competencies. This is a required course for addictions counseling licensure with Kansas BSRB.

HS 325 Group Work (Group Counseling) (3)
This course is designed to provide both knowledge and skills in the organization and facilitation of psycho-educational and other group experiences used in the helping process, with special focus on addiction and recovery. Students will learn a variety of techniques and strategies designed to facilitate and enhance group learning and the personal growth of participants—particularly psycho-social development. The content of this course is based in part on TAP 21 competencies. This is a required course for addictions counseling licensure with the Kansas BSRB.

HS 330 Theories of Intervention (3)
This course focuses on the theories that guide the practice and delivery of Family and Human Services. The course gives the student an understanding of how different theoretical approaches have influenced the development of human service interventions, and includes the study of a variety of helping approaches such as the family systems approach, the feminist approach, and the cognitive-behavioral approach. Students will evaluate the usefulness of the different theoretical approaches in addressing important human problems. In addition, students will be encouraged to explore their own views about human nature and to understand how these views might influence their delivery of human service interventions. Prerequisite: None.

HS 341 Applied Behavioral Interventions (3)
This course is designed to familiarize students with the history, theory, and practice of applied behavior analysis. Emphasis will be on the “practice” side, with students learning how to define and observe behaviors, design effective and socially valid interventions to help consumers reach valued goals, and analyze the impact of interventions on important behaviors. Students will learn about best practices in behavior analysis with a variety of consumer populations and will gain experience in reading and evaluating reports of behavior-analytic research. Prerequisite: None.

HS 355 Peacemaking (3)
The course will cover the need for peace education in our society. Peace education is pertinent for students majoring in human services with an interest in working with violence and poverty prevention, social justice, the environment, youth, and sustainable communities. Other students will find value in the course through the experiential component of designing a peace education presentation that can be used in their community. Topics include personal peacemaking, nonviolence, conflict resolution, compassionate intentional living, civil rights, equity, education and the environment. Prerequisite: None.

HS 360 Directed Study (1-3)
Family and Human Services majors may pursue an independent study project if approved by the instructor in consultation with the Department Chair. A contract must be signed by all parties that specifies learning outcomes, assignment deadlines, and assessment. Independent Study courses must meet equivalencies to Federal definition of a credit hour. Prerequisite: Department consent.

HS 362 Human Trafficking and Modern Day Slavery (3)
This course is an advanced undergraduate course that focuses on contemporary human trafficking and slavery. Types of trafficking and slavery to be covered include sex trafficking, bonded labor, forced labor, child soldiers, chattel slavery, and domestic servant slavery. The contributing roles of the state, organized crime, the media, culture, and corruption will be examined. It will review the debates about defining trafficking and the connection between sex trafficking and prostitution. Course materials may include testimonies and autobiographies by survivors, research reports, theoretical essays, policy statements, expert testimonies, podcasts and videos. Prerequisite: None.
HS 370  Mass Victimization/Mental Health (3)
This course will provide an overview of interventions used with victims following mass violence and disasters. Additionally, compassion fatigue effects and methods used to assist emergency responders who become victims of disaster through their role in response and recovery will be thoroughly discussed. Attention will focus on mental health effects dealing with both immediate and long-term recovery issues for immediate victims and those responding to the incident. Enrollment in HS 670 requires department consent.

HS 371  Mental Health and Aging (3)
This course provides an overview of biological, psychological, and social factors related to successful aging, with an emphasis on the development and maintenance of mental health across the lifespan. The course considers ways that HS professionals can support mental health throughout the aging process. Students will also learn about mental health problems in relation to the aging process. Prerequisite: None.

HS 372  Death & Dying (3)
This course will cover biological, psychological, social, and cultural issues surrounding death and the dying process. Topics will include stages of dying, approaches to working with people who are dying and their families, the bereavement process, cross-cultural practices related to death and dying, services available to people who are dying and to their caregivers, and legal and ethical issues surrounding end-of-life decision making.

HS 373  Disaster Response and Recovery (3)
This course provides an overview of the hazard cycle and basic concepts of disaster preparedness, response and recovery. Additionally, this course will provide an overview of the helping professional’s role during times of disaster including discussion of the specific emergency support functions assigned to groups and agencies as designated in the National Response Framework. Emphasis will also be paid to concepts used when working with direct and indirect victims of disaster.

HS 374  Eastern Therapies in Intervention & Treatment (3)
This course highlights Eastern therapies in intervention and treatment across the range of human service populations, including mental health, alcohol and drug abuse, crisis and post-trauma, and crime victimization. The focus will be on an understanding of Western adaptations, transcultural, and holistic approaches to suffering and healing. Special emphasis will be on the Western adaptations of Morita and Naikan therapies. The course is highly interactive and experiential. Prerequisite: None.

HS 375  Hate and Bias Crimes (3)
This course provides an overview of hate and bias crimes in the United States. Focus will be on causative factors, human service and criminal justice responses, and impact on victims/survivors and communities. Hate violence based upon race and ethnicity will be a primary focus, but discussion will also include hate violence targeting persons because of gender, sexual orientation, age, religion, and disabilities. Prerequisite: None.

HS 377  Personal & Community Prevention (3)
This course explores a principle-based model of professional health and helping. It focuses on a new and innovative approach to prevention and human services that changes lives, communities, and organizations from the inside-out. Most recently known as The 3 Principles (also known as Health Realization), this approach emphasizes people’s innate health and resilience to foster the capacity for personal well-being and the ability to function productively and successfully among colleagues and constituents. This course is directed toward strengthening the student’s approach to life and work, which is necessary for developing the capacity to serve others and respond to the consistent demands of the helping profession. Prerequisite: None.

HS 378  Issues in Aging (3)
The course provides an interdisciplinary examination of the human aging process by surveying biological, psychological, sociological, and cultural theories, and influences, on aging. While this course does not focus solely on old age, the course will examine social policies and human services for older people that are informed by our knowledge of the aging process. Prerequisite: None.

HS 381  Internship I (3)
This course is the first internship required in the Associate and, Baccalaureate programs, and may be used to meet certificate requirements. The internship consists of a minimum of 150 clock-hours of field experience in an agency in the community under the supervision of agency staff and university faculty. In addition, a weekly seminar is required to integrate learning in the field with classroom instruction. Students work on specific competencies related to the delivery of human services. Additionally, addiction counseling students work on TAP 21 competencies. This is a required course for addiction counseling licensing with the Kansas BSRB. Prerequisite: Department consent.

HS 390  Special Topics (1-6)
Topics will vary from semester to semester and will be announced in advance.

HS 395  International Service Experience (0-3)
This course will offer the students the opportunity to experience the culture of countries other than the United States while engaged in meaningful service in both urban and rural settings. Through a partnership with a non-governmental agency service assignments will be arranged to meet the needs of various communities. The focus of this assistance is on community and economic development, sustainable agriculture, health, education, training in non-violent resolution of conflicts, and women's empowerment. The purpose of the experience is to develop friendships and a sense of partnership with the members of the community organizations and people the students interact with during their time in country. In addition to completing the service project students will learn about the history, political systems, and the culture of the country they visit. Prerequisite: Instructor consent.

HS 410  Pharmacology & SUDs (3)
This course covers fundamental concepts of pharmacology, including physiological, behavioral, psychological, social and health effects of psychoactive substances. The course also covers infectious diseases associated with substance use and methods of disease prevention. Students will learn about drug screening, drug testing and HIV/AIDS testing and counseling, and associated legal and ethical issues. The content of this course is based on TAP21 competencies. This is a required course for addictions counseling licensure with the Kansas Behavioral Sciences Regulatory Board. Prerequisite: None.
HS 411 Family Issues (3)
This course will explore the role that family interaction plays in the various areas of Family and Human Services. Different theories of family functioning and intervention will be reviewed, as well as major risk and resiliency factors. Specific attention will be paid to family issues using a strengths-based approach to domestic violence, youth issues, aging family members, illness and disability, and additions. For students preparing to work as addiction and recovery counselors, knowledge of ways to teach or facilitate discussions of how substance use and abuse affects families and concerned others will be emphasized. The content of this course is based in part on TAP 21 competencies. This is a required course for addictions counseling licensing with the Kansas BSRB. Enrollment in HS 411 requires department consent.

HS 414 Individual Counseling Methods (3)
This course will introduce students to a variety of evidence-based counseling theories and approaches for working with individual clients and family/significant others. Students will study common topics that arise in individual counseling as well as cultural and ethical issues associated with effective counseling practice. In addition, the course will examine methods for forming effective helping relationships along with strategies for helping clients establish and work toward realistic, meaningful goals. Students will have the opportunity to demonstrate an individual counseling approach covered in this course. The content of this course is based in part on TAP 21 competencies. This is a required course for addiction counseling licensing with the Kansas BSRB.

HS 421 Women and Addiction (3)
Women with substance use disorders have serious and unique health concerns. Using a bio-psycho-social-spiritual framework, this course will examine how treatment services are changing to help women successfully navigate the road to recovery. Prerequisite: None.

HS 429 Adolescence & Substance Abuse (3)
This course is designed to cover the dynamics of substance abuse for children and youth, and the state-of-the-art of prevention and intervention. Special topics of the course will include growth and development, family process, assessment, intervention, treatment, co-dependency, education, cultural factors, at-risk populations, prevention, and resources. Prerequisite: None.

HS 446 Legal, Ethical, & Professional Issues (3)
This course will address legal, ethical, and professional issues which impact the delivery of human services, including codes of ethics, confidentiality, duty to warn, and similar issues. The content of this course is based in part on TAP 21 competencies. This is a required course for addictions counseling licensing with the Kansas BSRB. Prerequisite: Senior standing.

HS 450 Multicultural Issues (3)
This course provides an overview of the major issues in providing family and human services to the increasingly pluralistic population of the United States. Themes to be discussed are: cross-cultural theories of intervention, communication styles, definitions of suffering and recovery, and working with diverse individuals and groups. The range of human service delivery systems, including mental health, alcohol and substance abuse, youth services, gerontology, and victim/survivor services, will be addressed from a multicultural perspective. Emphasis will be on exploring provider attitudes and competencies as well as developing practical applications and solutions. For students preparing to work as addiction and recovery counselors, special emphasis will be given to recognizing the social, political, economic, and cultural context within which addiction and substance abuse exist, including risk and resiliency factors that characterize individuals and groups and their living environments. Enrollment in HS 450 requires department consent.

HS 480 Internship II (3)
This course is the second internship required in the Baccalaureate program and may also be used to meet certificate requirements. The internship consists of a minimum of 150 clock-hours of field experience in an agency in the community under the supervision of agency staff and university faculty. In addition, a weekly seminar is required to integrate learning in the field with classroom instruction. Students will work on specific competencies related to the delivery of human services. Additionally, addiction counseling students will work on TAP 21 competencies. This internship requires summative reflection, serving as a culminating experience for Bachelor’s degree students. This is a required course for addiction counseling licensing with the Kansas BSRB. Prerequisite: Department consent.

HS 481 Internship in Family & Human Services (3)
HS 481 is a supplemental internship course for baccalaureate and certificate students within the Human Services Department who want to obtain additional field experience. The internship consists of a minimum of 150 clock-hours of experience in an agency in the community specific to the student’s area of concentration, under the supervision of agency staff and university faculty, as well as a weekly seminar to integrate learning in the field with classroom instruction. Practice will focus on advanced-level skills specific to the student’s area of emphasis. Department consent is required for enrollment in this course.

HS 495 Research and Evaluation (3)
This course introduces students to applied research and evaluation in family and human services. The purposes and techniques of applied research and evaluation are explored, including qualitative and quantitative approaches. Students gain experience with the critical reading of research articles relating to the evaluation of human service programs. Projects give students direct experience with program evaluation and applied research. The content of this course is based in part on TAP 21 competencies. This is a required course for addictions counseling licensing with the Kansas BSRB. This is a summative course that requires students to synthesize knowledge learned across the curriculum. Prerequisite: Junior/Senior Standing.

HS 498 Senior Capstone Seminar (3)
This capstone course is meant to provide students with the opportunity to assimilate and synthesize the knowledge, skills, and attitudes they have acquired through their coursework and field experiences in the major. Through the development of a portfolio, students will demonstrate the acquisition of the major learning objectives necessary to become a skilled human service professional. This course will address additional issues related to professional development and educational advancement. Prerequisite: Majors only.

HS 512 Mental Health & Addictions (3)
This course teaches students about effective addictions treatment for persons with co-occurring disorders. The course will provide students with an understanding of terms, service delivery systems, assessment, and strategies for working with clients with co-occurring disorders. The course will cover methods for providing individualized treatment based on a consumer's biological, psychological, social and spiritual needs. The content of this course is based in part on TAP 21 competencies. This is a required course for addictions counseling licensure with the Kansas BSRB. Enrollment in HS 512 requires department consent.
HS 514 Individual Counseling Methods (3)
This course will introduce students to a variety of evidence-based counseling theories and approaches for working with individual clients and family/significant others. Students will study common topics that arise in individual counseling as well as cultural and ethical issues associated with effective counseling practice. In addition, the course will examine methods for forming effective helping relationships along with strategies for helping clients establish and work toward realistic, meaningful goals. Students will have the opportunity to demonstrate an individual counseling approach covered in this course. The content of this course is based in part on TAP 21 competencies. This is a required course for addiction counseling licensing with the Kansas BSRB. Prerequisite: Department consent.

HS 516 Addictions Treatment (3)
This course describes the most generally accepted and scientifically supported models of treatment, recovery, relapse prevention, and continuing care for addiction and other substance-related problems. Students will be exposed to the principles and philosophy of prevention, treatment and recovery. The course will focus on the social, political, economic, cultural, and family context within which addiction and substance abuse exist, including risk and resiliency factors that characterize individuals and groups and their living environments. Emphasis will be given to the behavioral, psychological, physical health and social effects of psychoactive substances on the user and significant others and the importance of research and outcome data and their application in clinical practice. The course will cover psychoactive substance toxicity, intoxication, and withdrawal symptoms; aggression or danger to others; potential for self-inflicted harm or suicide; and coexisting mental health problems. The content of this class is based on TAP 21 competencies. This is a required course for addiction counseling licensure with the Kansas BSRB. Prerequisite: Department consent.

HS 560 Directed Studies (1-3)
In consultation with instructor, the student selects for intensive study a specific area related to family and human services for intensive study. A contract must be signed by all parties that specifies learning outcomes, assignments, deadlines, and assessment strategies. Directed Studies must meet equivalencies to Federal definition of a credit hour. Prerequisites: Graduate Standing and Approval of Course Instructor.

HS 580 Internship: Addiction Counseling (3)
This internship is an internship prerequisite course for graduate level majors within the Family and Human Services Department. The internship consists of 200 clock-hours of experience at an addiction treatment agency under the supervision of agency staff and university faculty, as well as a weekly seminar to integrate learning in the field with classroom instruction. Practice will focus on advanced-level skills specific to addiction counseling. The content of this course is based in part on TAP 21 competencies. This is a required course for addiction counseling licensure with the Kansas BSRB. Prerequisite: Department consent.

HS 581 Graduate Internship (3)
HS 581 is reserved for those graduate level students who need an internship to complete a certificate or emphasis area. The internship consists of a minimum of 150 clock-hours of experience in an agency or program in the community specific to the student's area of concentration, under the supervision of agency staff and university faculty, as well as a weekly seminar to integrate learning in the field with classroom instruction. Prerequisite: Department consent.

HS 585 Special Topics (1-6)
Topics will vary from semester to semester and will be announced in advance. May be taken more than one semester for variable credit. Prerequisite: Department consent.

HS 595 Research and Evaluation (3)
This course introduces students to applied research and evaluation in human services. The purposes and techniques of applied research and evaluation are explored, including qualitative and quantitative approaches. Students gain experience with the critical reading of research articles relating to the evaluation of human service programs. Projects give students direct experience with program evaluation and applied research. The content of this course is based in part on TAP 21 competencies. This is a required course for addiction counseling licensing with the Kansas BSRB. This is a summative course that requires students to synthesize knowledge learned across the curriculum. Prerequisite: Department consent.

HS 600 Integrative Family and Human Services (3)
This course uses an integrative lens to survey the profession and practice of family and human services, with an emphasis on addiction counseling. An advanced ecological approach will be used to examine various dimensions of professional practice, including historical and international contexts, family and community involvement, culture-informed practices, integrated treatment, and professional self-care. The content of this course is based on TAP-21 Competencies. Admission to Graduate Program or Department consent.

HS 601 Working with Trauma (3)
This course provides information on the concept of psychological trauma as well as an overview of the common responses to trauma in individuals and families, PTSD diagnostic criteria, and resilience. Current treatment practices, both evidence-based and alternative, are reviewed. Principles for working with trauma-exposed populations in Human Services/Addiction Counseling are emphasized.

HS 604 Advanced Methods Individual Counseling (3)
This course provides the study of counseling theories and practical skills necessary for effective face-to-face and individual counseling. Students will learn a variety of evidenced-based and culturally sensitive techniques designed to facilitate the therapeutic relationship as well as the educational and psycho-social development of clients. Competence in counseling is built on an understanding of, appreciation of, and ability to appropriately use the contributions of various addiction counseling theoretical models as they apply to modalities of care for individuals, groups, families, couples, and significant others. The content of this course is based in part on TAP 21 competencies. This is a required course for addiction counseling licensure at the clinical level with the Kansas BSRB. Prerequisite: Admission to Graduate Program or Department consent.

HS 605 Advanced Methods Group Counseling (3)
This course is designed to provide knowledge and practical skills in management of psycho-educational and therapeutic groups. Students will be learn a variety of techniques and strategies designed to facilitate educational and psycho-social development of groups of clients and significant others. This course will include information on criteria for cognitive-behavioral strategies and other evidence-based, culturally sensitive approaches to group counseling. Prerequisite: Admission to Graduate Program or Consent of Instructor.
HS 610 Professional Ethics/Practice (3)
This course covers major professional readiness issues, including code of ethics, privacy rights and confidentiality, legal responsibilities and liabilities of clinical supervision, and development of a professional attitude and identity. Cultural competence, professional organizations, and licensure and certification are also covered topics. The content of this course is based in part on TAP 21 competencies. This is a required course for addiction counseling licensure at the clinical level with the Kansas BSRB. Prerequisites: Admission to Graduate Program or Department consent.

HS 611 Family Issues (3)
This course will explore the role that family interaction plays in the various areas of Family and Human Services. Different theories of family functioning and intervention will be reviewed, as well as major risk and resiliency factors. Specific attention will be paid to family issues using a strengths-based approach to domestic violence, youth issues, aging family members, illness and disability, and addictions. For students preparing to work as addiction and recovery counselors, knowledge of ways to teach or facilitate discussions of how substance use and abuse affects families and concerned others will be emphasized. The content of this course is based in part on TAP 21 competencies. Prerequisite: Department consent.

HS 615 Advanced Pharmacology and Substance Use Disorders (3)
This course will address concepts of pharmacological properties and effects of psychoactive substances. The continuum of drug use will be discussed, such as initiation, intoxication, harmful use, abuse, dependence, withdrawal, craving, relapse, and recovery. Behavioral, psychological, social, and physical health effects of psychoactive substances, drug interactions, and medication-assisted therapies will be presented. The content of this course is based in part on TAP 21 competencies. This is a required course for addictions counseling licensing with the Kansas BSRB. Prerequisites: Admission to Graduate Program or Department consent.

HS 620 Integrative Approaches to Dual Disorders (3)
This course will discuss the collaborative approaches of psychopharmacology, psycho education, supported employment, and culturally sensitive/integrated/recovery-oriented substance use and mental health treatment. The content of this course is based in part on TAP 21 competencies. This is a required course for addictions counseling licensing with the Kansas BSRB. Prerequisites: Admission to Graduate Program or Consent of Instructor.

HS 621 Women and Addictions (3)
Women with substance use disorders have serious and unique health concerns. Using a bio-psycho-social-spiritual framework, this course will examine how treatment services are changing to help women successfully navigate the road to recovery. Prerequisite: Department consent.

HS 623 Addiction Service Coordination (3)
This course focuses on the coordination of services for family and human services clients. Students will learn about intake, screening, assessment, diagnosis, client placement, treatment planning, discharge/transfer plans, report writing, referral and other aspects of service coordination. The course stresses a multidisciplinary approach to service coordination and examines the roles of professionals, agencies, families, community groups, and other support systems in the treatment process across the continuum of care. Students will learn effective, ethical ways to work with clients, with a focus on recovery-oriented systems of care. The content of this class is based in part on TAP21 competencies. Prerequisite: Department consent.

HS 625 Addiction/Recovery Services (3)
This course will cover the holistic theories and models of treatment which include the philosophies, practices, policies and outcomes of the most generally accepted and evidence-based models of treatment, recovery, relapse prevention, and continuing care for addiction and other substance-related problems. Students will consider the neurobiological, psychological, sociological, and spiritual theories of addiction and recovery, including theories necessary for social change related to addiction and recovery. An emphasis in the course will be given to recovery-oriented systems of care. The content of this course is based in part on TAP 21 competencies. This is a required course for addictions counseling licensing with the Kansas BSRB. Prerequisites: Admission to Graduate Program or Department consent.

HS 630 Lifespan Development (3)
This course will focus on an integrative approach to wellness from before conception through the end of life. Students will learn about research-supported strategies for supporting biological, psychological, social, and spiritual health and well-being with a focus on meeting needs of the "whole person" throughout the lifespan. Prerequisites: Admission to Graduate Program or Department consent.

HS 635 Diagnosis of Substance Use Disorders (3)
The course will cover diagnosis of substance use disorders, including the established diagnostic criteria for culturally sensitive screening, assessment, treatment planning, referrals, service coordination, documentation, and consultation. The theories and principles that support the diagnosis and treatment of substance use disorders will be discussed, including indications and contraindications for use of each theory or technique, rationale for intervention, role of the counselor, and importance of incorporating gender and ethnicity in selecting and using assessment and treatment methods. The content of this course is based in part on TAP 21 competencies. This is a required course for addictions counseling licensing with the Kansas BSRB. Prerequisites: Admission to Graduate Program or Department consent.

HS 640 Practicum I (3)
This course includes a seminar and placement at an approved practicum site, providing the opportunity for applying clinical professional skills under supervision. Course completion will require satisfactory evaluation by the field supervisor, fulfillment of seminar course requirements, and completion of required fieldwork and supervision hours. The skills practiced in this practicum are based on TAP-21 competencies. This is a required course for addiction counseling licensing with the Kansas BSRB. Prerequisites: HS 604, HS 605, HS 610, HS 635.

HS 641 Practicum II (3)
This course includes a seminar and placement at an approved practicum site, providing the opportunity for further refinement of clinical professional skills under supervision. Course completion will require satisfactory evaluation by the field supervisor, fulfillment of seminar course requirements, and completion of required fieldwork and supervision hours. The skills practiced in this practicum are based on TAP-21 competencies. This is a required course for addiction counseling licensing with the Kansas BSRB. Prerequisites: HS 604, HS 605, HS 610, HS 635; concurrent or prerequisite HS 640.
**HS 650 Multicultural Issues (3)**
This course provides an overview of the major issues in providing family and human services to the increasingly pluralistic population of the United States. Themes to be discussed are: cross-cultural theories of intervention, communication styles, definitions of suffering and recovery, and working with diverse individuals and groups. The range of human service delivery systems, including mental health, alcohol and substance abuse, youth services, gerontology, and victim/survivor services, will be addressed from a multicultural perspective. Emphasis will be on exploring provider attitudes and competencies as well as developing practical applications and solutions. Prerequisites: Department consent.

**HS 655 Peacemaking (3)**
The course will cover the need for peace education in our society. Peace education is pertinent for students majoring in family and human services with an interest in working with violence and poverty prevention, social justice, the environment, youth, and sustainable communities. Other students will find value in the course through the experiential component of designing a peace education presentation that can be used in their community. Topics include personal peacemaking, nonviolence, conflict resolution, compassionate intentional living, civil rights, equity, education and the environment. Prerequisites: Department consent.

**HS 660 Supervision and Leadership (3)**
This course will provide the knowledge and skills for successful clinical supervision and leadership/administration in family and human services. The content of this course is based on TAP-21 Competencies. Prerequisites: Admission to Graduate Program or Department consent.

**HS 665 Integrative Residential Experience (3)**
This course offers students the opportunity to practice integrative approaches in a group setting. This is a 5-day residential that involves intense immersion in creative, expressive, service, and routine activities to enhance the experiential learning of students to incorporate these aspects into addiction counseling and other residential treatment facilities. Prerequisites: Admission to Graduate Program or Department consent.

**HS 670 Mass Victimization/Mental Health (3)**
This course will provide an overview of interventions used with victims following mass violence and disasters. Additionally, compassion fatigue effects and methods used to assist emergency responders who become victims of disaster through their role in response and recovery will be thoroughly discussed. Attention will focus on mental health effects dealing with both immediate and long-term recovery issues for immediate victims and those responding to the incident. Prerequisites: Department consent.

**HS 673 Disaster Response and Recovery (3)**
This course will provide an overview of the hazard cycle, and basic concepts of disaster preparedness, response, and recovery. Additionally, this course will provide an overview of the helping professionals' role during times of disaster, including the discussion of the specific emergency support functions assigned to groups and agencies as designated in the National Response Framework. Emphasis will also be paid to concepts used when working with direct and indirect victims of disaster. Prerequisites: Department consent.

**HS 674 Eastern Therapies in Intervention and Treatment (3)**
This course highlights Eastern therapies in intervention and treatment across the range of human service populations, including mental health, alcohol and drug abuse, crisis and post-trauma, and crime victimization. The focus will be on an understanding of Western adaptations, transcultural, and holistic approaches to suffering and healing. Special emphasis will be on the Western adaptations of Morita and Naikan therapies. The course is highly interactive and experiential. Prerequisites: Instructor consent.

**HS 675 Morita Therapy Intensive (3)**
This course is intended for those seeking to integrate Morita Therapy into their professional and personal lives. Through experiential/residential learning, students will be able to identify how the concepts of the Morita lifeway are actually practiced in daily living; how the principles are applied to specific life situations; and how immersion in observation, timeliness, and efficiency produces a healthier and more productive helping professional. Prerequisites: Instructor consent.

**HS 676 Morita Methods in Counseling (3)**
This course applies the methods, principles, and theories of Morita Therapy to individual and group counseling in a variety of human service settings, including addiction treatment, victim/survivor assistance, mental health, and grief and dying. Emphasis will be on intervention and counseling approaches for particular client populations. Prerequisites: Instructor consent.

**HS 677 Morita Therapy Research Seminar (3)**
This course offers the unique opportunity to conduct field research on the practice and efficacy of Morita Therapy as it is applied in a variety of outpatient, hospital, and residential treatment settings. The major component of the course may be a study abroad whereby students will participate in small group meetings with, and attend lectures by major Morita educators, researchers, and practitioners. This is a rare opportunity for students to learn first-hand from the leading Moritists. Current study abroad sites include Japan, Canada, Australia, the United Kingdom, and Russia. Prerequisites: Instructor consent.

**HS 678 Narrative Practice (3)**
This course explores the approach of narrative practice as a tool for healing and teaching. Students will become familiar with the basic goals, concepts, and approaches of narrative practice, and the potential contributions of narrative practice to create change. Narrative practice includes using poetry, letter writing, storytelling, journaling, and more, as tools to promote healing, recovery and personal growth. Students will read and discuss the literature relating to narrative practice and will study the implications of the narrative perspective for counseling. They will learn about the application of narrative practice through classroom based experiential exercises and other assignments. Students will learn how narrative practice helps individuals and groups rewrite their stories to transform their lives. Prerequisites: Admission to Graduate Program or Consent of Instructor.

**HS 685 Special Topic Seminars (1-6)**
Topics will vary by semester and will be announced in advance. Prerequisites: Admission to Graduate Program or Department consent.
IND 101 Basic Electricity I (3)
This course introduces basic concepts of Industrial welding. Hands-on labs help guide student learners to assimilate this material.

IND 102 Mechanical Systems I (3)
This course provides understanding of mechanical energy transmission concepts along with lab experience to operate, install, analyze performance, and design basic mechanical transmission systems using chains, v-belts and spur gears. Students also learn how to safely move loads of different shapes and sizes using a variety of methods.

IND 103 OSHA - 10-Hr Healthcare (1)
Safety Orientation/OSHA 10 provides the student with an overview of the OSHA standards relevant to the construction industry. Various topics are presented in a 15-hour format. Among the subjects covered in the course are: an introduction to OSHA, electrical safety, fall protection, and excavation and trenching safety.

IND 104 Basic Electricity II (3)
This course continues to introduce electricity, basic electrical components and their characteristics, circuit schematics and basic analysis of series and parallel DC circuits. Hands-on labs help guide student learners to assimilate this material.

IND 105 OSHA - 10 Hr Gen Industry Cert (1)
This course is offered in an online or face-to-face format. For the online course, all course activities are completed through an interactive self-paced website. In the face-to-face format, a variety of classroom and/or lab learning and assessment activities are used to present the material. In both formats, students in this course will: explain job/site safety and precautions for job/site hazards; determine the uses of personal protective equipment (PPE); identify the safety equipment and procedures related to safe work practices and environment; identify fire prevention and protection techniques; explore Hazardous Communications (HazCom) including Material Safety Data Sheets (MSDS).

IND 106 OSHA - 10 Hour Const Ind Cert (1)
This course provides the student with an overview of the OSHA standards relevant to the construction industry. Various topics are presented in a 10-hour format. Among the subjects covered in the course are: introduction to OSHA, electrical safety, fall protection, evacuation and trenching safety.

IND 107 Mechanical Systems II (3)
This course continues to provide understanding of mechanical energy transmission concepts along with lab experience to operate, install, analyze performance, and design basic mechanical transmission systems using chains, v-belts and spur gears. Students also learn how to safely move loads of different shapes and sizes using a variety of methods.

IND 108 OSHA - 30 Hour Const Ind Cert (2)
Students will learn basic OSHA regulations and safety. The students will also learn how to read the OSHA manual properly. The course will stress the importance of personal protective equipment; fall protection, hazard recognition and other topics connect to on the job site safety. The course will also provide the student with an understanding of current safety regulation, established safety practices, and the impact of behavior and environment on injury prevention.

IND 109 OSHA - 30 Hour Const Ind Cert (2)
This course provides an overview of the Occupational Safety and Health Administration Construction Training Topics. This course is intended to provide entry level construction workers a broad awareness on recognizing and preventing hazards on a construction site. This course will also address real world challenges that electrical workers face on a daily basis. It will introduce avoiding oversights that could result in shock and arc flash accidents. The material presented will emphasize the rules specified by the National Fire Protection Association (NFPA) using NFPA 70E standards. After taking this course, students will be able to take the arc flash certification test.

IND 110 Lathe/Mill/Grind for I.M. (3)
This course covers fundamental manual machine operator skills and basic precision measuring techniques. Specific course topics include machines, tools and measurements to produce an end product. Participants work independently and as small teams in completing the hands-on lab activities.

IND 111 Arc Flash (1)
This course will address real world challenges that electrical workers face on a daily basis. It will introduce avoiding oversights that could result in shock and arc-flash accidents. The material presented will emphasize the rules specified by the National Fire Protection Association (NFPA) using the NFPA 70E standards. The delivery method will include videos of real accidents due to arc flash in the manufacturing environment. It will cover first-time coverage of direct current (DC) shock protection boundaries, hazard and risk categories for specific electrical tasks such as full-head protection against arc flash by eliminating the second task designation protocol stated by the NFPA. After taking this course, students will be able to take the arc flash certification test.

IND 112 Fluid Power I (3)
This course provides fundamentals of pneumatics, air compressors, control valves, pneumatic cylinders, and electro-pneumatic controls; and basic pump principles, centrifugal pumps, magnetic drive pumps, diaphragm pumps, metering pumps and pump seals. Students learn how to operate, install, troubleshoot, analyze performance, and design basic pneumatic systems and pump systems.

IND 113 Mechanical Systems III (3)
This course provides understanding of mechanical energy transmission concepts along with lab experience to operate, install, analyze performance, and design basic mechanical transmission systems using chains, v-belts and spur gears. Students also learn how to safely move loads of different shapes and sizes using a variety of methods.

IND 114 Basic Electricity III (3)
This course provides understanding of analysis of series and parallel DC and AC circuits; combination of resistive, inductive and capacitive circuits and industrial applications of these circuits. Hands-on labs help guide student learners to assimilate this material.

IND 115 ARC Flash II (1)
This course provides understanding of analysis of series and parallel DC and AC circuits; combination of resistive, inductive and capacitive circuits and industrial applications of these circuits. Hands-on labs help guide student learners to assimilate this material.

IND 116 Basic Electricity IV (3)
This course provides understanding of mechanical energy transmission concepts along with lab experience to operate, install, analyze performance, and design basic mechanical transmission systems using chains, v-belts and spur gears. Students also learn how to safely move loads of different shapes and sizes using a variety of methods.

IND 117 Industrial Welding Basics (3)
This course introduces basic concepts of Industrial welding. Hands-on lab activities are provided for the participant to apply knowledge and develop skills in the following areas: Shop Safety, basics into GMAW and GTAW welding. Participants will work independently and as small teams in completing the lab activities.
IND 147  Mechanical Systems Reliability  (3)  
This course provides understanding of mechanical energy transmission concepts along with lab experience to operate, install, analyze performance, and design mechanical drive systems using right angle gears, bearings and couplings. Students learn how to setup and operate laser shaft alignment and apply vibration analysis to various power transmission systems. Prerequisite/Corequisite: Mechanical Systems or consent of instructor.

IND 148  Mechanical Systems II  (3)  
This course provides understanding of mechanical energy transmission concepts along with lab experience to operate, install, analyze performance, and design mechanical drive systems using right angle gears, bearings and couplings. Students learn how to setup and operate laser shaft alignment and apply vibration analysis to various power transmission systems.

IND 152  Electrical Control Systems I  (3)  
This course is an introduction to electrical control systems with focus on control devices, electric motors, manual/electric/magnetic motor control and overload/over current protection and monitoring. Lab experience helps develop skills to operate, install, design, and troubleshoot AC electric motor control circuits for various applications.

IND 156  Welding SMAW  (3)  
This course introduces basic concepts of general welding. Hands-on lab activities are provided for the participant to apply knowledge and develop skills in the following areas: Shop Safety, Cutting (oxy/acetylene) SMAW (Shielded Metal Arc Welding). Participants work independently and as small teams in completing the lab activities.

IND 204  Electrical Control Systems II  (3)  
This course provides an understanding of Reversing Motor Circuits, Solid State Devices and System Integration, Timing and Counting Functions, Relays and Solid State Starters, Sensing Devices and Controls. Hands-on labs help guide student learners to assimilate this material.

IND 207  Fluid Power II  (2)  
This course focuses on understanding of hydrodynamics, hydraulic principles, hydraulic circuitry and diagrams, piping, hydraulic valves and actuators, accumulators, hydraulic circuit maintenance and fluid maintenance. Students learn to operate, install, analyze performance, and design hydraulic and electrohydraulic systems. Prerequisite: Fluid Power I or consent of instructor.

IND 208  Fluid Power II  (3)  
This course focuses on understanding of hydrodynamics, hydraulic principles, hydraulic circuitry and diagrams, piping, hydraulic valves and actuators, accumulators, hydraulic circuit maintenance and fluid maintenance. Students learn to operate, install, analyze performance, and design hydraulic and electrohydraulic systems.

IND 212  Electrical Control Systems III  (3)  
This course focuses on motion and position control systems; servo motors and servo system feedback devices. Hands on labs help develop skills to operate, install, tune, and troubleshoot major types of AC and DC drives.

IND 213  Advanced ECS  (3)  
This course focuses on motion and position control systems; servo motors and servo system feedback devices. Hands on labs help develop skills to operate, install, tune, and troubleshoot major types of AC and DC drives. Prerequisite: IND152 or consent of instructor.

IND 216  Prog Logic Controllers I  (3)  
This course is an introduction to programmable logic controllers and PLC control of analog input and output devices. The course covers basic PLC programming and troubleshooting with live devices and their use in industrial, commercial, and residential applications.

IND 217  Indus Prog Logic Controllers  (3)  
This course is an introduction to programmable logic controllers (PLCs) and PLC control of analog input and output devices. The course covers basic PLC programming and troubleshooting with live devices and their use in industrial, commercial, and residential applications. Prerequisites/Corequisites: Electrical Control Systems II, Fluid Power I, or consent of instructor.

IND 223  Commercial & Industrial Wiring  (3)  
This course covers the routing, labeling, and the installation of wiring and components in an electrical control panel as well as wiring electric motors and external devices. This course also includes basic conduit bending and installation, selecting wire for an application, soldering, running network cables, and learning techniques to keep wiring and control panels tidy and organized.

IND 244  Process Control  (3)  
This course provides understanding of different types of process control systems like temperature, flow and level control. The course includes process control principles, thermocouples, RTD’s, temperature measurement devices, On/Off temperature controllers, programmable process heat controllers, transmitters, process loop test equipment and final control elements. Using this information students learn to construct, test and operate systems found in industrial applications.

IND 247  Industrial Process Control  (3)  
This course provides understanding of different types of process control systems like temperature, flow and level control. The course includes process control principles, thermocouples, RTD’s, temperature measurement devices, On/Off temperature controllers, programmable process heat controllers, transmitters, process loop test equipment and final control elements. Using this information students learn to construct, test and operate systems found in industrial applications. Prerequisites: Electrical Control Systems I, Fluid Power II, or consent of instructor.

IND 252  Robotics I  (3)  
This course is an introduction to robotics which provides an understanding of basic robotics principles, parts of robots, degrees of freedom, programming methods and languages. Students learn to home a robot, test teach points, construct flow charts and design simple robot programs for different applications.

IND 256  Robotics II  (3)  
This course builds on the knowledge gained in ‘Robotics I’ and focuses on sensors, end effectors, control systems and maintenance. Students learn advanced commands and operators, create simulation objects, configure objects and design work cells.

Information Literacy (IL)  

IL 170  Library Research Strategies  (1)  
Designed to both introduce and improve basic library research skills using the print and automated information retrieval resources of the Mabee Library. Additional in-depth analysis of database sources, the ability to construct search strategies and evaluation of materials are covered. Prerequisites: None. 
(General Ed Humanities, General Ed Natural Science, General Ed Social Science. Information Literacy and Tech.)
IL 171 Internet Research Strategies (1)
Designed to both introduce and improve research strategies for finding scholarly information on the Internet, including resources in the Invisible Web that cannot be accessed with standard search engines, such as Google. Students will learn to formulate and modify an effective search strategy, investigate the theory behind the search process, and critically evaluate electronic resources based on appropriate criteria. This course is offered on-campus, on-line or hybrid. Prerequisites: IL 170.

IL 172 Advanced Research Strategies (1)
Designed to introduce and improve advanced research strategies for students that have completed both IL 170 and IL 171. Students will focus on research in the disciplines and create artifacts for an identified discipline. This course is ideal for students that are interested in designing a research plan for publication. This course is offered on-campus, on-line or hybrid. Prerequisites: IL 171.

IL 174 Trace Your Family History (1)
In this course, students will use an advanced approach to the research process and methods for retrieving information for a scholarly paper or presentation. Experience in the research process, selecting a topic, and retrieving information on topics is required. Focus is on developing the following skills: understanding the many types of research, methods, delivery of research results in the academic community. Prerequisites: None.

IL 300 Information Literacy for Scholars (3)
In this course, students will use an advanced approach to the research process and methods for retrieving information for a scholarly paper or presentation. Experience in the research process, selecting a topic, and retrieving information on topics is required. Focus is on developing the following skills: understanding the many types of research, methods, delivery of research results in the academic community. Prerequisites: None.

IL 301 Google and Beyond (3)
An introduction to information searching and evaluating information in digital, print, visual, and aural formats, students will learn advanced search techniques used in online resources. Students will develop skills to locate reliable information to become and remain informed citizens. This class will improve student communication, critical thinking, and information literacy skills. Prerequisites: None.

IL 311 Information Literacy Health Professions (3)
This course acquaints students with the processes of finding, organizing, using, producing and distributing information in a variety of formats specific to the Health Sciences. Students will examine the flow of information in a variety of Health Sciences disciplines, effective research processes, how to access information in multiple formats and how to formulate effective searches in health specific electronic databases and on the Internet. Learning how to evaluate the quality of information and becoming familiar with practical, social and ethical issues relating to information within the health professions in an increasingly technological society is a key component of the course. This class seeks to improve student communication, critical thinking and information literacy skills in health professions. Prerequisites: None.

IL 321 Information Organization and Access (3)
This course introduces the fundamentals of identifying objects or ideas, including description, content indication, and metadata. Students will learn basic aspects of representing and organizing information resources in daily lives or academic settings. This class will improve student communication, critical thinking, and information literacy skills. Prerequisites: None.

IL 351 Information, Culture, & People (3)
In a study of how individuals and groups create meaning, students will explore research topics concerning people and communication, including information literacy, organization and innovation, knowledge management, and information as cultural phenomenon. Students will study various international and generational cultures’ access to and ways to share information, preparing them for interaction with professional colleagues from varied backgrounds. This class will improve student communication, critical thinking, information literacy skills, and understanding of the knowledge society. Prerequisites: None.

IL 398 Information Literacy Readings (3)
The 3-credit forum course for Information Literacy Minors to provide students guidance and training in the skills and processes necessary for the practice of Information. The course draws upon research methods and critical analysis culminating with an annotated bibliography. Also, students will be introduced to opportunities in the Information Literacy field and the ethics of information literate citizens in the knowledge society. The course will be delivered online. Prerequisites: IL 170, IL 171, and IL 172 or consent of instructor.

IL 399 Information Literacy Research (1-3)
The capstone course for Information Literacy Minors devoted to guided and independent research, developing bibliographic techniques in the creation of a written artifact and culminating in a presentation to the class. The course will be delivered online. Prerequisites: IL 170, IL 171, and IL 172 or consent of instructor.

Intensive English (IE)

IE 070 Intensive English-Acad Purp I (3)
Combined skills course with IE 100 centered around U.S. cultural themes. It is considered a special topic course as the needs of the students taking it are considered when designating the specific outcomes of English language learning and cultural competence. It may be offered as a short-term course for exchange/visiting students for English language skills improvement within a U.S. cultural experience.

IE 071 Grammar and Structures for Academic Purposes I (3)
Foundation course focusing on English grammar & structures. Students will learn to construct sentences (from simple to compound to complex) & write paragraphs. The objective is to help students improve their vocabulary, grammatical & basic writing skills.

IE 072 Reading Comprehension for Academic Purposes I (4)
Develops nonnative English speakers’ vocabulary and reading skills for personal and academic communication using materials with diverse topics. Students focus on learning the most common words in English and begin to do sustained content reading at a high beginning level using strategies to help them increase comprehension and gain fluency and vocabulary. Prerequisite: None.

IE 073 Speaking and Understanding for Academic Purposes I (4)
Students are introduced to the words and phrases needed for everyday social situations including introductions and begin to develop their listening skills in simple conversations and speaking skills for the U.S. college classroom.
IE 074 Writing for Academic Purposes I (4)
This course is for nonnative English speakers and focuses on foundational writing skills from sentence structure to well-organized paragraphs of various kinds. Besides analyzing audience and purpose, basic citation and research skills are covered. Students will develop skills in writing sentences with correct structure and a beginning-level paragraph on concrete or personal subjects. They will also be able to use technology to compose their writing, including appropriate written communication with an instructor.

IE 091 Language in Context Seminar I (0-2)
IE 091 and IE 092 give international students unique opportunities to experience language in local cultural contexts and challenge their application of the English language. Students will go on field trips and hear guest speakers from diverse backgrounds on relevant topics to the international student. Students will be required to complete a project and write a journal with reflections on their experiences. IE 091 is offered in the fall and IE 092 is offered in the spring. These courses meet for one-three hours per week but do not count toward the 120 hour baccalaureate degree requirement. Full time Intensive English students are required to enroll in these courses. No prerequisite. Repeatable.

IE 092 Language in Context Seminar II (0-2)
IE 091 and IE 092 give international students unique opportunities to experience language in local cultural contexts and challenge their application of the English language. Students will go on field trips and hear guest speakers from diverse backgrounds on relevant topics to the international student. Students will be required to complete a project and write a journal with reflections on their experiences. IE 091 is offered in the fall and IE 092 is offered in the spring. These courses meet for one-three hours per week but do not count toward the 120 hour baccalaureate degree requirement. Full time Intensive English students are required to enroll in these courses. No prerequisite. Repeatable.

IE 100 Intensive English-Acad Purp II (1-3)
Combined skills course with IE 070 centered around U.S. cultural themes. It is considered a special topic course as the needs of the students taking it are considered when designating the specific outcomes of English language learning and cultural competence. It may be offered as a short-term course for exchange/visiting students for English language skills improvement within a U.S. cultural experience.

IE 101 Grammar and Structures for Academic Purposes II (3)
Foundation course focusing on English grammar & structures. Students will learn to construct sentences (from simple to compound to complex) & write paragraphs. The objective is to help students improve their vocabulary, grammatical & basic writing skills.

IE 102 Reading Comprehension for Academic Purposes II (4)
Develops nonnative English speakers' vocabulary and reading skills for personal and academic communication using materials with diverse topics. Students will become active readers of content in English at an intermediate level and further develop their strategies for vocabulary learning and reading fluency to increase their comprehension and also their understanding of text organization. Prerequisite: IE 072, or equivalent English proficiency test scores, or IEP coordinator permission.

IE 103 Speaking and Understanding for Academic Purposes II (4)
Nonnative English-speaking students practice to improve their oral and aural skills. They prepare to participate in everyday social conversations, classroom interactions, listening effectively to lectures and being involved in basic discussions. Students are expected to prepare and give short speeches and will be tested weekly on a list of idiomatic expressions. Students develop intermediate level skills to participate in everyday social conversations, classroom interaction, and intermediate-level discussions. Students will also increase their listening and note-taking skills to be able to comprehend short lectures on general topics. Prerequisite: IE 073, or equivalent English proficiency test scores, or IEP coordinator permission.

IE 104 Writing for Academic Purposes II (4)
This course for nonnative English speakers focuses on foundational writing skills from sentence structure to well-organized paragraphs of various kinds. Besides analyzing audience and purpose, basic citation and research skills are covered. Students will develop skills in writing intermediate-level academic paragraphs of the following types: definition, description, opinion, explaining processes. Students will also learn strategies to apply to writing and editing. Prerequisite: IE 074, or appropriate English proficiency test scores, or IEP coordinator permission.

IE 201 Grammar and Structures for Academic Purposes III (3)
Foundation course focusing on English grammar & structures. Students will learn to construct sentences (from simple to compound to complex) and write paragraphs. The objective is to help students improve their vocabulary, grammatical & basic writing skills.

IE 202 Reading Comprehension for Academic Purposes III (4)
By reading books, articles and sample academic texts, nonnative English speakers in this course study and practice effective reading and investigating strategies to discover the ways ideas are expressed and put into writing. Besides building academic vocabulary, the goals are increased reading fluency, speed and understanding. Students will develop academic vocabulary, reading fluency, comprehension and strategies to become active readers at a high intermediate/low advance level monitoring and adjusting their strategies to meet the demands of academic reading for university courses. Prerequisite: IE 102, or equivalent English proficiency test scores, or IEP coordinator permission.

IE 203 Speaking and Understanding for Academic Purposes III (4)
This course focuses specifically on the skills needed for presentations, the basic organization of American communication, and idiomatic expressions that prepare the student for the American academic and professional environment. Cannot be taken concurrently with CN 150 Public Speaking. Students will also increase their listening and note-taking skills to be able to comprehend lectures on general academic topics. Prerequisite: IE 103, or equivalent English proficiency test scores, or IEP coordinator permission.

IE 204 Writing for Academic Purposes III (4)
Students develop the ability to compose, (i.e., comprehend, select, plan, draft) and produce essay length texts on diverse general education academic topics by applying appropriate writing strategies with basic knowledge of how to use other sources and cite without plagiarism. Cannot be taken concurrently with EN 101. Prerequisite: IE 104, appropriate English proficiency test scores, or IEP coordinator permission.
IE 294  Writing for Academic Purposes III (GR only) (3)
Transitional course for graduate students. Expressing ideas in writing for the American academic and business reader is the goal in these courses for nonnative English speakers. Students will learn the conventions of expository paragraphs, essays and investigative reports. Summary, analysis, citation and research skill practice are included. Cannot be taken concurrently with EN 101 First Year Writing or EN 300 Advanced College Writing.

IE 295  Special Topics: Enhancing Skills for Graduate Studies (3)
This course for non-native English speakers only will orient students who haven’t completed an undergraduate degree in the US to the style and rigor specified by individual graduate programs. Typically this will involve specific instruction to help students improve research, presentation, group work, and higher level academic writing skills that are required by graduate programs. Topics and targeted programs will be announced in advance. Prerequisite: IE 202 and IE 204 or equivalent iBT, TOEFL, IELTS scores or instructor permission.

Interdisciplinary Studies (IS)

IS 000  Reservation Placeholder (0)

IS 110  Special Topics (0-6)
Special topics in interdisciplinary studies announced in advance. May be repeated with different topics. Prerequisite: Consent of Instructor

IS 201  Study Abroad (0-18)
Approved study abroad program coordinated by the Office of International Programs.

IS 203  Study Abroad (1-18)
Approved study abroad program coordinated by the Office of International Programs.

IS 221  Study Abroad External Program (0-18)
Approved external (non-Washburn) study abroad program coordinated by the Office of International Programs.

IS 270  Grant Writing I (3)
This internship course is designed to provide pre-professional work experience, in a sponsored projects office, to facilitate professional development and career exploration in grant writing and grant proposal development in response to either a private or a public opportunity. Prerequisite: None.

IS 300  Mock Trial II (1)
Enrollment is open only to students selected to the Mock Trial Team.

IS 301  Study Abroad (0-18)
Approved study abroad program coordinated by the Office of International Programs.

IS 303  Study Abroad (1-22)
Approved study abroad program coordinated by the Office of International Programs.

IS 321  Study Abroad-US Host University (0-18)
Approved study abroad program hosted by another U.S. institution coordinated by the Office of International Programs. Prerequisite: Consent of Instructor.

IS 389  Integrated Studies Capstone Proposal (1)
This course is the prerequisite course to the IS 390 Capstone Project course and must be taken the semester immediately preceding IS 390 or special permission by the BIS Director. This course is designed to assist the student in developing an appropriate capstone project. Prerequisite: At least thirty completed hours from either the Individualized Study Plan (ISP) or the Multi-Disciplinary Study Plan (MDSP) or special permission by the BIS Director.

IS 390  Integrated Studies Capstone (1-7)
The thoughtful integration of diverse materials is a major demand on the student working toward a Bachelor of Integrated Studies. The format may vary in terms of the student’s special interests, abilities, imagination, and creativity. May consist of a research paper, a comprehensive written examination on selected reading materials, an oral presentation, or a special performance utilizing one or more art forms or modes of expression. Prerequisite: IS 389 or by consent of the BIS Director.

IS 400  Special Topics (0-3)
Topics will vary from semester to semester and will be announced in advance. May be taken for more than one semester. Prerequisite: Consent of instructors.

IS 420  Study Abroad Internal Program (1-18)
Approved senior- or graduate-level study abroad programs coordinated by the Office of International Programs.

IS 421  Study Abroad External Program (0-18)
Approved study abroad programs for senior- or graduate-level hosted by another US institution.

IS 470  Grant Writing II (3)
This internship course is designed to provide pre-professional work experience, in a sponsored projects office, to facilitate professional development and career exploration in grant writing and grant proposal development in response to both private and public grant opportunities. Prerequisite: None.

IS 471  Grant Administration Internship (3)
This course is designed to provide pre-professional work experience, in a sponsored projects office, to facilitate professional development and career exploration in the administration and management of a grant (sponsored project) award. Prerequisite: IS 270 or IS 470.

Japanese (JP)

JP 101  Beginning Japanese I (4)
Introduction to conversation, reading, writing, grammar and composition. Development of oral/aural skills. Particular emphasis on contemporary culture and social customs in Japan. A CD Rom program to develop phonological skills is a component of this course. Offered fall semester only. No prerequisite.

JP 102  Beginning Japanese II (4)
Continuation of Japanese I. Offered spring semester only. Prerequisite: JP 101 or consent of instructor. (General Ed Humanities. Global Citizenship Ethics Div.)

JP 201  Intermediate Japanese I (3)
This course is intended as reinforcement of the 5 skills learned in JP 102: speaking, listening, reading, writing and culture. This course is the continuation of JP 102. (General Ed Humanities. Global Citizenship Ethics Div.)

JP 202  Intermediate Japanese II (3)
This course is a continuation of JP 201. (General Ed Humanities. Global Citizenship Ethics Div.)
Kansas Studies (KS)

KS 199 Special Topics: Kansas Studies (3)
An interdisciplinary topics course on a theme associated particularly with Kansas history and culture, which is team taught by Fellows of the Center. Students and faculty will be challenged to integrate material from different perspectives on a common topic based on joint interest and available resources. As topics change, the course may be repeated for credit.

KS 340 Kansas Studies (1-3)
A multidisciplinary course taught by faculty members of the Center for Kansas Studies that stresses the interrelationships among all aspects of Kansas including anthropology, archaeology, ethnicity, fine arts, geography, geology, history, literature, politics and religion. Prerequisite: None.
(General Ed Social Science. Global Citizenship Ethics Div.)

KS 395 Independent Study - Kansas Studies (1-3)
Directed readings and individualized research program on a subject relevant to Kansas Studies and with the guidance of a professor. May be taken for more than one semester. Prerequisite: Consent of Instructor and approval of Director of the Center for Kansas Studies.

KS 397 Internship in Kansas Studies (1-3)
A program for junior/senior–level undergraduates offered in cooperation with a local or state agency with the supervision of the Director of the Center for Kansas Studies. Prerequisite: Approval of Director of the Center for Kansas Studies.

KS 399 Special Topics-Kansas Studies (3)
Topics will vary from semester to semester and will be announced in advance. May be taken for more than one semester. Prerequisite: Consent of Instructor

Kinesiology (KN)

KN 100 Rhythmic Fitness (1)
Rhythmic Fitness

KN 101 Body Toning (1)
Body toning.

KN 102 Archery (1)
Archery

KN 103 Badminton (1)
Badminton

KN 104 Step Aerobics (1)
Step Aerobics

KN 107 Basketball (1)
Basketball

KN 109 Bowling (1)
Bowling

KN 111 Canoeing (1)
Canoeing

KN 112 Cycling (1)
Cycling

KN 113 Fencing (1)
Fencing

KN 117 Golf I (1)
Golf

KN 123 Judo (1)
Judo

KN 124 Karate (1)
Karate

KN 125 Lifeguard Training (1)
Lifeguard Training

KN 129 Racquetball (1)
Racquetball

KN 132 Softball (1)
Softball

KN 133 Swimming I (1)
Swimming I

KN 134 Swimming II (1)
Swimming II

KN 137 Tennis (1)
Tennis

KN 139 Tai Chi (1)
Tai Chi

KN 140 Pilates (1)
Pilates

KN 141 Yoga (1)
Yoga

KN 142 Zumba (1)
Zumba

KN 143 Soccer (1)
Soccer

KN 144 Volleyball (1)
Volleyball

KN 146 Weight Training (1)
Weight Training

KN 152 Kardio Kickbox (1)
Kardio Kickbox

KN 157 Country & Western Dance (1)
Country and Western Dance

KN 162 Beginning Skin & Scuba Diving (1)
Beginning Skin and Scuba Diving

KN 165 Self-Defense (1)
Self-Defense

KN 169 Social Dance (1)
Social Dance

KN 170 Aqua Exercise (1)
Aqua Exercise

KN 171 Deep Water Walking (1)
Deep Water Walking

KN 173 Water Safety Instructor (1)
Water Safety Instructor

KN 176 Tae Kwon Do (1)
Tae Kwon Do

KN 190 Special Topics (1)
Special Topics

KN 192 Marathon Training I (1)
Marathon Training I
KN 193 Marathon Training II (1)
Marathon Training II

KN 240 Coaching Principles and Philosophy (2)
This course is required for the Minor in Coaching. It is designed to provide
students with a basic understanding of coaching principles and help
students develop a sound coaching philosophy. Students will examine
their roles as coaches, improve communication and management skills,
develop technical coaching skills, and learn proper team training and
management strategies. This course will provide content necessary for
students to complete the American Sport Education Program’s (ASEP)
certification exam. Prerequisite: Sophomore status.

KN 248 Wellness Concepts and Applications (3)
The purpose of this course is to introduce and explore the essential
c校长的of wellness and to gain an understanding of the processes
that contribute to developing and maintaining a healthy lifestyle. The
wellness approach will emphasize personal responsibility for one’s health
through critical examination and evaluation of the consequences of
lifestyle choices, the selection and development of behavior change skills
that promote optimal enhancement of all wellness dimensions, and the
creation of a personal wellness plan for a productive and satisfying life.
Prerequisite: None.

(GenEd Social Science. Critical and Creative Thinking.)

KN 250 Introduction to Kinesiology (2)
This course examines the process of human movement as a unifying
element in the study of the discipline of Kinesiology. Content areas
include the scientific foundations of human movement, the history and
philosophy of physical education, the role of physical education in the
educational process, general purposes of Kinesiology programs, career
orientation and the future of Kinesiology.

KN 253 Fundamentals of Football Coaching (2)
Fundamentals and coaching techniques involved in coaching football.
Rules, practice and game day organization, offensive and defensive
techniques and strategies, and administrative requirements will be
covered. Designed for those who intend to coach football.

KN 257 Prevention and Care of Athletic Injuries (3)
This course will instruct and evaluate contemporary methods of
conditioning, prevention, recognition and acute care of athletic injuries.
This course will also focus on risk assessment and management relating
to physical activity. The course is appropriate for Kinesiology majors, pre-
healthcare majors, and students interested in coaching. An additional fee
is associated with this course.

KN 266 Microcomputer Applications to Kinesiology (2)
This course examines computer technology applications and software
related to Kinesiology and Physical Education. Prerequisite: Kinesiology or
Physical Education Major, KN 248 and KN 250; or 54 credit hours and
consent of instructor.

KN 271 First Aid and CPR (2)
General emergency first aid including sudden illness, musculoskeletal
injuries, heat/cold emergencies, splinting, bandaging and CPR.
Opportunity is provided to earn both American Red Cross Responding
to Emergencies First Aid and CPR certifications. An additional fee
is associated with this course.

KN 280 Sports Officiating I (2)
Study and interpretation of current rules; field work for practicing
officiating techniques. Prerequisite: Consent of instructor.

KN 291 Field Experience 1 in Exercise and Rehabilitation Science (1)
This course is designed to help students explore exercise and
rehabilitation professions, providing them a framework for the
foundational knowledge and skills gained as an exercise and
rehabilitation science major. Field observations exposing majors to
potential careers and professional settings are included. Prerequisites:
KN 248 & AL 101 or KN 250 & NU 102.

KN 299 Measurement and Evaluation in Kinesiology (2)
This course is designed to provide students with an understanding of
measurement and evaluation principles in Kinesiology, and emphasizes
the selection, development, administration and interpretation of
appropriate assessments for physical education. Skill performance
and fitness assessments with computer applications will be included.
Prerequisites: KN 248 and KN 250, plus MA 112 or MA 116.

KN 300 Psychology of Sport and Physical Activity (3)
The study of psychological processes related to sport and exercise
behavior. The course will provide a broad overview of the major topics,
including: motivation, arousal, goal-setting, self-confidence, and imagery.
Prerequisites: KN 248 and KN 250, or junior standing and consent of
instructor.

KN 302 Coaching Basketball (2)
Fundamentals and coaching techniques in basketball. Rules, offensive
and defensive strategies, planning practice sessions, and administrative
requirements to coach basketball. Prerequisite: None.

KN 303 Coaching Track & Field (2)
Fundamentals and coaching methods in all events within the track and
field program. Rules, regulations and administrative requirements to
coach track and field.

KN 304 Coaching Baseball & Softball (2)
Individual fundamentals and team play in baseball and softball. Rules,
strategies, and administrative requirements to coach baseball and
softball.

KN 305 Coaching Volleyball (2)
Fundamentals and coaching techniques in volleyball. Rules, strategies
and administrative requirements to coach volleyball. Prerequisite: None.

KN 306 Organization and Administration in Kinesiology (3)
This course is designed to provide a theoretical and practical approach to
the organization and administration of Kinesiology programs. Students
will be assigned administrative projects to enhance learning. Prerequisite:
junior standing or consent of instructor.

KN 308 Nutrition for Sports & Fitness (3)
This course will provide an understanding of nutrition and its relationship
to physical fitness and sports performance. Students will learn about
nutrition guidelines and the effects of nutrition on topics such as
metabolism, hydration, body composition, supplements, ergogenic
aids, and sports specific training. In addition, students will perform and
analyze nutrition and energy assessments and make recommendations
to improve performance. Prerequisite: KN 248 and KN 250, or junior
standing and consent of instructor.

KN 311 Motor Development (3)
This course is designed to provide students with an examination of
current theories of motor development throughout the life cycle.
Emphasis is placed on development of fundamental motor skills, physical
growth and development, and assessment. Students will be required to
conduct a variety of assessments on diverse individuals. Prerequisites:
Either KN 250, KN 261, KN 360, or KN 361 or consent of instructor.
KN 315 Special Topics in Kinesiology (1-3)
May vary from semester to semester. May be taken more than one semester depending upon topic.

KN 318 Exercise Psychology (3)
This course will introduce students to the basics and provide a solid foundation of psychological consequences and adherence aspects associated with the psychology of exercise. The interconnection among theory, research, application, and intervention will be utilized in order to apply the knowledge learned in this course to actual situations. Prerequisites: KN 248 and KN 250, or junior standing and consent of instructor.

KN 321 Anatomical Kinesiology (3)
The study of anatomical and mechanical principles in relation to human motion. Prerequisite: BI 250 or BI 275.

KN 326 Physiology of Exercise (3)
Process of scientific inquiry applied to physiological systems engaged in exercise. Examination of the acute and chronic effects of exercise on structure, function, and performance. Prerequisite: BI 255.

KN 327 Physiology of Exercise Lab (1)
The purpose of this course is to gain an understanding of the physiology (neuromuscular, metabolic, and cardiopulmonary) of exercise, including the physiology of training (i.e., the acute responses and chronic adaptations that occur due to exercise). This course will reinforce the basic exercise physiology concepts via application, increase awareness of and proficiency in performing selected laboratory tests and measurements commonly used in exercise physiology studies of humans, and provide practice in the process of data collection, evaluation and reporting. Prerequisites: BI 255; must be taken concurrently with KN 326.

KN 330 Administration of Exercise and Rehabilitation Science (3)
This class is designed to provide foundational information relating to the Administration of Exercise and Rehabilitation Science professions for Kinesiology majors who intend on pursuing Exercise or Rehabilitation Science professions. Students will learn the importance of quality management of financial, human, and facility resources. Prerequisites: KN 291 and junior standing.

KN 335 Human Factors and Ergonomics (3)
This course examines human factors and ergonomics as the interdisciplinary study of humans interacting with elements of systems in the workplace and other environments. Thorough analysis, evaluation, and synthesis are employed in the application of design to optimize well-being and performance. Prerequisite: junior standing or consent of instructor.

KN 340 Adapted Physical Education (3)
This course will provide students with the knowledge, skills and instructional techniques necessary to adapt and modify physical activities for students with developmental delays and/or mental and physical disabilities. Legal issues associated with educating individuals with disabilities in the physical education setting will be examined. A practicum experience in the public school setting and/or community setting is required. Prerequisite: KN 311 or consent of instructor.

KN 341 Physical Education Activity Techniques I (2)
This course emphasizes the learning of basic skills and teaching progressions, including lead-up games/activities, instructional strategies & teaching methods for activities such as basketball, soccer/speedball, softball, flag football, team handball, lacrosse, and floor hockey. Prerequisites: KN 248 and KN 250.

KN 342 Physical Education Activity Techniques II (2)
This course emphasizes the learning of basic skills and teaching progressions, including lead-up games/activities, instructional strategies and teaching methods of aerobics, weight lifting, track and field, and unique physical education games. Prerequisites: KN 248 and KN 250.

KN 343 Physical Education Activity Techniques III (2)
This course will provide undergraduate physical education majors with an introduction to a variety of sports and activities found in various school curricula. Additionally, the course will provide an opportunity for students to gain teaching experience through peer-teaching experiences. Sports and activities to be covered will include: Archery, Badminton, Bowling, Golf, Pickleball, Table Tennis, Tennis, and Volleyball. Prerequisites: KN 248 and KN 250.

KN 344 Physical Education Activity Techniques IV (2)
This course emphasizes the learning of basic skills and teaching progressions, instructional strategies and teaching methods for these activities: Pre-K – 12 rhythms and dance, including creative rhythms, social, folk and line dances, and basic tumbling, stunts and balance activities. Prerequisites: KN 248 and KN 250.

KN 345 Physical Education Activity Techniques V (2)
This course will provide Physical Education and Kinesiology majors with an introduction to a variety of outdoor activities and related teaching experiences. The overall purpose is to provide potential teachers and recreational leaders with the foundational knowledge and skills necessary to teach and participate in a variety of outdoor leisure activities. An additional fee is associated with this course. Prerequisites: KN 248 and KN 250.

KN 350 Orthopedic Evaluation (3)
This course is designed to instruct students on the techniques involved evaluating orthopedic injuries. This course will cover the sequence of a formal evaluation, documentation, the signs & symptoms of common injuries, & differential diagnosis. Prerequisite: KN 321.

KN 357 Sports Performance Training and Reconditioning (3)
This course provides students with the knowledge and skills to design, measure, and instruct contemporary activity-specific functional training programs. The course will emphasize methods and progression of strength, flexibility, speed, power including Olympic lifts and plyometrics, agility, balance, core and endurance training techniques with modern tools and exercise equipment. Peer teaching and testing and opportunity to participate in practical application of skills is included. Prerequisite: BI 255 and KN 342.

KN 367 Therapeutic Exercise (3)
This course is designed to provide Kinesiology majors with theoretical basis, comprehension and synthesis in the application of therapeutic exercise to address metabolic disease and musculoskeletal disorders. Students will develop specific exercise approaches for a varied population of people with a variety of special conditions to improve movement, function and quality of life. Prerequisite: KN 321.

KN 370 Facility & Event Management (3)
This course addresses the principles and procedures involved in sports facility and event management. Special emphasis will be given to sports event planning, production and evaluation. Prerequisite: KN 306 or instructor approval.
KN 403 Biomechanics (3)
This course provides an overview of biomechanics related to sport and exercise. Specific topics include: external forces and their effect on the body and its movement, including linear and angular kinetics; work, power, and energy in human activity; and the internal mechanics of human tissues, specifically the bones, skeletal muscle, ligaments, and tendons that make movement possible. This course will consist of lecture, discussion, and laboratory sessions to communicate the background of biomechanical principles, as well as their application. Prerequisites: KN 321 and PS 131/PS 132 or PS 261

KN 410 Fitness Testing and Exercise Prescription (3)
Students will become familiar with current fitness testing procedures and exercise prescription methods. Prerequisites: KN 326 and KN 342, MA 140 or PY 151.

KN 411 Current Literature in Kinesiology (3)
This course acquaints students with the processes by which research generates information and theoretical advances in Kinesiology and also explores specific recent developments in the field. Prerequisite: KN 326, MA 140 or PY 151.

KN 420 Curriculum Development for Elementary and Secondary Physical Education Methods (3)
Instructional methods, resources and curriculum development aimed at preparing future physical education teachers with the knowledge to create developmentally appropriate activities for preschool through high school age students, utilizing practical site-based experiences in planning, teaching and evaluating physical education programs. Prerequisites: KN 311, plus any e of the following: KN 341, KN 342, KN 343, KN 344, KN 345, and formal admission to the Professional Teacher Education Program or consent of instructor.

KN 430 Senior Seminar Physical Education (1)
This is a capstone course in which teacher candidates will review and update their Physical Education philosophy, complete their Physical Education portfolio, further develop their professional goals and plan for professional development; create their advocacy plan, and complete a practical experience related to the major. Prerequisites: Senior standing and formal acceptance into the Professional Teacher Education Program; or consent of instructor.

KN 491 Field Experience 2 in Exercise and Rehabilitation Science (3-6)
This course is designed for students interested in gaining practical experience in settings related to exercise and rehabilitation science, such as athletic training, physical therapy, clinical exercise physiology, fitness/wellness, sports and conditioning or research settings. Prerequisites: KN 291, KN 357 and KN 410; current First Aid and CPR certifications must be on file prior to the start of the field experience.

KN 497 Internship: Sport Management (6-12)
This course provides an off-campus experience in the field of sport management, in areas such as facility operations, game day promotions and advertising, ticket sales, and/or front-office administration. Each credit hour of internship equates to 50 contact hours at the internship site. This internship is for a minimum of 300 hours and a maximum of 600 hours. Prerequisite: All Major and Activity Requirements completed; current First Aid and CPR certifications must be on file prior to start of internship.

KN 498 Internship: Health and Fitness Promotion (3-6)
This course provides an off-campus experience in health promotion and/or fitness settings such as public health, corporate wellness, personal training, strength and conditioning, and recreation administration. Each credit hour of internship equates to 50 contact hours at the internship site. This internship is for a minimum of 150 hours and a maximum of 300 hours. Prerequisite: All Major and Activity Requirements completed; current First Aid and CPR certifications must be on file prior to start of internship.

Law (LW)

LW 700 Contracts (4)
LW 702 Kansas Legal Research (2)
LW 703 Business Associations (4)
LW 705 Securities Regulation (3)
LW 706 Agricultural Law (3)
Agriculture Law is a survey of the law applicable to agricultural production and business. Agriculture Law deals not only with plants and animals but also with land use, environmental rules, and the use of food products. As American agriculture revolutionizes and modernizes farming processes, issues of intellectual property, trade, credit, and commercial transactions arise with greater frequency. The course will be divided into and emphasis placed upon, agriculture related contractual and property issues, agricultural environmental issues, crop and animal production and sales issues and issues related to passing the farm onto the next generation. Included in each of these areas are constitutional issues, statutory and regulatory framework and tort laws uniquely influencing farm agriculture and agribusiness. Students will be evaluated by means of unit exams or assignments.

LW 707 Transactional Drafting (3)
LW 709 Employee Benefits Law (2-3)
LW 716 Divorce Practice (2)
LW 718 Debtor/Creditor Relations (3)
LW 723 Torts: Product Liab. & Privacy (2)
LW 724 Advanced Trial Advocacy (2)
This is an advanced litigation skills course. The primary focus is simulated trial experience. Other topics include the use of expert witnesses, innovative demonstrative evidence, the art of oral persuasion and communication science. Sections will be offered with either a criminal law or civil law focus. Prerequisite: Evidence and Trial Advocacy.
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<td>LW 800</td>
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**Admiralty and Maritime Law**: This course examines procedures before administrative boards and tribunals as well as their powers and duties and the scope and availability of judicial review of their decisions. Prerequisite: Constitutional Law I.
The oil and gas industry uses a number of unique contractual arrangements to explore for, develop, produce, and market oil and gas. This course goes beyond conveyances and oil and gas leases and examines the law governing farmout agreements, operating agreements, drilling contracts, production sales contracts, pooling agreements, unitization agreements, and agreements for the sale and exchange of producing properties. State oil and gas conservation issues and the law governing oil and gas development on federal public lands are also studied. Students will also study the intricate web of environmental laws that apply to the exploration, development, and production of oil and gas. This course provides students with an opportunity to improve their legal drafting skills through various drafting exercises. Prerequisite: Oil and Gas Law.
This course focuses on "hot topics" in intellectual property (IP) law, tackling timely IP issues such as the challenges of online copyright enforcement in the Internet age, the patentability of living organisms and genes, and the interactions between trademark law and the ever-expanding Internet domain name system. The course affords opportunities for in-depth discussion about issues that are covered through completion of a seminar paper and accompanying presentation.

LE 100 Exploring the Concept of Leadership (3)
A survey of leadership theories and introduction to the academic study of leadership using contexts of the leadership process and case studies; requires identifying personal leadership potential, articulating a personalized leadership theory, and applying leadership concepts in a Campus Action Project. Prerequisite: None. (General Ed Social Science. Critical and Creative Thinking.)

LE 125 Foundations of Leadership in Society (1-3)
This course will expose students to a variety of concepts, theories and skills relevant to contemporary leadership thought. Students will be challenged to consider their personal conceptions and philosophy of leadership. Students will examine leadership within particular contexts such as creating change, ethical leadership, leadership and management, and historical leadership thought and leaders. Prerequisite: None.
LE 200 Ethical Responsibilities of Leadership (3)
A survey of the fundamental ethical responsibilities of leadership; requires examination of obstacles to and opportunities for ethical leadership, an understanding of the cultural contexts of leadership and an articulation of a personal ethics statement as a foundation for applied ethics in the leadership process. Prerequisite: LE 100 or appropriate HN 202 or consent.

LE 300 Leadership Skills Development (3)
Students focus on developing individual and interpersonal leadership skills, teamwork and collaboration skills, and an understanding that leadership is more than the exercise of power; techniques for embracing and leading change are practiced in a semester-long change project. Prerequisite: LE 200 or appropriate HN 201 section or consent.

LE 301 Leadership Skills Integration (0-3)
Students will integrate their learning from a leadership skills course from another department with the curriculum of the Leadership Institute. Outcomes include development of individual and interpersonal leadership skills, teamwork and collaboration skills, and an understanding that leadership is more than the exercise of power; techniques for embracing and leading change are practiced in a semester-long change project. Prerequisite: LE 200 or appropriate HN 201 section or consent; Corequisite: NU 450 or another departmental leadership skills course at a 300 level or higher.

LE 320 Leadership Campus Experience I (0-1)
Students will review a contemporary leadership theory as a framework with which to integrate their learning from a campus leadership position with an understanding that leadership is more than just a position. Students will begin to think critically about creating change in association with a campus leadership experience. Prerequisite: Consent of instructor or junior standing.

LE 321 Leadership Campus Experience II (0-1)
Students will participate in a campus leadership position and reflect on the experience to develop a greater awareness of self and how they contribute to the process of leadership. Prerequisite: Consent of instructor or junior standing and completion of LE 320.

LE 322 Leadership Campus Experience III (0-1)
Students will reflect on leading change through implementation of a change project. Within this course, students will reflect on their learning from their student involvement within the framework of leadership theories. Prerequisite: Consent of instructor or junior standing and completion of LE 320 and LE 321.

LE 350 Leadership Practicum Experience (3)
Students pursuing the Leadership Studies Certificate will practice a "change agent" leadership role by implementing and evaluating a change process, and produce a detailed record of the experience suitable for archiving. Prerequisite: LE 300 or consent of instructor.

LE 375 Gender and Leadership (3)
An examination of an analytic framework for understanding the role that gender plays in defining and determining access to leadership and power. Contains an analysis of the myths, challenges, and opportunities that accompany the issue of gender through an exploration of gender and leadership both conceptually and practically. Prerequisite: Consent of instructor or junior standing.

LE 398 Special Projects - Leadership (0-3)
Independent study or project in leadership. The same project may be repeated up to 3 credits. Prerequisite: Consent of instructor.

LE 399 Special Topics in Leadership (0-3)
Special topics in leadership. May be repeated for different topics. See course schedule for current offerings. Prerequisite: Consent of instructor or junior standing.

LE 400 Leadership Internship (3)
Students will practice a "change agent" leadership role by implementing and evaluating an evidence-based change process, and produce a detailed record of the experience suitable for archiving. Prerequisite: LE 300 and consent of instructor.

LE 401 Leadership Internship Integration (0-3)
Students integrate their learning from an internship from another department with the curriculum of the Leadership Institute. Students must practice a "change agent" leadership role within this internship. Within this course, students will reflect on their learning from the internship within the framework of the Leadership Institute curriculum. Prerequisite: Consent of Instructor. Corequisite: NU 462 or another departmental leadership internship course.

LE 601 Self and Systems Leadership (3)
This course explores the ways in which one interacts with given systems to provide effective leadership, and the various elements of both self and system that must be considered in this process. This requires an ability to critically examine oneself as a leader, including analysis of one's own core values and adherence to these values. Students will seek and critically examine new knowledge to improve one's leadership practice and consider the ramifications of leadership actions in systems of various scale. Students will develop a personal leadership plan and consider how this plan will affect their community of interest.

LE 620 Leadership/Resource Stewardship (3)
This course explores a leader's responsibility as a steward of an organization's human, financial and technological resources. Students will explore how the concepts of stewardship can be applied to the organization through responsible planning and management of resources. Students will develop an understanding of how to align resource plans with the organizations strategic goals and direction. The course will focus on key concepts and current readings in strategic budgeting, strategic organizational management structures, and strategic performance measurement. Students will critically evaluate organizational practices in these areas, consider alternatives and potential enhancements, and develop plans to align with and ensure achievement of the organization's strategic goals. Prerequisite: LE 601 or instructor permission.

LE 630 Organization Improvement & Innovation (3)
This course will focus on the role of leaders in the realization of organizational mission and vision through assessment, utilizing a continuous improvement framework, and innovation. Organizational assessment is required to understand critical problems to solve and opportunities to explore. Continuous improvement, utilizing Lean Six Sigma, provides a model for problem solving and opportunity development. If organizational assessment and a process improvement framework is supported, then innovation is more likely to occur. This requires the leader to work collaboratively with various stakeholders, and to manage the change process to ensure sustained outcomes. Prerequisite: LE 601 or instructor permission.
LE 640 Public Policy & Global Leadership (3)
Diversity in the organization is the new norm, and leaders must develop a high level of cultural intelligence in order to balance micro- to macro-system priorities and competing perspectives. This course will emphasize leadership of local/global organizations within environments of escalating complexity and change. This course builds upon previous leadership courses to analyze, implement and evaluate effective leadership strategies within local/global settings, with an emphasis on policy development, ethics, and social advocacy. Prerequisite: LE 601, LE 620, and LE 630 or instructor permission.

LE 695 Special Topics in Leadership (0-3)
Special topics in leadership. May be repeated for different topics. See course schedule for current offerings. Prerequisite: Consent of instructor.

LE 698 Communication/Leadership Capstone Experience (1-3)
The capstone experience is the culminating experience of the master’s degree program and is taken in the final semester. It requires the identification of an organizational or community problem or opportunity and the development and implementation of a project that defines, measures, analyzes, and improves the problem or opportunity. Prerequisite: 18 hours of graduate communication curriculum and 9 hours of graduate leadership curriculum.

LE 777 Continuous Enrollment (1-3)
This course is to allow additional time to complete Capstone, Thesis, or Practicum Requirements. Prerequisite: Instructor permission.

Legal Office Professional (LOP)

LOP 240 Legal Terminology (5)
Students will attain knowledge and understanding of terms commonly used in the legal profession. Students will learn to define the terms, correctly pronounce them, and use them in legal context. Keyboard practice is used to solidify definitions and correct spelling of legal terms and terminology will be used in correspondence and legal pleadings.

LOP 250 Legal Office Projects (3)
The law office environment is somewhat different from the traditional business world. Legal Office Procedures is designed to present an overview of the structure and functions of the law office and provide the student with an opportunity to learn about different specialty areas of the law and to prepare real life documents and pleadings required in this profession.

LOP 260 Legal Transcription (4)
Legal Transcription teaches students to transcribe from sound common legal pleadings, correspondence, and recorded sessions to reinforce the correct pronunciation of legal terminology. Transcribed dictation is evaluated with written copy to increase rate typing speed in transcription and produce error free documents from sound.

Legal Studies (LG)

LG 101 Introduction to Legal Practice (3)
Introduction to basic legal terminology and legal principles, as well as hands on experience with computer technology applicable to law office management, document production, scheduling, research, litigation support, and ethics. Prerequisite: None.

LG 200 Introduction to Law (3)
Introduction to the basic skills of legal analysis and case briefing, understanding the state and federal legal systems, and judicial decision-making. The course will also include a survey of torts, contracts, criminal law, and property law. Prerequisite: None.

LG 205 Corporate Law (3)
A study of business organizations and the tasks a paralegal would be required to perform in setting up and maintaining those organizations. Topics covered include: law of agency, partnership, limited partnership and corporations. Prerequisite: LG 101 or LG 200 or consent.

LG 210 Family Law (3)
Family law issues are the focus of this course, including the law of divorce, annulment and separate maintenance actions. The gathering of information and preparation of pleadings are undertaken. Adoption and custody procedures are reviewed. Prerequisite: LG 101 or LG 200 or consent.

LG 215 Property Law (3)
Procedural and substantive principles of real and personal property laws. Preparation of documents for common real estate transactions, including deeds, contracts, and mortgages. Personal property topics will include bailments, possession, accession and gifts. Prerequisite: LG 101 or LG 200 or consent.

LG 220 Wills & Estate Administration (3)
Involves probating a will or administering an estate; assembling information necessary for collection and evaluating assets; maintaining proper records for accounting purposes; preparing pleadings for initial petition and appointment of an administrator and executor; sale, mortgage, and lease of assets; and preparing estate tax returns, wills and trusts. Intestate succession and tax implications are studied. Prerequisite: LG 101 or LG 200 or consent.

LG 240 Constitutional Law (3)
This course explores the basic structure of the Constitution, the powers it grants to the federal government, and the basic rights and protections it provides to individuals. Students will analyze and think critically about United States Supreme Court opinions on such topics as rights against discrimination, privacy rights, rights to the freedom of speech and religion, due process rights, and the right to bear arms. Prerequisite: None.

LG 250 Legal Research I (3)
Introduction to primary and secondary authorities, including court decisions, legislation, annotations, digests, legal periodicals and specialty texts and reports. Practical research projects, including legal writing. Prerequisite: LG 101 or LG 200 or consent.

LG 255 Legal Writing (3)
The various forms of legal writing are the focus of this course, including letters, memoranda, motions, and briefs. Students will learn further research techniques, including an introduction to computerized legal research. Practical writing projects are included. Prerequisite: LG 250 or consent.

LG 305 Litigation I (3)
Analysis of the steps and procedures in preparing for litigation. Course topics include a detailed study of the preparation and use of discovery devices, the drafting of pleadings and motions, and a detailed analysis of the steps involved in trial preparation and procedure. Prerequisite: LG 101 or LG 200 or consent.

LG 310 Interviewing & Investigation (3)
Study of basic interviewing techniques in various legal settings. Mock interviews of clients and witnesses. Various styles of interviewing covered, as well as question-asking and listening techniques. Factual and legal investigation theories, plans and techniques will be used. Ethical concerns related to interviewing witnesses and clients covered. Rules of evidence are reviewed. Prerequisite: LG 101 or LG 200 or consent.
LG 315 Legal Research II (3)  
This course is designed to teach students further research techniques, including the research of legislative history and administrative law, both through library research and computer-assisted legal research. Prerequisite: LG 250 or consent.

LG 320 Elder Law (3)  
Introduction to laws that affect the elderly population. Study of course topics will include estate planning, guardianship and conservatorship, patients' rights, entitlement programs, managed care, social security, Medicare, Medicaid, and elder abuse. Prerequisite: LG 101 or LG 200 or consent.

LG 325 Personal Injury Law (3)  
Introduction to basic concepts in tort law, including elements of various tort claims, defenses, privileges, and immunities. Prerequisite: LG 101 or LG 200 or consent.

LG 330 Administrative Law for Paralegals (3)  
An introduction to administrative law concepts. Topics covered in the course will include, but not be limited to: delegation of authority to administrative agencies; limitations on agencies' authority; due process of law in the administrative arena; informal versus formal agency actions; rule-making; FOIA; the Privacy Act; open meetings; adjudicative functions of agencies; Administrative Procedures Act; and judicial review. Practical application of the concepts studied will occur through the completion of exercises and drafting assignments. Prerequisite: LG 101 or LG 200 or consent.

LG 340 Law and the Cinema (3)  
This course uses movies in the study of law and legal principles. By watching law-based films and reading related journal articles, we will discuss and analyze rules of civil and criminal procedure, rules of evidence, and rules of ethics. In addition, the broader legal and moral issues raised by the films will be discussed and studied. This course will also allow students to develop a heightened awareness of how depictions in popular culture can affect a society's understanding and discourse concerning issues surrounding the law. Prerequisite: None.

LG 342 Capital Punishment in America (3)  
An overview of capital punishment in America with specific application to Kansas. The course covers different philosophical and religious positions on the death penalty; pro and con arguments related to retribution, deterrence, and incapacitation; the relative costs of the death penalty vs. permanent incarceration; innocent people on death row, discrimination, and arbitrariness in the application of the death penalty; and the role of judges, prosecutors, defense attorneys, juries, and witnesses in death penalty cases. Prerequisite: LG 101 or LG 200 or CJ 100 or consent.

LG 345 Criminal Law (3)  
Introduction to substantive criminal law and criminal procedure for the paralegal. Topics covered include elements of crimes against persons and property; burden of proof; defenses and constitutional protection; comparison of Kansas law with common law, federal law, and selected other states. Prerequisite: LG 101 or LG 200 or CJ 100 or consent.

LG 350 Professional Ethics (3)  
An overview of the Kansas Rules of Professional Conduct, which govern the practice of law in Kansas. Subjects covered include: ethics in the law office, unauthorized practice of law, advertising of legal services, contact with parties who are represented by counsel, impaired, lawyers, competency, professionalism, and fees for paralegal work. Complaints, disciplinary proceedings, and possible sanctions are covered. The role of the Kansas Supreme Court and the duties of attorneys under the rules are studied. Prerequisite: LG 101 or LG 200 or consent.

LG 355 Introduction to Contracts (3)  
Overview of contract law in relation to the formation of contracts, the Statute of Frauds, third-party beneficiary contracts, assignment of rights and delegation of duties, liability for breach of contract, termination, discharge and other related issues. Practical drafting projects are included. Prerequisite: LG 101 or LG 200 or consent.

LG 360 Independent Study (1-3)  
Legal Studies students pursuing the Bachelor of Legal Studies degree may enroll in an independent research project if approved by faculty in consultation with the Department Chair. Independent Study courses must meet equivalencies to Federal definition of a credit hour. Prerequisites: 6 hours of LG course work.

LG 390 Special Topics/Legal Asst (1-3)  
Selected topics which vary from semester to semester. Announced in advance. Prerequisite: Specified on each topic.

LG 399 International Travel Experience in Legal Studies (3)  
This course allows students from Washburn University to work collaboratively with the students from a partnering university outside the United States. Students will participate in a comparative analysis of international differences in law, the legal system, and litigation practices; and develop a better understanding of the cross-cultural significance of diversity in the legal system. Prerequisite: Consent.

LG 405 Litigation II (3)  
Analysis of the steps involved in criminal procedure. Constitutional principles and limitations will be studied. Appropriate pleadings will be drafted relating to the various stages of a criminal trial. Advanced civil litigation topics will also be studied, such as class actions, complex litigation, and various settlement devices, including alternative dispute resolution modalities. Students will research and complete a comparative study of the criminal and civil litigation systems. Prerequisite: LG 305.

LG 410 Bankruptcy & Collections (3)  
Acquaints students with the legal foundations for methods commonly used to collect delinquent accounts, as well as the terminology of bankruptcy practice, and the statutory framework of and proceedings under the Bankruptcy Act. Prerequisite: LG 101 or LG 200, and LG 250 or consent.

LG 450 Internship (2-3)  
Special placement of a student in a law firm, agency, or other legal setting using paralegals. Specific learning objectives established for each placement. Internship consists of a minimum of 160 clock-hours of experience under the supervision of a practicing attorney or paralegal and university faculty, performing tasks appropriate to a paralegal in a professional setting. Pass/Fail only. This internship requires summative reflection, serving as a culminating experience for Bachelor's degree students. Prerequisite: Students must apply with the program director and be given consent to enroll.
LG 495 Legal Studies BLS Capstone (4)
Students who have completed all of their major course work (or who are concurrently enrolled in their final semester and completing their major course work) may enroll in the capstone course with the consent of the program director. Students will complete a self-assessment by completion of a portfolio, using the core competencies for the profession to determine if remedial work needs to be done in any area before graduation. In addition, students may participate in resume-writing, job interviewing skills and networking. Mock interviews may be scheduled for each student. Students will attend two different paralegal organization meetings and two court sessions. Report writing will be included. Ethics will be emphasized by the use of hypothetical situations which will be analyzed and discussed. Students must participate in at least one pro bono activity (i.e., serve as a witness or juror in mock trial or client counseling competitions at the law school or high schools; assist at the Washburn University Law Clinic; assist a not-for-profit organization in the provision of legal services and assistance to low-income individuals and/or children; or, any other approved volunteer effort). This Capstone requires summative reflection, serving as a culminating experience for Bachelor’s degree students. Prerequisite: Consent

Liberal Studies (LS)

LS 600 Introduction to Graduate Research Liberal Studies (3)
An introduction to the process, method, and style of graduate research in the humanities, natural sciences, and social sciences. Prerequisite: Acceptance into the MLS program or instructor consent.

LS 601 Interdisciplinary Seminar in Humanities (3)
A team-taught seminar on a special topic in the humanities as it relates to either the social or natural sciences; the course will be cross-listed with either LS 602 or LS 603. Variable, but interdisciplinary subject matter. A student may repeat the course when it is offered on a different topic. Prerequisites: Acceptance into the MLS program or consent of the instructors.

LS 602 Interdisciplinary Seminar in the Social Sciences (3)
A team-taught seminar on a special topic in the social sciences as it relates to either the humanities or the natural sciences; the course will be cross-listed with either LS 601 or LS 603. Variable, but interdisciplinary subject matter. A student may repeat the course when it is offered on a different topic. Prerequisites: Acceptance into the MLS program or consent of the instructors.

LS 603 Interdisciplinary Seminar in the Natural Sciences (3)
Team-taught seminar on a special topic in the natural sciences as it relates to either the humanities or the social sciences; the course will be cross-listed with either LS 601 or LS 602. Variable, but interdisciplinary subject matter. A student may repeat the course when it is offered on a different topic. Prerequisites: Acceptance into the MLS program or consent of the instructors.

LS 604 Interdisciplinary Seminar in Creative and Performing Arts (3)
A team-taught seminar on a special topic in creative and performing arts as it relates to the humanities, social sciences, or natural sciences; the course will be cross-listed with LS 601, LS 602, or LS 603. Variable, but interdisciplinary subject matter. A student may repeat the course when it is offered on a different topic. Prerequisites: Acceptance into the MLS program or consent of instructors.

LS 690 Special Topics (1-6)
With the consent of the advisory committee, students may arrange with a member of the graduate faculty a special topics course in Liberal Studies. Prerequisites: Admission to the MLS program or consent of instructor.

LS 699 Capstone Experience (3)
Students apprentice themselves to one faculty member to pursue one theme developed in the core interdisciplinary program or individualized study program. The expectation is a research paper of thirty pages or an approved equivalent. Students are strongly encouraged to develop creative alternatives. Regardless of the form the project takes, it must in some significant way reflect both an in-depth understanding of a specific subject matter and the interdisciplinary nature of learning. Papers or projects are defended before a three- to five-person committee consisting of the advisor and 2-4 other faculty members chosen by the student and approved by the advisor. The capstone course provides the final opportunity to evaluate the student’s mastery of the liberal studies curriculum. Prerequisites: Admission into the MLS program and approval of the course instructor.

LS 799 Liberal Studies Capstone Experience (3)
Students will apprentice themselves to one faculty member to pursue a theme developed in the core interdisciplinary program or individualized study program. The expectation is a research paper of thirty pages or an approved equivalent. Students will be strongly encouraged to develop creative alternatives. Regardless of the form the project takes, it must in some significant way reflect both an in-depth understanding of a specific subject matter and the interdisciplinary nature of learning. Papers or projects are defended before a three- to five-person committee consisting of the advisor and two to four other faculty members chosen by the student and approved by the advisor and the MLS director. The capstone course provides the final opportunity to evaluate the student’s mastery of the liberal studies curriculum. The final project should reflect the student’s appreciation of the interdisciplinary nature of learning.

Machine/Tool Technology (MTT)

MTT 106 Safety (OSHA 10) (1)
Through a variety of classroom and/or lab learning and assessment activities, students in this course will explain job/site safety and precautions for job/site hazards; determine the uses of personal protective equipment (PPE); identify the safety equipment and procedures related to safe work practices and environment; identify fire prevention and protection techniques; explore Hazardous Communications (HazCom) including Material Safety Data Sheets (MSDS).

MTT 112 Print Reading (3)
Students will learn to identify basic lines, views and abbreviations used in blueprints, determine dimensions of features of simple parts, sketch simple parts with dimensional measurements, determine dimensions of multi-feather part, interpret GDT symbols, frame, and datums.

MTT 114 Machining I (3)
Student will learn to conduct job hazard analysis for conventional mills and lathes, develop math skill for machine tool operation, perform preventive maintenance and housekeeping on conventional mills and lathes, select work holding devices for mills, lathes and other machine tools, calculate feed and speeds, remove material using milling and turning processes, align milling head, use a vertical mill to center drill, drill and ream holes, change tools and tool holders on milling machines, and maintain saws and grinders.
MTT 115 Print Reading/Math II (1)
Students learn to perform basic trigonometric functions, and perform other procedures such as I.D. boring and facing operations, planning a sequence for machining operations, aligning work pieces, use work holding devices, jigs and fixtures, performing threading operations on lathes, machining keyways on a vertical mill, inspecting and dressing grinding wheels, performing O.D. & I.D. threading operations, performing O.D. & I.D. tapering operations, machining parts using milling cutters and milling machines, and tapping holes on a vertical mill.

MTT 116 Machine Tool Processes (1)
Students will learn to conduct a job hazard analysis for a machine tool group, analyze blueprints to layout parts and materials, select hand tools and common machine shop mechanical hardware for specific applications, prescribe cutting tools for assigned operations, calculate stock size to minimize drop, machine parts to specification outlined in machine handbooks, summarize preparations for machining operations, and apply precautions to minimize hazards for work with lathes, mills, drills, and grinders.

MTT 118 Lathe/Mill/Grind I (4)
Instruction will be given in the form of lectures, hands-outs, video tapes, shop demonstrations, shop assignment and text book assignments. Students will perform required set-ups and operations of lathes, milling machines, and grinders in a timely manner. Students are required to practice all shop safety rules. Calculate feed and speeds using the math formulas taught. Math will also be used to calculate hole pattern layouts, gear cutting, threading information, inspecting and quality control, and programming. Students will be required to perform machine operations to the satisfaction of the instructor. Students may be required to work in two or three person teams, but all students will be given the opportunity to demonstrate their competency level and ability by means of written test, verbal communications, and demonstrating hands-on.

MTT 123 Machining II (3)
Students learn to perform basic trigonometric functions and perform other procedures such as I.D. boring and facing operations, planning a sequence for machining operations, aligning work pieces, use work holding devices, jigs and fixtures, performing threading operation on lathes, machining key ways on a vertical mill, inspection and dressing grinding wheels, performing O.D. and I.D. threading operations, performing O.D. and I.D. tapering operations, machining parts using milling cutters and milling machines.

MTT 124 Lathe/Mill/Grind II (5)
Instruction will be given in the form of lectures, hands-on video tapes, shop demonstrations, shop assignments, and text book assignments. Students will perform required set-ups and operations of lathes, milling machines, and grinders in a timely manner. Students are required to practice all shop safety rules. Calculate feed and speeds using the math formulas taught. Math will also be used to calculate hole pattern layouts, gear cutting, threading information, inspecting and quality control, and programming. Students will be required to perform machine operations to the satisfaction of the instructor. Student may be required to work in two or three person teams, but all students will be given the opportunity to demonstrate their competency level and ability by means of written test, verbal communications, and demonstrating hands-on abilities.

MTT 131 Quality Control & Inspection (1)
Students are introduced to the science of dimensional metrology and its applications to ensure form and function of machined parts and assemblies using semi-precision and precision measuring instruments.

MTT 151 Workplace Ethics (2)
Students study human relations and professional development that exists in today's rapidly changing world so that they become better prepared for living and working in a complex society. Topics include human relations, job acquisition, job retention, job advancement, and professional image skills.

MTT 210 Print Reading/Math III (1)
Student learn to perform basic trigonometric functions, and perform other procedures such as I.D. boring and facing operations, planning a sequence for machining operations, aligning work pieces, use work holding devices, jigs and fixtures, performing threading operations on lathes, machining keyways on a vertical mill, inspecting and dressing grinding wheels, performing O.D. & I.D. threading operations, performing O.D. & I.D. tapering operations, machining parts using milling cutters and milling machines, and tapping holes on a vertical mill.

MTT 218 Metallurgy (1)
Students learn the metallurgical terms and definitions in an effort to understand the behavior and service of metals in industry. Characteristics during heating, cooling, shaping, forming, and the stress related to their mechanical properties are covered, as well as the theory behind alloys, heat treatment processes and wear resistance.

MTT 219 Lathe/Grind III (6)
Instruction will be given in the form of lectures, hands-on video tapes, shop demonstrations, shop assignments, and text book assignments. Students will perform required set-ups and operations of lathes, milling machines, and grinders in a timely manner. Students are required to practice all shop safety rules. Calculate feed and speeds using the math formulas taught. Math will also be used to calculate hole pattern layouts, gear cutting, threading information, inspecting and quality control, and programming. Students will be required to perform machine operations to the satisfaction of the instruction. Student may be required to work in two or three person teams, but all students will be given the opportunity to demonstrate their competency level and ability by means of written tests, verbal communications, and demonstrating hands-on abilities.

MTT 221 Bench Work (1)
Students will be provided the opportunity to learn and practice bench work skills such as filing, drilling, tapping, deburring and layout for projects. They will gain valuable practical experience in the use of various hand tools by producing basic bench work projects. Topics will include safety, print reading, job planning, and quality control.

MTT 232 Bench/Saw/Drill (3)
Students will learn to conduct job hazard analysis for conventional mills and lathes, develop math skills for machine tool operations, perform preventive maintenance and housekeeping on conventional mills and lathes, select work holding devices for mills, lathes and other machine tools, calculate feeds and speeds, remove material using milling and turning processes, align milling head, use a vertical mill to center drill, drill and ream holes, change tools and tool holders on milling machines, and maintain saws and grinders.

MTT 238 Print Reading/Math IV (2)
Students learn to perform basic trigonometric functions, and perform other procedures such as I.D. boring and facing operations, planning a sequence for machining operations, aligning work pieces, use work holding devices, jigs and fixtures, performing threading operations on lathes, machining keyways on a vertical mill, inspecting and dressing grinding wheels, performing O.D. & I.D. threading operations, performing O.D. & I.D. tapering operations, machining parts using milling cutters and milling machines, and tapping holes on a vertical mill.
MTT 241 CNC Operations (3)
Students will become acquainted with the history of Numerical Control (NC) and Computer Numerical Control (CNC) machines and will be introduced to a CNC machine used in the precision machining trades. They will gain practical experience in the application of "G" codes and "M" codes, writing CNC machine programs, and machine setup and operation.

MTT 244 Lathe/Mill/Grind IV (6)
Instruction will be given in the form of lectures, hands-on video tapes, shop demonstrations, shop assignments, and text book assignments. Students will perform required set-ups and operations of lathes, milling machines, and grinders in a timely manner. Students are required to practice all shop safety rules. Calculate feed and speeds using the math formulas taught. Math will also be used to calculate hole pattern layouts, gear cutting, threading information, inspecting and quality control, and programming. Students will be required to perform machine operations to satisfaction of the instructor. Student may be required to work in two or three person teams, but all students will be given the opportunity to demonstrate their competency level and ability by means of written tests, verbal communications, and demonstrating hands-on abilities.

MTT 250 Workplace Skills II (1)
This course is the final preparation for the exit assessment by using Key Train software for Applied Math, Reading for Information, and Locating Information. A student will be required to attend remaining seminars that were not attended in Workplace Skills I through the Career Resource Center.

Mass Media (MM)

MM 100 Introduction to Mass Media (3)
The subject of this course is mass media. It is designed to acquaint students with newspapers, magazines, books, radio, recordings, television, films, advertising, public relations, and the interactive media of computers and information technology. Prerequisite: None. (General Ed Humanities. Information Literacy and Tech.)

MM 128 The Impact of The Walt Disney Company on Society (3)
This course will explore the impact that the Walt Disney company has had on society in both the domestic and international cultural spaces. Topics explored include the company's influence on society and culture through: 1) mass media, such as film, television, radio, publishing, literature, online, and gaming; 2) business, such as tourism, merchandising, licensing, franchising, marketing, and promotions; 3) innovation, such as technology, creative development, engineering, and architecture; 4) history, such as historical, gender, race, and colonial representation. Prerequisites: None.

MM 155 Sports and the Media (3)
Mediated sport is an important facet of modern life. In this course, you will explore the fundamentals of media as related to both collegiate and professional sports. Prerequisites: None (General Ed Humanities. Information Literacy and Tech.)

MM 199 Mass Media Boot Camp (3)
This class implements technology processes and the construction of messages to be used in commercial, social and mobile media while creating an understanding of the significance and application of basic media terminology. Prerequisite: None.

MM 202 Creative Media Writing (3)
The study and practice of fundamentals of media writing for journalism, public relations and advertising. Prerequisites: MM 100 and MM 199 or consent.

MM 212 Digital Filmmaking I (3)
This basic lab course will provide an introduction, through lab activity, to the process of creating a film or video product for a variety of applications. Students will learn basics of project development, camera operation, visual composition, sound recording, editing, and exhibition on the web or other expanded media. Prerequisites: MM 199 or Consent.

MM 222 Cinematic Storytelling (3)
The focus in this course is to develop knowledge and skills relating to visualization of cinematic story elements, and writing a narrative film script. Topics include: formatting, structure, character development, conflict, dialogue, and other script elements. Prerequisites: MM 100 or consent.

MM 300 Mass Media Law (3)
This class will study ethical and legal issues in mass communication contexts. Examines the limitations and responsibilities of communicators. Prerequisites: MM 100 or Consent.

MM 301 Mass Media & Cinema (3)
Investigation into how the cinema portrays the media of radio, television, film and the press. Discussion of various types of film analysis and criticism, including production analysis, sociological, genre, and ideological criticism of film form and content. Prerequisites: MM 100 or Consent.

MM 302 Cinematic Storytelling (3)
This course analyzes modern American films with particular attention to storytelling techniques, genre, cinematic rendering and thematic meaning. Films will be examined against the backdrop of their specific historical-socio-political context. Prerequisites: MM 199 or Consent.

MM 311 Broadcast Performance (3)
Practice in speaking and performing for radio and television presentations. Exercises are based on a variety of practical applications found in announcing situations. Students are guided by in-class evaluations from the instructor and peers. Prerequisites: MM 199 and MM 202 or Consent.

MM 312 Cinematography (3)
This course will show students the similarities and differences between film camera systems and electronic camera acquisition, using lecture, demonstration, and example. Students will understand how basic functions and relationships in camera systems and support have similar qualities, but with different consequences relative to the production process. This course will have a central role for student filmmakers in creative storytelling. Prerequisite: MM 199 or MM 302.

MM 319 Public Relations I (3)
This class surveys and analyzes organizational practices in communicating and building relationships with audiences. Prerequisites: MM 100, MM 199, and MM 202 or Consent.

MM 321 Visual Communication (3)
Students will learn typography, color, and design principles using desktop publishing techniques and software. Prerequisites: MM 100 and MM 199 or Consent.

MM 350 Film Editing and Theory (3)
This course will examine the craft and art of editing in the digital age and will explore film history and theory as related to the editing process. Students will engage in editing assignments to apply continuity and non-linear techniques. Prerequisite: MM 222 or Consent.

MM 351 Mass Media Research (3)
This class includes an introduction to the study of quantitative and qualitative research techniques and of the interpretation and reporting of research findings. Prerequisites: MM 100 or Consent.
MM 352 Advertising I (3)
This class is an analysis of commercial persuasion. Examining messages, audiences, and settings. Prerequisites: MM 100, MM 202 or consent.

MM 355 Sports & The Media (3)
Mediated sport is an important facet of modern life. This course will explore the fundamentals of media as related to both collegiate and professional sports. Students will apply strategic thought in the creation of various media related to the sport industry. Prerequisites: EN 101 and MM 199

MM 360 Minorities & The Media (3)
This class is an examination of the portrayal of underrepresented groups in the media, and how these audiences can be reached via media messages. Prerequisite: MM 100 or consent.

MM 372 Filmmaking I (3)
This course is designed to give each student an overview of the many aspects of digital filmmaking, including development, writing, producing, directing, lighting, shooting, and editing. This will be achieved partially through lecture time, partially through studying the work of other filmmakers, including your fellow classmates, and partially through hands on production. You will also be engaged in online tutorial video course material. Prerequisites: MM 312 and MM 350 or consent.

MM 375 Murder, Mayhem and Media (3)
This course teaches real-world skills and provides valuable information for students interested in covering crime or courts for media outlets; working in law enforcement or judicial public relations; or telling crime stories through books, movies or TV. The course provides insight into what police officers do, how the criminal justice system works and how the media covers crime, with an emphasis on social media and current events. The class seeks to help enable students to serve as the eyes and ears of their readers and viewers, telling stories in a descriptive manner that helps people hear the sirens and smell the smoke. Prerequisite: MM 202.

MM 393 Special Topics/Mass Media (1-3)
Special subject courses not covered in the department catalog listing. May be repeated when topics vary. Prerequisite: MM 100 or consent.

MM 400 Media Literacy (3)
This class includes a historical and critical overview of seminal theories and research in mass communication. Special emphasis will be placed on the relationship between media and society. Prerequisites: MM 100, MM 199, and EN 300 or consent.

MM 401 Media Analysis & Criticism (3)
This class includes a discussion of various levels of media analysis and criticism, including production analysis, sociological, feminist and ideological criticism of media form and content. There is also an emphasis on news analysis and television criticism. Prerequisites: MM 100 or consent.

MM 403 Journalism (3)
This course offers advanced exploration of storytelling techniques and writing styles. Students will use text, audio and video to create story packages for Student Media. Prerequisites: MM 202.

MM 405 The Documentary Film (3)
Through readings, screenings, and assignments, this course will develop an understanding of the background and methods for producing independent documentary films, and the accompanying issues commonly encountered in this process. Students will develop a documentary project and script treatment on a topic of their choosing. Prerequisites: MM 302 or Consent.

MM 409 Electronic Journalism (3)
This course is designed to provide students with essential writing and reporting skills for broadcast journalism. Special emphasis will be given to the writing, shooting and editing of television news stories, the process of news discovery, and how to deliver those stories for broadcast, web, and other interactive media. Prerequisites: MM 199.

MM 411 Entrepreneurial Media (3)
The class emphasizes how business principles are utilized to explore entrepreneurial opportunities in media. Students gain insight into how media content and service enterprises are conceived, planned, financed and managed. The legal, ethical, and social implications of independent digital media ventures are considered. Prerequisites: MM 100 and MM 199 or consent.

MM 414 Filmmaking II (3)
This lab course explores the craft of creating the documentary or narrative film. At an advanced level, students gain theoretical and practical experience in the production of a dramatic narrative or documentary film. Students create original works and fill crew positions as needed. Prerequisites: MM 312 and MM 350 or consent.

MM 415 Promotions Writing (3)
The course provides a comprehensive overview of various kinds of writing for digital platforms that media professionals produce. Students will practice research and learn how to tailor messages to specific audiences for specific purposes. Prerequisites: MM 100 and MM 202 or consent.

MM 420 Public Relations II (3)
This class covers the design and use of communication messages in a comprehensive study of the public relations field. Students will have a practical application of a public relations campaign. Prerequisites: MM 319.

MM 422 Editing (3)
Study of principles of correct and appropriate writing and creative expression in design. Prerequisite: MM 321.

MM 425 Creative Strategies In Advertising (3)
Students will learn creative strategy in researching, planning and developing advertising for print, broadcast and web. Special emphasis will be put on developing creative strategies for different target audiences. Prerequisites: MM 100 and MM 202 or consent.

MM 431 Creative Media Practicum (3)
Students will work with on and off-campus clients to produce, edit, and design communication materials, both print and online, associated with business, industry, and non-profit groups. Students will also write, design, edit, and sell advertising for the department alumni magazine, the Mass Media Messenger. Prerequisite: MM 321.

MM 432 Advertising II (3)
This course involves planning, creation and production of advertising messages for various mass media. Students engage in the design, execution, and presentation of an advertising plan for a real-world client. Prerequisites: MM 352 or consent.

MM 485 International Media Systems (3)
This class covers and analyzes the development, structure, and functions of media in other nations, and offers an examination of the role of communications in the international arena. Prerequisites: MM 100 and EN 300, or consent.

MM 492 Independent Study (1-3)
Investigates a mass media area of interest not covered in regular courses. Involves producing research or creative projects. Prerequisites: Consent of faculty and chairperson; majors only.
MM 493 Special Topics/Mass Media (1-3)
Special subject course not covered in the department catalog listing. May be repeated when topics vary. Prerequisites: MM 100 or consent.

MM 494 Internship (1-2)
Experience and training in a professional setting related to mass media careers. Mass media faculty and the sponsoring organization supervise students. A total of 64 hours of work per credit hour is given to the sponsoring organization during the semester. Usually requires 8-12 hours per week. Prerequisites: consent; second semester junior or senior standing; 24 credit hours completed in the major and 9 hours completed in concentration.

MM 499 Career Development & Digital Portfolio (2)
Students in this class explore career options and make preparations for a transition from academic life to professional careers or graduate school. A significant portion of this class will be devoted to developing and/or improving the credentials needed to land a job in the media field. In particular, this class will provide students with the opportunity to finalize their resume and digital portfolio. Prerequisites: majors only; senior status.

MM 505 The Documentary Film (3)
Readings, screenings, and assignments will develop an understanding of the background and methods for producing independent documentary films, and the accompanying issues commonly encountered in this process. Students will develop a documentary project and script treatment about a socially significant topic of their choosing. Prerequisite: MM 302 or Consent.

MM 514 Digital Filmmaking II (2)
This lab course explores the craft of creating the documentary or narrative film. At an advanced level, students gain theoretical and practical experience in the production of a dramatic narrative or documentary film. Students create original works and fill crew positions as needed. Prerequisite: MM 312 or MM 350 or Consent.

MM 522 Cinematic Storytelling (3)
This course analyzes modern American films with particular attention to storytelling techniques, genre, cinematic rendering and thematic meaning. Films will be examined against the backdrop of their specific historical-socio-political context. Prerequisite: MM 200 or Consent.

MM 532 Digital Cinematography (3)
This course will show students the similarities and differences between film camera systems and electronic camera acquisition, using lecture, demonstration, and example. Students will understand how basic functions and relationships in camera systems and support have similar qualities, but with different consequences relative to the production process. This course will have a central role for student filmmakers in creative storytelling. Prerequisite: MM 200 or MM 302.

MM 600 Mass Media Law (3)
This class will study ethical and legal issues in mass communication contexts. Examines the limitations and responsibilities of communicators. Prerequisites: MM 100 or consent.

MM 601 Mass Media and Cinema (3)
Investigation into how the cinema portrays the media of radio, television, film and the press. Discussion of various types of film analysis and criticism, including production analysis, sociological, genre, and ideological criticism of film form and content. Prerequisites: MM 100 or consent.

MM 605 The Documentary Film (3)
This course will present a study in critical analysis toward the portrayal of social conflicts in documentary films. Through applied activity, the course will also focus on the power and responsibility that documentary filmmakers have in a world where communication is dominated by the moving image media. Prerequisites: MM 302 or consent.

MM 611 Entrepreneurial Media (3)
Basic concept of managing broadcast stations, a study of the various departments within broadcast organizations and how they interrelate, and an overview of the regulatory and technological landscapes that face broadcast managers. Prerequisites: MM 100 or consent.

MM 614 Digital Filmmaking II (3)
This advanced course will focus on continued practical experience in storytelling in both narrative and documentary treatments. Emphasis is on the planning, management and production of materials suitable for the cinema, television or other news media. Students will be directly involved in producing original work. Prerequisites: MM 312 and MM 350 or consent.

MM 622 Cinematic Storytelling (3)
Students will learn to understand the structure and format of the narrative script form. While the principles of visual storytelling, dialog, and general visual communication techniques will be examined, students will learn the skills of script analysis including: writing treatments, synopsis, content outlines and evaluation of a script based on structure, motif, character, theme and marketability. Prerequisites: MM 199 or consent.

MM 651 Mass Media Research (3)
Study of quantitative and qualitative research techniques and of the interpretation and reporting of research findings. Prerequisites: MM 100 or consent.

MM 692 Independent Study (1-3)
Investigates a mass media area of interest not covered in regular courses. Involves producing research or creative projects. Prerequisites: Consent of faculty and chairperson, majors only.

MM 693 Special Topics (3)
Special subject courses not covered in the department catalog listing. May be repeated when topics vary. Prerequisites: MM 100 or consent.

Mathematics (MA)

MA 090 Preparation for Quantitative Reasoning Pathway (3)
Selected topics in pre-algebra, algebra, geometry and other areas designed to prepare students for quantitative reasoning and beyond. Repeatable up to three times. Placement by diagnostic test or math placement exam result, or suitable math ACT score. Not open to students with credit for MA 108 or above. Does not count towards degree credit hour requirements, nor general education requirements.

MA 095 Preparation for College Algebra Pathway (3)
Selected topics in pre-algebra, algebra, geometry and other areas designed to prepare students for college algebra and beyond. Repeatable up to three times. Placement by diagnostic test or math placement exam result, or suitable math ACT score. Not open to students with credit for MA 108 or above. Does not count towards degree credit hour requirements, nor general education requirements.
MA 103 Basic Algebra (3)
A first course in algebra. Signed numbers and operations, integer exponents, linear equations and inequalities, lines, polynomials, factoring, rational expressions, applications involving linear equations. Does not count towards degree credit hour requirements, nor general education requirements. Prerequisite: None.

MA 104 Intermediate Algebra (3)
Operations with polynomial and rational expressions, factoring, equations (linear, absolute value, quadratic, rational, root), inequalities (linear, compound, absolute value), graphing linear and quadratic functions, systems of linear equations, rational exponents and radicals, applications (involving linear, rational, and quadratic equations). This course is for student entering with one year of high school algebra who are preparing for Essential Mathematics or College Algebra. Does not count towards degree credit requirements, nor general education requirements. Students in this course are expected to have algebraic knowledge equivalent to MA 103 or one year of high school or junior high school algebra.

MA 105 Science Success Strategies (2)
Interdisciplinary class may be taken as CH 100. Develops mathematics and science skills fundamental to science majors. Prerequisite: A grade of “C” or better in MA 104 (or equivalent) or an acceptable (as determined by the Mathematics Department) ACT mathematics score or SAT quantitative score or ACCUPLACER math score.

MA 108 College Algebra Preparation (3)
This course is the first of a two-semester College Algebra sequence. Topics covered include: factoring, equations (linear, quadratic, rational, absolute value, root, linear systems), functions (notation, domain), graphing (linear, quadratic, piece-wise), inequalities (linear, compound, absolute value), applications involving linear, quadratic, and rational equations. Does not count towards degree credit requirements, nor general education requirements. Not open to students with credit in MA 112 or MA 116, or any MA-designated course numbered above MA 116. Students in this course are expected to have algebraic knowledge equivalent to MA 103 or one year of high school or junior high school algebra. Prerequisite: None.

MA 112 Contemporary College Mathematics (3)
This course will focus on the mathematical skills and knowledge required for quantitative literacy, so the topics of understanding numerical relationships, financial mathematics, probability, and data analysis and statistics will be addressed. Each academic year the course will adopt a theme such as the political endeavor, the environment, art and culture and will study the topics from the context of the theme. The course will be project-based and to the extent possible the projects will investigate contemporary issues related to the overarching course theme. In addition to demonstrating mastery of the mathematical content, students will be expected to demonstrate an ability to understand how to determine the appropriate representation of quantitative information and to effectively communicate their assumptions and analysis. This course is not intended to prepare students for calculus. Graphics calculator required. Prerequisite: A grade of A or B in MA 090 or a grade of C or better in MA 104 or an ACT mathematics score of at least 22 or an equivalent background as determined by the Mathematics Department, for example, comparable SAT, COMPASS, or ACCUPLACER score. (General Ed Natural Science. Quan and Sci Reason Lit.)

MA 116 College Algebra (3)
Equations (linear system, polynomial, rational, absolute value, root, exponential, logarithmic), functions (notation, combining, domain, inverse), graphing (linear, quadratic, polynomial, piece-wise, rational, exponential, logarithmic), inequalities (compound, absolute value, polynomial, rational), logarithmic expressions, applications involving various types of equations and/or systems of equations. Not open to students with credit in MA 117, MA 123, or any course numbered above MA 140. Prerequisite: A grade of “C” or better in MA 104 (or equivalent) or a grade of “A” or “B” in MA 095 or an acceptable (as determined by the Mathematics Department) ACT mathematics score or SAT quantitative score or Compass or Accuplacer Mathematics Placement Test score. (General Ed Natural Science. Quan and Sci Reason Lit.)

MA 117 Trigonometry (3)
Trigonometric functions, their inverses, graphs, and identities. Solving trigonometric equations. A wide variety of applications, and appropriate use of technology. Graphics calculator required. Prerequisite: A grade of C or better in MA 116 or concurrent with MA 116 or an acceptable (as determined by the Mathematics Department) ACT mathematics score or SAT quantitative score or equivalent knowledge as determined by the Mathematics Department. (General Ed Natural Science. Quan and Sci Reason Lit.)

MA 123 Pre-Calculus (3)
Algebraic, exponential and trigonometric functions. Topics in plane analytic geometry. Designed for the student preparing for calculus. Not open to students with credit in MA 141 or MA 151. Prerequisite: A grade of “C” or better in MA 116 or MA 117 or an acceptable ACT mathematics score or SAT quantitative score or equivalent knowledge as determined by the Mathematics Department. (General Ed Natural Science. Quan and Sci Reason Lit.)

MA 131 Topics in Trigonometry and Introduction to Calculus (3)
Trigonometric functions, using right triangles and the unit circle. Trigonometric identities, sinusoidal graphs, and trigonometric applications, including periodic phenomena. Limits, continuity, rates of change, and the meanings of differentiation and integration. Not open to students with credit in MA 141 or MA 151. Prerequisites: MA 116 with a grade of “C” or better or an acceptable ACT mathematics score or SAT quantitative score or equivalent knowledge as determined by the Mathematics Department. (General Ed Natural Science. Quan and Sci Reason Lit.)

MA 140 Statistics (3)
Introduction to statistics and probability with practical applications. Descriptive techniques including graphical methods, linear regression, probability distributions, sampling distributions, confidence intervals, hypothesis tests. Graphics calculator required. Prerequisite: A grade of “C” or better in either MA 116 or MA 112 or, an acceptable ACT mathematics score or SAT quantitative score or Compass or Accuplacer Mathematics Placement score. (General Ed Natural Science. Quan and Sci Reason Lit.)

MA 141 Applied Calculus I (3)
Definition and elementary properties of the derivative and definite integral with emphasis on the application of the derivative and integral to problems in business. Not open to student with credit in MA 151. No more than five hours of credit will be awarded for MA 141 and/or MA 151. Prerequisite: A grade of “C” or better in MA 116 or MA 123 or an acceptable ACT mathematics score or SAT quantitative score or equivalent knowledge as determined by the Mathematics Department. (General Ed Natural Science. Quan and Sci Reason Lit.)
MA 142 Applied Calculus II (3)
A continuation of MA 141. Elementary differential and integral calculus including the trigonometric functions, techniques of integration and an introduction to multivariable calculus. Applications will be primarily from management and biological sciences. Not open to students with credit in MA 151. Prerequisites: A grade of "C" or better in MA 141 AND a grade of "C" or better in either MA 117 or MA 123 or consent of instructor.

MA 145 Mathematics for Decision Making (3)
This course will introduce students to quantitative methods of decision making used in management, the life and social sciences. Topics covered will include: matrices, linear programming (including the simplex method), probability theory, Markov chains, graph theory, simulation and modeling. Prerequisite: A grade of "C" or better in MA 116 or MA 123 or an acceptable ACT mathematics score or SAT quantitative score or equivalent knowledge as determined by the Mathematics Department.

MA 148 Mathematics of Finance (3)
Interest, annuities, amortization, sinking funds, stocks, bonds. Prerequisite: A grade of "C" or better in MA 116 or MA 123 or an acceptable ACT mathematics score or SAT quantitative score or equivalent knowledge as determined by the Mathematics Department.

MA 151 Calculus & Analytic Geometry I (5)
Differential and integral calculus of the elementary functions with applications. No more than five hours of credit will be awarded for MA 141 and/or MA 151. Prerequisite: A grade of "C" or better in MA 117 or MA 123 or an acceptable ACT mathematics score or SAT quantitative score or equivalent knowledge as determined by the Mathematics Department. (General Ed Natural Science. Quan and Sci Reason Lit.)

MA 152 Calculus & Analytic Geometry II (5)
A continuation of Mathematics 151. Topics in plane analytical geometry, techniques of integration with applications, and infinite series. Graphics calculator required. Prerequisite: A grade of C or better in MA 151.

MA 204 Number Theory and Discrete Math for Middle School and Secondary Teachers (3)
Fundamental ideas of number theory, including divisors, factorization, and modular arithmetic. An introduction to discrete mathematics, including discrete structures, enumeration, logic, and applications. Prerequisite: A grade of "C" or better in MA 151 or MA 230, or consent of instructor.

MA 206 Discrete Mathematics for Computing (3)
Discrete mathematics topics useful in computer-aided problem solving. Topics will include Boolean algebra and computer logic, graphs and trees with algorithms, and analysis of algorithm complexity. Prerequisites: CM 111 and one of the following: A "C" or better in MA 116 or MA 123, or an acceptable (as determined by the Mathematics Department) ACT mathematics score or an acceptable SAT quantitative score, or equivalent knowledge as determined by the Mathematics Department.

MA 207 Discrete Mathematics (3)
Logic, counting methods, induction, functions, equivalence, partial order, and congruence relations. Set up and solve recurrence relations problems. Graph theory and its applications. Significant emphasis on the format and method of mathematical proof. Prerequisite: MA 151 or MA 204 or MA 206, PH 110 or PH 220 or consent of instructor.

MA 228 Mathematics for Elementary and Middle School Educators I (4)
The investigation of mathematical concepts and procedures encountered in grades K-8. Topics include rational numbers and operations, algebraic patterns, number theory, geometry, and measurement. Significant emphasis is placed on conceptual in-depth understanding of these mathematical topics and connecting those concepts to a range of procedures, as needed by beginning teachers. Prerequisite: A grade of "C" or better in MA 112 or higher, or, math ACT score or quantitative SAT score, or Compass Mathematics Placement score or equivalent knowledge as determined by the Mathematics Department.

MA 229 Mathematics for Elementary and Middle School Educators II (3)
The investigation of mathematical concepts and procedures. Topics include Real numbers and operations, data analysis, measurement, introduction to non-Euclidean geometry, and introduction to probability. Significant emphasis is placed on conceptual in-depth understanding of these mathematical topics, connecting those concepts to a range of procedures and mathematics practices, applying the understandings within real world contexts and including appropriate use of technology. Prerequisites: MA 228 with a "C" or better.

MA 230 Mathematical Representations for Secondary Mathematics (4)
Standard and non-standard algorithms of numbers (whole, integer, rational, and irrational) using multiple representations with a focus on linking concepts and procedures. Extend understandings to include ratio, rate, and proportions. Two and three-dimensional Euclidean geometry concepts including principles, shape-hierarchies, cross-sections, transformation, congruence, similarity, constructions, and proof. Extend understandings to formula derivation (perimeter, area, and volume) related to two- and three-dimensional objects. Represent abstract mathematical ideas encountered in grades 6-12 using multiple representations including concrete materials. Prerequisite: A grade of "C" or better in MA 116, or appropriate ACT/SAT quantitative score as determined by the Mathematics Department.

MA 253 Calculus/Analytic Geometry III (3)
A continuation of Mathematics 152. Multivariable calculus, vectors in two and three-dimensional spaces. Graphics calculator required. Prerequisite: A grade of "C" or better in MA 152.

MA 271 Contemporary Actuarial Concepts (1)
Current issues in Actuarial Mathematics with emphasis on the releases of the Society of Actuaries. Includes practical application to solving problems of the type included in the Society of Actuary's Course P. Prerequisite: MA 253.

MA 299 Special Topics in Mathematics (1-6)
Directed study in some area of mathematics at the lower division level.

MA 301 Linear Algebra (3)
An introduction to the fundamental concepts and basic computational techniques of linear algebra. Topics investigated from both a theoretical and computational perspective include systems of linear equations, vector spaces, transformations, matrices, eigenvalues and eigenvectors, and orthogonality. Prerequisite: MA 152.

MA 310 Introduction to Operations Research (3)
A study of the techniques and topics that are the foundation of operations research. Topics will include: linear, integer, and dynamic programming, Queuing theory and project scheduling. Prerequisites: CM 111 or CM 170, and MA 142 or MA 151, and MA 145 or MA 301, or consent of instructor.
MA 316 Teaching Algebra (1)
Pedagogical knowledge needed for teaching algebra. Emphasis on fundamental ideas of algebra including algebraic notation; interpreting the structure of an expression in terms of its context; function families and representations; and patterns of change. Includes co-teaching an algebra-based course. Prerequisites: A grade of "C" or better in MA 230 and in either MA 131 or MA 151.

MA 317 Trigonometry (1)
Pedagogical knowledge needed for teaching trigonometry. Emphasis on fundamental ideas of trigonometry including right triangles, identities, application of periodic phenomena, and trig function families. Includes co-teaching a trigonometry-based course. Prerequisites: A grade of "C" or better in MA 230 and in either: MA 131 or MA 151.

MA 318 Teaching Statistics (1)
Pedagogical knowledge needed for teaching statistics. Emphasis on fundamental ideas of statistics including variability, measures of central tendency, randomness, inference, and multiple representations. Includes co-teaching a statistics-based course. Prerequisites: C or better in MA 140 and in MA 230 and in either MA 131 or MA 151.

MA 320 Mathematics for Middle School Teachers (3)
The investigation of mathematical problems as a means to develop as practitioners of the discipline of mathematics. Problems rely on a wide range of math topics. The primary focus of the course is on developing expertise in doing mathematics. By solving problems, students gain expertise in reasoning, constructing arguments, modeling, using resources, being precise, noticing deep structures of problems & expressing those structures with appropriate mathematical language. Significant emphasis on conceptual understanding of mathematics, connecting concepts to a range of realistic problem situations and appropriate use of technology. Understand and develop mathematical arguments and be able to clearly communicate those arguments using multiple representations. Prerequisite: MA 204 or MA 230 with a grade of "C" or better.

MA 330 Mathematical Models (3)
Mathematical models will be constructed of real situations in biology, economics, social science, or engineering. The mathematical results of these models will be interpreted in the context of the real situation. Models utilizing graph theory are emphasized. Prerequisite: MA 207 or consent of instructor.

MA 331 Differential Equations (3)
Methods for solving ordinary differential equations and systems of ordinary differential equations including Laplace transforms, series, numerical methods with applications. Prerequisite: MA 253 or concurrent.

MA 340 ANOVA/Design of Experiments (3)
An introduction to the design and analysis of experiments, both single and multi-factor. Analysis of variance, both fixed effects and random effects. Topics will include Randomized Complete Block Design, the Latin Square Design, Incomplete Block Designs, Nested Designs, and the Split-Plot Design. Prerequisite: A 'C' or better in MA 140 Statistics.

MA 341 Nonparametric Tests/Quality Control (3)
An introduction to nonparametric statistical procedures including signed-rank tests, sign tests, rank and rank sum tests, along with an introduction to the use of statistical methods for the purpose of quality control, including control charts for variables, control charts for attributes, the analysis of process capability, and acceptance sampling. Prerequisite: A "C" or better in MA 140 Statistics.

MA 342 Statistical Computing (3)
An introduction to the statistical software packages SAS and R that includes basic commands and the structure, as well as data entry and manipulation, creating graphs and plots, simulation, bootstrapping, and introductory level programming. Prerequisite: A "C" or better in MA 140 Statistics.

MA 343 Applied Statistics (3)
Sampling, concepts of experimental design. Tests of significance, point and interval estimation, simple and multiple regression, ANOVA, ANCOVA, non-parametric tests, logistic regression, and quality control. Emphasis on developing statistical thought, not just methodology, and on the use of computing technology. Prerequisite: MA 140 or equivalent, or consent of instructor.

MA 344 Mathematical Statistics I (3)
Probability, random variables and expectation, conditional distributions and stochastic independence, distributions of functions of random variables. Prerequisites: MA 253 or concurrent, and one of MA 340, MA 341 or MA 346.

MA 345 Mathematical Statistics II (3)
An introduction to the theoretical framework of statistical methods including: point and interval estimators, large and small sample theories, hypothesis testing methods, linear statistical models with emphasis on regression and correlation, non-parametric testing methods, brief introduction to Bayesian methods for statistical inference. Prerequisite: MA 344.

MA 346 Regression Analysis (3)
Linear regression and correlation concepts and methods, multiple regression, curvilinear regression, applications including use of statistical software. Prerequisite: MA 140 or MA 343, or consent of course instructor.

MA 347 Stochastic Processes (3)
Generating functions, normal processes and covariance stationary processes, Poisson processes, renewal processes, Markov chains, discrete time processes. Prerequisite: MA 344.

MA 348 Time Series Analysis (3)
Regression models with time series error, autocorrelation function, spectral density, autoregressive and moving average processes, and seasonal time series; applications including use of statistical software. Prerequisites: MA 344 and MA 346.

MA 349 Statistical Topics for Actuarial Science (1)
Emphasis on topics in probability and statistics of special importance to actuarial science students. Prerequisites: MA 343, MA 344 or concurrent.

MA 354 Abstract Algebra (3)
An introduction to abstract algebraic structures and their substructures. Emphasis on groups (including symmetry groups, cyclic groups, and permutation groups), with rings and fields as time allows. Prerequisites: MA 253 and MA 207, or consent of the instructor.
MA 361 Game Design (3)
This course offers students the necessary background to design games on their own, including an introduction to the history of game design in the last 150 years. Students are then guided through an exploration of individual game mechanics which are frequently used in highly successful games. During these explorations the game mechanics are deconstructed to understand their structure using elementary mathematical tools, techniques, and language. While making these connections and observations, students are guided through isolated examples on how to integrate these into a game design. The course culminates with a final project in the form of an original game design of the students’ own making – either analogue (physical) or digital. Prerequisite: A grade of “C” or better in MA 112 or MA 116, or consent of instructor.

MA 367 Modern Geometry (3)
This course will focus on the study of geometry as an axiomatic system. Emphasis will be placed on conjecture, proof and construction utilizing both classical tools as well as appropriate technology. Geometries investigated will include Euclidean, affine, projective, hyperbolic, and elliptical. A variety of approaches (synthetic, analytical and transformation) will be used to investigate the geometries. Prerequisite: MA 151.

MA 371 Introduction to Real Analysis I (3)
Sets and functions, properties of the real number system, sequences, limits of functions and continuity of functions. Prerequisites: MA 253 and MA 207, or consent of the instructor.

MA 372 Introduction to Real Analysis II (3)
Continuity, differentiation, the Riemann integral, sequences of functions, and infinite series. Prerequisite: MA 371.

MA 373 Applied Analysis (3)
The algebra, geometry, and calculus of vectors. Fourier expansions, the Laplace transformation. Oriented toward applications in the physical sciences. Prerequisite: MA 253.

MA 374 Intro to Complex Variables (3)
Theory of analytic functions, infinite series, Taylor and Laurent expansions. Prerequisite: MA 253.

MA 376 Numerical Analysis (3)
Solution of algebraic and transcendental equations, numerical differentiation and integration, numerical methods in differential equations and linear algebra. Oriented toward applications in the physical sciences. Prerequisite: MA 253.

MA 380 Problem Solving Strategies (1)
Weekly problem sets require a wide variety of techniques to achieve solutions to the problems. Problem solutions may feature one or more techniques from calculus, linear algebra, discrete mathematics, statistics, geometry, and other areas. The course is repeatable up to three times. Prerequisite: A grade of "C" or better in MA 152, or consent of the instructor.

MA 381 History and Literature of Mathematics (3)
Chronological development of mathematics, with emphasis on the great mathematicians of yore and periods of mathematical genius and invention. Topics include development of number systems, algebra, calculus, proof, Euclidean and non-Euclidean geometry, graphing technology, and philosophies of mathematics. Readings from extant and translations of mathematical text. Prerequisite: MA 151 or consent of instructor.

MA 384 Theory of Interest (3)
Topics include measure of interest (emphasis on continuous nature), accumulated and present value factors, annuities, yield rates, sinking funds, and bonds and related securities. Prerequisite: MA 152 or concurrent.

MA 385 Actuarial Mathematics (3)
Theory and application of contingency mathematics in the area of life and health insurance, annuities and sections from both the probabilistic and deterministic approaches. Prerequisites: MA 344, MA 384 or consent of instructor.

MA 388 Capstone Research (1)
Students must complete an individual semester project on a topic in the mathematical sciences under the guidance of one or more faculty from the department. The project serves as a culminating experience for Bachelor’s degree students, requiring both a written and an oral component. A minimum of two hours of MA 380 Problem Solving Strategies are required unless permission is granted by the department Chair. Prerequisites: MA 151, MA 152, MA 253, MA 301, a minimum of two hours of MA 380; and, a total of 19 or more hours in mathematics/statistics (MA 151 or above), at least 6 hours of which must have been completed at Washburn University; and, consent of the instructor.

Students must have junior or senior standing to enroll in this course.

MA 390 Seminar (1-3)
Directed study in some advanced area. Prerequisite: Consent of instructor.

MA 400 Internship in Mathematics or Statistics (1-6)
A work experience in the area of mathematics and/or statistics performed in cooperation with a business, industrial, medical or educational institution. The internship study must provide a learning experience in the applications of mathematics or statistics. Prerequisite: Consent of Department Chair.

MA 450 Topics in Mathematics (1-6)
Directed study in some area of mathematics at the graduate level. Prerequisite: Consent of instructor.

Medical Office Specialist (MOS)

MOS 150 Medical Terminology (1)
This course familiarizes students to basic medical terminology and medical abbreviations used in a nursing care setting. The course is a component of and incorporated into the semester long program.

MOS 240 Medical Transcription (4)
This course will acquaint the student with transcription equipment and techniques. The student will transcribe a variety of medical documents and reports typically dictated in physicians’ offices, hospitals, and other settings. Emphasis is placed on accuracy of information within the documents and will require use of medical terminology.

MOS 250 Medical Terminology (5)
Designed to give the student a background in basic medical terminology, this course covers prefixes, suffixes, combining forms, and word roots to compose medical terms. The student learns to spell, pronounce, define, and interpret terminology related to body structure, disease, diagnosis, and treatment.
**Military and Strategic Studies (MS)**

**MS 100 Introduction to Military Studies (3)**
This course explores the use of the armed forces as an instrument of national power. Students will develop an understanding of the doctrinal principles of war, fundamentals of the offense and defense, just war doctrine, rules of engagement, and how nations organize and execute military operations in pursuit of national objectives and vital interests. The course also examines the doctrine of Military Operations Other Than War (MOOTW), focusing on the use of the military during peacetime. Historical case studies and examinations of current events are presented as they relate to the course objectives.

**MS 110 Fundamentals of Military Leadership (3)**
This course is oriented toward the college graduate entering the workforce in any profession. Fundamental leadership principles developed by the United States military and Department of Defense are presented, including leadership traits, principles, styles, values, and disciplinary strategies. Foundation for the course begins with individual self-evaluation, including the Myers-Briggs Type Indicator and other personal tendency tests, and progresses through selected group dynamics exercises, and in-depth case study analyses of historically effective leadership examples. The primary focus of the course causes students to become familiar with individual preferences and personality traits in order to form an effective personal leadership style.

**MS 120 History of The American Military (3)**
Historical presentation of the evolution of the American military from colonial period through the present. A survey of those aspects of organization, training and employment of military forces developed over time—either created in response to particular need or borrowed from other international military examples—and presented as a means of providing foundation for an evolving military legacy.

**MS 210 A Soldier's Story (3)**
A view of warfare from the bottom up, using the individual soldier’s perspective as a means of de-emphasizing national strategy in favor of the social, psychological and emotional impact experienced by those engaged in close armed combat. Individual experiences reported from news accounts, personal diaries, journals, letters, and autobiographies are used as the primary source materials for the course.

**MS 215 America at War (3)**
Exploration of United States participation in the major wars experienced through its history, with special emphasis on the World Wars. Presentation is made on a broad perspective, to include national interests, mobilization of the home front, and the effect of wars on American society, economy and government.

**MS 228 Great Battle Campaigns (3)**
Examines the conduct of war through in-depth analysis of a particular battle or campaign shown to be pivotal to the prosecution of a war. Students are allowed to select the battle/campaign of their choice, with advisement, and proceed with customized research. Prerequisite: Undergraduate-junior standing or permission.

**MS 301 National Security Policy (3)**
Study of the institutions, actors and processes that formulate and execute national security policy in the United States. Traces the historical and contemporary roles of governmental branches, administrative agencies, civilian consultants and contractors, and non-governmental organizations in the development and implementation of policy. Also incorporates the development of intelligence analysis in the formulation of policy, to include the evolution of intelligence assets.

**MS 322 Terrorism (3)**
Course provides an overview of terrorism with emphasis on assisting students to understand foreign and domestic terrorism and counter-terrorism efforts. Prerequisite: None.

**MS 330 International Conflict (3)**
Examination of contemporary international conflict. Issues addressed include the evolution of warfare within and between nation states, the interplay between conflict and international diplomacy, economic interdependence, and foundational conflict theory.

**MS 335 Elite Forces and Special Operations (3)**
This course examines the history, organization, and functioning of modern elite military forces. Analyzes the counter-terrorist forces of the United States and other countries, including the U.S. Army Rangers and Special Forces, Navy Sea-Air-Land (SEALs), Air Force Task Force 160 (Night Stalkers), and Marine Corps Reconnaissance (RECON) units. Also exposes students to foreign elite military forces, to include the British Special Air Service (SAS) and Special Boat Squadron (SBS), French Foreign Legion, Israeli Sayeret (Reconnaissance) units. Uses historical case studies illustrating the use of elite forces in special operations, and follows current special operations in the war on terror.

**MS 336 Hollywood Goes to War (3)**
Examines of the dual role of filmmakers, the cinema, and the motion picture industry to both entertain and inform. Special emphasis placed on how cinematography can shape popular perceptions and attitudes about warfare in general, as well as particular conflicts. Course makes extensive use of film library materials in making thoughtful analysis.

**MS 352 Homeland Security (3)**
This course will provide an introduction and general overview of homeland security in the United States. The course will focus on helping students understand the key elements of homeland security strategies and operational policies. The role and purpose of homeland security strategy will be evaluated in regard to its implementation in a contemporary democratic society. Prerequisite: None.

**MS 360 Independent Study (1-3)**
A research project of extensive reading in aspects of the disciplines or engagement in a field experience. May be carried on in absentia. Students are required to prepare and gain approval of the department chair (Criminal Justice) and the supervising professor of a comprehensive learning contract. Students must complete a project prospective that is approved by supervising professor prior to enrollment. Prerequisite: Consent of the Department Chair.
MS 390  Special Topics (1-3)
Course titles and topics will vary from semester to semester, and will present current trends of interest in the organization, equipment, training, and employment of military forces. May be taken more than once under different topical areas, and may be offered for variable credit depending upon the scope, amount of material, or course length.

MS 400  Strategic Leadership (3)
Analysis and assessment of skills, knowledge, attributes, and competencies of senior and strategic leaders. Examines the characteristics, values and responsibilities of military and civilian professionals. Provides and appreciation of leadership characteristics of historical figures.

MS 420  Combat Journalism (3)
Explores war reporting by the media in both historical and political contexts, and demonstrates the balance between open, fair reporting and the security required for military operations. Also presents the role of news accounts in shaping popular opinion. Prerequisite: Undergraduate-junior standing or permission.

MS 425  Military Justice and The Law of War (3)
Traces the development of modern international rules pertaining to the conduct of war, and presents the various treaties and conventions that govern the conduct of military operations. Course comprises a serious literature review within the context of actual war crime investigations and trials to present the geopolitical consequences of war conduct. Prerequisite: Undergraduate-junior standing or permission.

MS 432  Hitler, WWII, and Holocaust (3)
Course is designed to provide in-depth overview of the rise of National Socialism in Germany and subsequent 13 year Third Reich. A component of the course gives emphasis to WWII, changes in the face of Eastern and Western Europe, and evaluating Hitler as a military leader. Prerequisite: None.

MS 450  Military Intelligence (3)
Comprehensive analysis of military intelligence operations from tactical to strategic. Studies aspects of collection, analysis and dissemination of intelligence information, to include the use of national intelligence assets and strategic planning. Prerequisite: Undergraduate-junior standing or permission.

MS 462  Military Operations/Tactics (3)
Course provides doctrine that frames counterinsurgency within the context of the range of military operations. A major component of the course is dedicated to understanding how commanders synchronize their efforts to achieve end states. Also, overview of Army and Marine Corps military tactics. Prerequisite: None.

MS 470  Insurgency & Guerilla War (3)
Overview of insurgent campaigns and guerrilla warfare throughout history. Emphasis on popular political movements, opposition to recognized and existing governments, and transition of guerilla leadership into legitimate government. Presents topical coverage of significant historical examples of both successes and failures in revolution and revolt. Prerequisite: Undergraduate-junior standing or permission.

MS 475  Directed Readings (1-3)
Students pursuing the minor in Military Studies may enroll in an independent research project if approved by faculty in consultation with the Department Chair. Independent Study courses must meet equivalencies to Federal definition of a credit hour. Prerequisites: 3 hours of MS course work.

MS 480  Military Operations Other Than War (3)
Explores the emerging role of military forces in non-standard missions such as peacekeeping, humanitarian relief, non-combatant evacuation operations, and support to host nation military training. Also examines the relationship between and cooperation with non-governmental agencies and organizations through the use of case studies.

MS 490  Special Topics (1-3)
Topics vary each semester & are announced in advance. May be taken for more than one semester for variable credit.

**Museum and Curatorial Studies (MC)**

MC 200  Introduction to Museum and Curatorial Studies (3)
Museums, collections, and exhibition spaces: why do we have them and what are their functions in society? What sort of institutions fall under the definition of a museum? What does it mean to work in a museum, a gallery, a private collection, or to serve in a curatorial role? This class will explore the history of museums and exhibition spaces and current debates about these institutions, including mission and vision statements, roles and organizational structure, architecture and facilities management, and legal and ethical issues. Lectures, readings, and assignments will encompass interdisciplinary ideas and establish for students the capabilities required of a curatorial professional—from the practical skills needed to operate a museum or gallery to theories on the societal role of museums and other exhibition spaces. Students will learn through lecture, discussion, in-class activities, reading, writing assignments, museum visits, and guest speakers. Prerequisite: None.

MC 400  Capstone in Museum and Curatorial Studies (3)
The Museum and Curatorial Studies Capstone prepares students to successfully plan and complete a project related to their professional interests in Museum and Curatorial Studies. Capstone projects may include an analysis of an issue or topic in areas such as collections, curatorial management, education or administration. Prerequisites: MC 200, AR 313, and at least 12 hours of credit in the Museum and Curatorial Studies minor or permission of the director of the Museum and Curatorial Studies program.

**Music (MU)**

MU 070  Performance Class (0)
Weekly master class-performance/recital course required of all music majors who enroll in private lessons. Prerequisite: Music Major/Concurrent enrollment in private lessons.

MU 070A  Performance Class (0)
Weekly master class-performance/recital course required of all music majors who enroll in private lessons. Prerequisite: Music Major/Concurrent enrollment in private lessons.

MU 070B  Performance Class (0)
Weekly master class-performance/recital course required of all music minors who enroll in private lessons. Prerequisite: Music Minor/Concurrent enrollment in private lessons.

MU 100  Enjoyment of Music (3)
The materials and structure of music, as they relate to perceptive listening and increased listening enjoyment. Frequent use of recordings and lecture recitals places the course on a plane of practical appreciation. Planned primarily for non-music majors. No prerequisite. (General Ed Creative Performing, General Ed Humanities. Critical and Creative Thinking.)
MU 103 Jazz History (3)
The materials and structure of jazz music with an emphasis on listening skills. Includes New Orleans, Chicago, Swing, Bop, Free-form and Fusion styles. Frequent use of recordings and live demonstration and performance. No prerequisite.
(General Ed Creative Performing, General Ed Humanities. Critical and Creative Thinking.)

MU 104 Movies & Music (3)
An exploration of the role of music in motion pictures and the relationship between music and other aspects of the film medium. No prerequisite.
(General Ed Creative Performing, General Ed Humanities. Critical and Creative Thinking.)

MU 106 Introduction to World Music and its History (3)
A survey of music from cultures around the world from musical and anthropological perspectives. *This course has been approved as a multicultural course by the Department of Education. No prerequisite.
(General Ed Creative Performing, General Ed Humanities. Global Citizenship Ethics Div.)

MU 108 History of American Rock & Roll (3)
In this course students will study the origins of American rock and roll music from its early roots to current genres. The focus will be on how the development of rock and roll continues to intersect with the social, economic, and cultural trends of popular culture.
(General Ed Creative Performing, General Ed Humanities. Critical and Creative Thinking.)

MU 109 Piano for Beginners I (2)
Development of basic piano techniques, sight reading, improvisation, transposition, and keyboard harmony. Planned for non-music majors. No prerequisite.

MU 110 Piano for Beginners II (2)
Development of basic piano techniques, sight reading, improvisation, transposition, & keyboard harmony. Planned for non-music majors. Prerequisite: Consent of instructor.

MU 111 Guitar for Beginners (2)
Designed to acquaint the beginner with basic chords and accompanying techniques. No prerequisite.

MU 113 Music and Religion (3)
Music and Religion is an interdisciplinary course that studies the genesis, history, and impact of the marriage between music and organized religion. The course will cover topics including: Ancient Greek Modes, Gregorian chant, Organum, the Canonical Vespers, the Motet, the Mass, the Council of Trent, the Reformation, the Oratorio, the Requiem, Anti-Semitism in 19th Century Europe, the Liturgical Calendar, trance music, modern-day contemporary Christian music, etc. Due to the overwhelming canon of western classical music, the course will primarily examine musical forms of worship throughout the history of the Christian church; however, music and other religions will also be covered. Prerequisite: None.
(General Ed Creative Performing, General Ed Humanities.)

MU 120 Fundamentals of Music Theory (2, 3)
Music fundamentals including basic notation, intervals, scales, rhythm, ear training, writing of simple harmonic material with selected music for harmonic & form analysis.
(General Ed Creative Performing, General Ed Humanities. Communication.)

MU 122 Rhythm Perception-Music Majors (1)
Study of rhythm and meter through the analysis of mathematical constructs, notation practices, counting systems and tapping/clapping exercises. Development of rhythmic perception through rhythmic dictation and singing. Prerequisite: Music Major.

MU 123 Integrating Technology in Music (1)
An introduction to understanding the use of computer music applications and MIDI (Musical Instrument Digital Interface) in music. Will include software applications addressing ear training and music theory, sequencing and music notation. Prerequisite: Music Major.

MU 133 Group Piano I (1)
Development of basic piano techniques, sight reading, keyboard harmony and harmonization skills. Prerequisite for MU 133: Music Major status. Prerequisite for MU 134 is MU 133 or consent of instructor.

MU 134 Group Piano II (1)
Development of basic piano techniques, sight reading, keyboard harmony and harmonization skills. Prerequisite for MU 133: Music Major status. Prerequisite for MU 134 is MU 133 or consent of instructor.

MU 145 Marching Band (0-1)
The Fighting Blues Marching Band is open to all majors and non-majors. The Fighting Blues take great pride in entertaining and thrilling our fans in Yager Stadium with our precision marching and exciting music selections. The band also performs for other events, including bowl games, pep-rallies, alumni, administrative and foundation functions. Audition is not required. No prerequisite.

MU 146 Pep Band (0-1)
The WU Blues Pep Band is a driving force of the game day experience at basketball games. Comprised of students from across campus, and performing a repertoire of over 70 pieces, the WU Blues Pep Band is a high-energy, powerful ensemble that enhances the experience of the students, fans, and athletes. Participation in the WU Blues provides students with both musical and nonmusical benefits, developing musical skills in addition to learning valuable life skills relating to their overall education, including communication, teamwork, responsibility, and a sense of accomplishment. Prerequisites: Students selected, by audition, for Pep Band; participation are required to have successfully completed all Marching Band (MU 145/MU 345) requirements in the Fall semester immediately preceding Pep Band. Audition required.

MU 150 Introduction to Music Education (1)
Supervised school-based field experience designed for potential music teacher education candidates to investigate school music teaching as a profession. A minimum of 20 hours in an assigned school setting is required. Orientation to the Washburn teacher education program is included during university classroom sessions. MU 150 must be taken prior to admission to the Professional Teacher Education Program. Prerequisite: Admission into the Bachelor of Music degree in Music Education or consent of instructor.

MU 200 Special Topics/Music (0-3)
A variable content course treating areas of interest to both music majors and non-music majors. May be repeated for credit. Prerequisite: Consent of Instructor.

MU 204 Vocal Techniques - Instrumental Majors (1)
Study of pedagogical techniques for appropriate vocal development and health for instrumentalists. Prerequisite: Admission to Bachelor of Music - Music Education degree, or admission to Bachelor of Music - Instrumental Performance, or consent of instructor.
MU 205 Woodwind Techniques (1)
A practical study of pedagogy, tone production, embouchure, technique, care, repair, and other aspects of playing and teaching for the flute, clarinet, saxophone, oboe, and bassoon in the public schools. No prerequisite.

MU 206 Improvisation (2)
Introduction to the basic materials utilized in the practice of improvisation. Includes practical application through performance and utilization of major scales and modes, ear training, transcription, and the learning of patterns. Prerequisite: MU 215 or Consent of instructor.

MU 208 Guitar Techniques (1)
A study of tone production, technique, care and maintenance of the guitar. Pedagogical approaches for teaching guitar in school settings include: basic chords, positioning, and musical elements. Prerequisite: None.

MU 210 Brass Techniques (1)
The study of tone production, technique, care and maintenance of brass instruments, with an emphasis focused on teaching methods for public education. Prerequisite: None.

MU 211 String Techniques (1)
The study of tone production, technique, care and maintenance of string instruments, with an emphasis focused on teaching methods for public education. Prerequisite: None.

MU 212 Percussion Techniques (1)
The study of technique, care and maintenance of percussion, with an emphasis focused on teaching methods for public education. Prerequisite: None.

MU 213 Group Piano III (1)
Continuation of Group Piano II. Development of functional skills including transposition, score reading and improvisation. Also includes study of the intermediate level piano literature from various style periods. For music majors. Prerequisite for MU 213: MU 134. Prerequisite for MU 214: MU 213.

MU 214 Group Piano IV (1)
Continuation of Group Piano II. Development of functional skills including transposition, score reading and improvisation. Also includes study of the intermediate level piano literature from various style periods. For music majors. Prerequisite for MU 213: MU 134. Prerequisite for MU 214: MU 213.

MU 215 Theory & Aural Comprehension I (3)
Study of music notation, scales, modes, intervals, rhythm, triads, seventh chords, tonality, figured bass, and Roman numerals. Corequisite: MU 217 and MU 123 or consent of instructor. Prerequisite: music major, music minor, or musical theatre concentration status.

MU 217 Aural Skills I (1)
Development of aural skills through sight singing and melodic, rhythmic, and harmonic dictation. Reinforces fundamental concepts covered in Music Theory I. Corequisite: MU 215 or consent of instructor. Prerequisite: music major, music minor, or musical theatre concentration status.

MU 220 Vocal Diction for Singers (2)
The study of lyric diction for singing in English, Italian, Latin, French and German using the International Phonetic Alphabet. Vocalists enroll in Section A; instrumentalists enroll in Section B. Prerequisite: Music major or consent of instructor.

MU 221 Choral Diction (2)
The study of foreign language diction with an emphasis on appropriate music for public school students and ensembles. Prerequisite: Admission into the Bachelor of Music degree in Music Education or consent of instructor.

MU 226 Wind Ensemble (1)
The Washburn Wind Ensemble is comprised of the finest woodwind, brass, and percussion students at Washburn University. The Wind Ensemble exposes students to the highest quality of music written for wind instruments from the Renaissance to the present. This repertoire, along with visits by renowned artists and educators, gives the students a unique opportunity to experience a wide range of compositional techniques, rehearsal processes, and musical possibilities. Membership in the Wind Ensemble is open to both music and non-music majors, through audition.

MU 237 Choral Lab (0)
The initial experience in secondary music education in the area of choral work. No prerequisite.

MU 238 Instrumental Lab (0)
The initial experience in secondary music education in the area of instrumental works. Prerequisite: None.

MU 239 University Band (1)
The University Band is an ensemble that performs works from the standard literature for wind band. The University Band promotes the musical and intellectual growth of its members through careful selection of appropriate repertoire. Membership in the University Band is open to both music and non-music majors, through audition.

MU 240 Beginning Conducting (1)
Basic beat patterns, baton technique, score reading, philosophy and basic concepts of conducting. No prerequisite.

MU 243 Composition (1-3)
Individual tutoring in music composition with emphasis on the development and expansion of music materials. May be taken as an elective. May be repeated as an elective with consent of instructor. Prerequisite: MU 215 or consent of instructor.

MU 244 Accompanying (0-1)
A laboratory designed to develop proficiency in sight reading and accompanying at the keyboard. Required for keyboard concentrations and keyboard majors.

MU 245 Concert Jazz Ensemble II (0-1)
The Washburn Concert Jazz Ensemble studies and performs works from various styles of jazz literature. The Ensemble promotes musical development and intellectual growth of its members through careful selection of appropriate jazz repertoire. Membership is open to both music and non-music majors through audition.

MU 246 Women's Chorus (0-1)
Open, by audition, to both majors and non-majors. Membership is based upon appropriate vocal range and quality, and not gender. The Women's Chorus focuses on the fundamentals of proper choral singing and a wide range of literature. In addition, the ensemble performs on campus and off campus during the year.

MU 247 Choir, Singers (0-1)
Open, by audition, to both majors and non-majors. The Washburn Singers perform a variety of styles of music from the chamber choir repertoire. In addition to participating in on-campus concerts each year, the ensemble also performs throughout the region for various high school choral programs and civic functions.
MU 248 Choir, Washburn (0-1)
Open, by audition, to both majors and non-majors. The Washburn Choir excels in performing a wide variety of styles of choral music. The choir performs regularly in both on and off-campus concerts, including major works with the Topeka and Kansas City symphonies.

MU 249 Washburn Jazz Orchestra (0-1)
The Washburn University Jazz Orchestra meets for the purpose of exploring various styles of jazz literature from swing to contemporary works of notable arrangers and composers through the instrumentation of the jazz big band. Expectations for the ensemble are of a professional quality with the highest possible standards in performance. Selection and placement is by audition only.

MU 250 Washburn Opera Studio (0-1)
Works from the operatic and musical theatre repertoire are rehearsed and performed workshop style. Practice and performance in solo and ensemble singing and staging in material ranging from modern and contemporary Broadway and off-Broadway musicals and revues to classic opera and operettas. Prerequisite: Consent of instructor.

MU 251 Orchestra (0-1)
Enrollment in Washburn University Orchestra is open to music and non-music majors by audition only. Repertory performed ranges from Baroque through contemporary literature. The ensemble performs at least two concerts each semester including Christmas Vespers in the Fall semester. Class participants may audition to perform solos with the orchestra. Selection and placement is by audition.

MU 252 Orchestra, String (0-1)
Enrollment in Washburn University String Orchestra is open to music and non-music majors by audition only. Repertory performed ranges from Renaissance through contemporary literature. Selection and placement is by audition.

MU 254 Small Ensembles-Lower Division (0-1)
This class offers students a chamber music experience with only one person on a part. Pre-existing chamber groups may enroll, or students will be assigned to various chamber groups based upon current enrollment. Recital performance is required.

MU 255 Bassoon (1-3)
Private Lesson - Bassoon. Private lessons are not for beginners. Only BM Performance majors may enroll for 3 hours. An additional fee is associated with this course. Prerequisite: Non-majors must have consent of instructor. Private lessons are not available for auditors.

MU 256 Cello (1-3)
Private Lesson - Cello. Private lessons are not for beginners. Only BM Performance majors may enroll for 3 hours. An additional fee is associated with this course. Prerequisite: Non-majors must have consent of instructor. Private lessons are not available for auditors.

MU 257 Clarinet (1-3)
Private Lesson - Clarinet. Private lessons are not for beginners. Only BM Performance majors may enroll for 3 hours. An additional fee is associated with this course. Prerequisite: Non-majors must have consent of instructor. Private lessons are not available for auditors.

MU 258 Euphonium (1-3)
Private Lesson - Euphonium. Private lessons are not for beginners. Only BM Performance majors may enroll for 3 hours. An additional fee is associated with this course. Prerequisite: Non-majors must have consent of instructor. Private lessons are not available for auditors.

MU 259 Flute (1-3)
Private Lesson - Flute. Private lessons are not for beginners. Only BM Performance majors may enroll for 3 hours. An additional fee is associated with this course. Prerequisite: Non-majors must have consent of instructor. Private lessons are not available for auditors.

MU 260 Guitar (1-3)
Private Lesson - Guitar. Private lessons are not for beginners. Only BM Performance majors may enroll for 3 hours. An additional fee is associated with this course. Prerequisite: Non-majors must have consent of instructor. Private lessons are not available for auditors.

MU 262 Harpsichord (1-3)
Private Lesson - Harpsichord. Private lessons are not for beginners. Only BM Performance majors may enroll for 3 hours. An additional fee is associated with this course. Prerequisite: Non-majors must have consent of instructor. Private lessons are not available for auditors.

MU 263 Horn (1-3)
Private Lesson - Horn. Private lessons are not for beginners. Only BM Performance majors may enroll for 3 hours. An additional fee is associated with this course. Prerequisite: Non-majors must have consent of instructor. Private lessons are not available for auditors.

MU 264 Oboe (1-3)
Private Lesson - Oboe. Private lessons are not for beginners. Only BM Performance majors may enroll for 3 hours. An additional fee is associated with this course. Prerequisite: Non-majors must have consent of instructor. Private lessons are not available for auditors.

MU 265 Organ (1-3)
Private Lesson - Organ. Private lessons are not for beginners. Only BM Performance majors may enroll for 3 hours. An additional fee is associated with this course. Prerequisite: Non-majors must have consent of instructor. Private lessons are not available for auditors.

MU 266 Percussion (1-3)
Private Lesson - Percussion. Private lessons are not for beginners. Only BM Performance majors may enroll for 3 hours. An additional fee is associated with this course. Prerequisite: Non-majors must have consent of instructor. Private lessons are not available for auditors.

MU 267 Piano (1-3)
Private Lesson - Piano. Private lessons are not for beginners. Only BM Performance majors may enroll for 3 hours. An additional fee is associated with this course. Prerequisite: Non-majors must have consent of instructor. Private lessons are not available for auditors.

MU 268 Saxophone (1-3)
Private Lesson - Saxophone. Private lessons are not for beginners. Only BM Performance majors may enroll for 3 hours. An additional fee is associated with this course. Prerequisite: Non-majors must have consent of instructor. Private lessons are not available for auditors.

MU 269 String Bass (1-3)
Private Lesson - String Bass. Private lessons are not for beginners. Only BM Performance majors may enroll for 3 hours. An additional fee is associated with this course. Prerequisite: Non-majors must have consent of instructor. Private lessons are not available for auditors.

MU 270 Trombone (1-3)
Private Lesson - Trombone. Private lessons are not for beginners. Only BM Performance majors may enroll for 3 hours. An additional fee is associated with this course. Prerequisite: Non-majors must have consent of instructor. Private lessons are not available for auditors.
MU 271 Trumpet (1-3)
Private Lesson - Trumpet. Private lessons are not for beginners. Only BM Performance majors may enroll for 3 hours. An additional fee is associated with this course. Prerequisite: Non-majors must have consent of instructor. Private lessons are not available for auditors.

MU 272 Tuba (1-3)
Private Lesson - Tuba. Private lessons are not for beginners. Only BM Performance majors may enroll for 3 hours. An additional fee is associated with this course. Prerequisite: Non-majors must have consent of instructor. Private lessons are not available for auditors.

MU 273 Viola (1-3)
Private Lesson - Viola. Private lessons are not for beginners. Only BM Performance majors may enroll for 3 hours. An additional fee is associated with this course. Prerequisite: Non-majors must have consent of instructor. Private lessons are not available for auditors.

MU 274 Violin (1-3)
Private Lesson - Violin. Private lessons are not for beginners. Only BM Performance majors may enroll for 3 hours. An additional fee is associated with this course. Prerequisite: Non-majors must have consent of instructor. Private lessons are not available for auditors.

MU 275 Voice (1-3)
Private Lesson - Voice. Private lessons are not for beginners. Only BM Performance majors may enroll for 3 hours. An additional fee is associated with this course. Prerequisite: Non-majors must have consent of instructor. Private lessons are not available for auditors.

MU 276 Applied Jazz Lessons (1-3)
Private Lesson - Applied Jazz. Private lessons are not for beginners. Only BM Performance majors may enroll for 3 hours. An additional fee is associated with this course. Prerequisite: Non-majors must have consent of instructor. Private lessons are not available for auditors.

MU 300 Music, Politics, Soc Comment. (3)
Interdisciplinary study of music as a tool for social and political commentary, propaganda, and protest, focusing primarily on 20th and 21st century genres, cultural movements, and events. Special emphasis is placed on American trends. Prerequisite: None.

(Genral Ed Creative Performing, General Ed Humanities. Global Citizenship Ethics Div.)

MU 305 Business of Music (3)
An overview of the music industry, with specific attention given to career development and opportunities, promotion and marketing techniques, contracts and negotiation, and arts management. Prerequisite: Jr. standing or consent of instructor.

MU 307 Music and the Brain (3)
Study of the biological processes of active and passive music involvement; and the resulting effect on individuals' learning, physical health, and mental well-being. Includes an experimental component. Prerequisite: EN 101 and BI 100.

(Genral Ed Creative Performing, General Ed Humanities. Critical and Creative Thinking.)

MU 311 Aural Skills II (1)
Development of aural skills through sight singing and melodic, rhythmic, and harmonic dictation. Reinforces fundamental concepts covered in Music Theory I and II. Corequisite: MU 314 or consent of instructor. Prerequisites: MU 215 and MU 217 or consent of instructor.

MU 312 Aural Skills III (1)
Development of aural skills through sight singing and melodic, rhythmic, and harmonic dictation. Reinforces fundamental concepts covered in Music Theory II and III. Prerequisites: MU 311 and MU 314. Corequisite: MU 315 or consent of instructor.

MU 313 Foundations of Music Education (2)
This course will examine the history and general principles of aesthetic education, the position of music education in the historical and contemporary frameworks of universal public education, administrative operation of schools and music education programs, curriculum design and implementation, the management of music material, human relations aspects of teaching music, and aspects of the music educator's professional development. Practicum requirement: All students in this course participate in field based teaching experiences in the schools. Prerequisite: Accepted in Professional Education program.

MU 314 Theory & Aural Comprehension II (3)
Study of four-part harmony, harmonic progression, cadences, modulation, non-harmonic tones, phrase and period forms, and baroque and classical style analysis. Corequisite: MU 311 or consent of instructor. Prerequisites: MU 215 and MU 217 or consent of instructor.

MU 315 Theory & Aural Comprehension III (3)
Study of chromatic harmony, larger forms, and other topics related to music before 1900. Corequisite: MU 312 or consent of instructor. Prerequisites: MU 311 and 314 or consent of instructor.

MU 316 Theory IV (3)
Analysis of twentieth century music and various analytical methods, including Schenkerian analysis and Set Theory. Prerequisite: MU 312 and MU 315.

MU 317 Orchestration (2)
Practical arranging of piano, choral and instrumental literature. Scoring for voices, strings, woodwinds, brass and percussion instruments including the study of tone, timbre, ranges, transpositions and the blending of these elements. Prerequisite: MU 314 or consent of instructor.

MU 318 Jazz Arranging (3)
Practical arranging in the jazz idiom ranging from small ensembles to big bands. Includes 2 to 4 part writing with drop 2, drop 2 & 4, & rhythm section consideration. Includes study of transpositions & ranges.

MU 320 Form and Analysis (2)
Musical works from the 17th through 20th centuries are analyzed using a variety of analytical techniques. Students explore standard musical forms, musical structures, and questions of aesthetics. Prerequisite: MU 315. Theory and Aural Comprehension III. Prerequisite: MU 315.

MU 325 Music History I (3)
Survey of musical styles, composers, and forms in Western art music from Greco-Roman antiquity through the Baroque era (approx. 1750). Prerequisite: MU 215 or consent of instructor.

MU 326 Music History II (3)
Survey of musical styles, composers, and forms in Western art music from the Classical era (c. 1750) to the end of the Romantic Era (c. 1900). Prerequisite: MU 315 or consent of instructor.

MU 327 Music History III (2)
Survey of musical styles, composers, and forms in Western art music from c. 1900 through the present. Prerequisite: MU 326 or consent of instructor.
MU 330 Vocal Pedagogy and Literature (2)
Examines the anatomy and physiology of the vocal mechanism and its application for the singer, voice teacher, and music educator. The second half of the semester is devoted to song literature and its application for the solo singer as well as the voice teacher. Prerequisite: Music Major status or consent of instructor.

MU 335 Organ Literature I (1-2)
Study of organ literature from the Renaissance to the present incorporation styles, registration, and instrument of each period. Prerequisite: Music Major status or consent of instructor.

MU 336 Organ Pedagogy (1)
Study of various organ method books and relevant literature for use in teaching, plus knowledge of styles, registration, and organs of each musical period. Prerequisite: Music Major status or consent of instructor.

MU 337 Piano Literature I (2)
Keyboard music from the Elizabethan virginal school to the present time, designed primarily for piano majors and prospective piano teachers. Prerequisite: Music Major status or consent of instructor.

MU 338 Piano Literature II (2)
Keyboard music from the Elizabethan virginal school to the present time, designed primarily for piano majors and prospective piano teachers. Prerequisite: Music Major status or consent of instructor.

MU 339 Piano Pedagogy (2)
Examines learning theories, methods and materials for private and group piano teaching at the elementary to intermediate levels, including business and professional aspects of teaching. Prerequisite: Music Major status or consent of instructor.

MU 345 Marching Band (0-1)
The Fighting Blues Marching Band is open to all majors and non-majors. The Fighting Blues take great pride in entertaining and thrilling our fans in Yager Stadium with our precision marching and exciting music selections. The band also performs for other events, including bowl games, pep-rallies, alumni, administrative and foundation functions. Audition is not required. No prerequisite.

MU 400 Special Topics in Music (1-3)
A variable content course treating areas of interest to music majors. May be repeated for credit. Prerequisite: Consent of instructor.

MU 415 Tonal Counterpoint (2)
The study, analysis, and writing of inventions, canons and fugues in 18th-century style, using works of J.S. Bach as a model. Prerequisite: MU 316.

MU 417 Elementary/Secondary Music Education Vocal Methods (3)
This course will examine materials and specific instructional methods of teaching vocal music K-12, by a concept and skill-building approach, and emphasize the organization and development of vocal performing groups for grades 7-12. Practicum requirement: All students in this course participate in field-based teaching experiences in the schools. Prerequisite: MU 313 or consent of instructor.

MU 418 Elementary/Secondary Music Education Instrumental Methods (3)
This course will examine materials and specific instructional methods of teaching elementary and secondary instrumental music, by a concept and skill building approach, and emphasize the organization and development of instrumental performing groups. Practicum requirement: All students in this course participate in field-based teaching experiences in the schools. Prerequisite: MU 313 or consent of instructor.

MU 420 Jazz Band Pedagogy (1)
This course will examine the various jazz styles, rehearsal techniques, and improvisation in jazz band. Prerequisite: Pass Fourth Semester Jury or consent of instructor.

MU 421 Marching Band Pedagogy (1)
This course will examine the various marching band styles, marching fundamentals, rehearsal techniques, show design principles and other facets of organization for teaching High School Marching Band. Prerequisite: MU 245/MU 445 Marching Band.

MU 426 Wind Ensemble (1)
The Washburn Wind Ensemble is comprised of the finest woodwind, brass, and percussion students at Washburn University. The Wind Ensemble exposes students to the highest quality of music written for wind instruments from the Renaissance to the present. This repertoire, along with visits by renowned artists and educators, give the students a unique opportunity to experience a wide range of compositional techniques, rehearsal processes, and musical possibilities. Membership in the Wind Ensemble is open to both music and non-music majors, through audition.

MU 439 University Band (1)
The University Band is an ensemble that performs works from the standard literature for wind band. The University Band promotes the musical and intellectual growth of its members through careful selection of appropriate repertoire. Membership in the University Band is open to both music and non-music majors, through audition.

MU 441 Advanced Choral Conducting (1)
A practical opportunity to direct, under supervision, voices under conditions approximating the rehearsal situation. Prerequisite: MU 237 and 240 or consent of instructor.

MU 442 Advanced Instrumental Conducting (1)
A practical opportunity to direct, under supervision, strings and woodwind instruments under conditions approximating the rehearsal situation. Prerequisite: MU 238 and 240 or consent of instructor.

MU 443 Composition (1-3)
Individual tutoring in music composition with emphasis on the development and expansion of music materials. May be taken as an elective. May be repeated as an elective with consent of instructor. Prerequisite: MU 316 or consent of instructor.

MU 444 Accompanying (0-2)
A laboratory designed to develop proficiency in sight reading and accompanying at the keyboard. Required for keyboard concentrations and keyboard majors.

MU 445 Concert Jazz Ensemble (0-1)
The Washburn Concert Jazz Ensemble studies and performs works from various styles of jazz literature. The Ensemble promotes musical development and intellectual growth of its members through careful selection of appropriate jazz repertoire. Membership is open to both music and non-music majors through audition.

MU 446 Women's Chorus (0-1)
Open, by audition, to both majors and non-majors. Membership is based upon appropriate vocal range and quality, and not gender. The Women's Chorus focuses on the fundamentals of proper choral singing and a wide range of literature. In addition, the ensemble performs on campus and off campus during the year.
MU 447 Choir, Singers (0-1)
Open, by audition, to both majors and non-majors. The Washburn Singers perform a variety of styles of music from the chamber choir repertoire. In addition to participating in on-campus concerts each year, the ensemble also performs throughout the region for various high school choral programs and civic functions.

MU 448 Choir, Washburn (0-1)
Open, by audition, to both majors and non-majors. The Washburn Choir excels in performing a wide variety of styles of choral music. The choir performs regularly in both on and off-campus concerts, including major works with the Topeka and Kansas City symphonies.

MU 449 Washburn Jazz Orchestra (0-1)
The Washburn University Jazz Orchestra meets for the purpose of exploring various styles of jazz literature from swing to contemporary works of notable arrangers and composers through the instrumentation of the jazz big band. Expectations for the ensemble are of a professional quality with the highest possible standards in performance. Selection and placement is by audition only.

MU 450 Washburn Opera Studio (0-3)
Works from the operatic and musical theatre repertoire are rehearsed and performed workshop style. Practice and performance in solo and ensemble singing and staging in material ranging from modern and contemporary Broadway and off-Broadway musicals and revues to classic opera and operettas. Prerequisite: Consent of instructor.

MU 451 Orchestra (0-1)
Enrollment in Washburn University Orchestra is open to music and non-music majors by audition only. Repertory performed ranges from Baroque through contemporary literature. The ensemble performs at least two concerts each semester including Christmas Vespers in the Fall semester. Class participants may audition to perform solos with the orchestra. Selection and placement is by audition.

MU 452 Orchestra, String (0-1)
Enrollment in Washburn University String Orchestra is open to music and non-music majors by audition only. Repertory performed ranges from Renaissance through contemporary literature. Selection and placement is by audition.

MU 454 Small Ensembles-Upper Division (0-1)
This class offers students a chamber music experience with only one person on a part. Pre-existing chamber groups may enroll, or students will be assigned to various chamber groups based upon current enrollment. Recital performance is required.

MU 455 Bassoon (1-3)
Private Lesson - Bassoon. An additional fee is associated with this course. Prerequisite: BM students must pass “4th semester Jury.” BA students must pass “Double Jury.”

MU 456 Cello (1-3)
Private Lesson - Cello. An additional fee is associated with this course. Prerequisite: BM students must pass “4th semester Jury.” BA students must pass “Double Jury.”

MU 457 Clarinet (1-3)
Private Lesson - Clarinet. An additional fee is associated with this course. Prerequisite: BM students must pass “4th semester Jury.” BA students must pass “Double Jury.”

MU 458 Euphonium (1-3)
Private Lesson - Euphonium. An additional fee is associated with this course. Prerequisite: BM students must pass “4th semester Jury.” BA students must pass “Double Jury.”

MU 459 Flute (1-3)
Private Lesson - Flute. An additional fee is associated with this course. Prerequisite: BM students must pass “4th semester Jury.” BA students must pass “Double Jury.”

MU 460 Guitar (1-3)
Private Lesson - Guitar. An additional fee is associated with this course. Prerequisite: BM students must pass “4th semester Jury.” BA students must pass “Double Jury.”

MU 462 Harpsichord (1-3)
Private Lesson - Harpsichord. An additional fee is associated with this course. Prerequisite: BM students must pass “4th semester Jury.” BA students must pass “Double Jury.”

MU 463 Horn (1-3)
Private Lesson - Horn. An additional fee is associated with this course. Prerequisite: BM students must pass “4th semester Jury.” BA students must pass “Double Jury.”

MU 464 Oboe (1-3)
Private Lesson - Oboe. An additional fee is associated with this course. Prerequisite: BM students must pass “4th semester Jury.” BA students must pass “Double Jury.”

MU 465 Organ (1-3)
Private Lesson - Organ. An additional fee is associated with this course. Prerequisite: BM students must pass “4th semester Jury.” BA students must pass “Double Jury.”

MU 466 Percussion (1-3)
Private Lesson - Percussion. An additional fee is associated with this course. Prerequisite: BM students must pass “4th semester Jury.” BA students must pass “Double Jury.”

MU 467 Piano (1-3)
Private Lesson - Piano. An additional fee is associated with this course. Prerequisite: BM students must pass “4th semester Jury.” BA students must pass “Double Jury.”

MU 468 Saxophone (1-3)
Private Lesson - Saxophone. An additional fee is associated with this course. Prerequisite: BM students must pass “4th semester Jury.” BA students must pass “Double Jury.”

MU 469 String Bass (1-3)
Private Lesson - String Bass. An additional fee is associated with this course. Prerequisite: BM students must pass “4th semester Jury.” BA students must pass “Double Jury.”

MU 470 Trombone (1-3)
Private Lesson - Trombone. An additional fee is associated with this course. Prerequisite: BM students must pass “4th semester Jury.” BA students must pass “Double Jury.”

MU 471 Trumpet (1-3)
Private Lesson - Trumpet. An additional fee is associated with this course. Prerequisite: BM students must pass “4th semester Jury.” BA students must pass “Double Jury.”

MU 472 Tuba (1-3)
Private Lesson - Tuba. An additional fee is associated with this course. Prerequisite: BM students must pass “4th semester Jury.” BA students must pass “Double Jury.”

MU 473 Viola (1-3)
Private Lesson - Viola. An additional fee is associated with this course. Prerequisite: BM students must pass “4th semester Jury.” BA students must pass “Double Jury.”
MU 474 Violin (1-3)
Private Lesson - Violin. An additional fee is associated with this course. Prerequisite: BM students must pass “4th semester Jury.” BA students must pass “Double Jury.”

MU 475 Voice (1-3)
Private Lesson - Voice. An additional fee is associated with this course. Prerequisite: BM students must pass “4th semester Jury.” BA students must pass “Double Jury.”

MU 476 Applied Jazz Lessons (1-3)
Private Lesson - Applied Jazz. An additional fee is associated with this course. Prerequisite: BM students must pass “4th semester Jury.” BA students must pass “Double Jury.”

Nursing (NU)

NU 102 Medical Terminology (1)
Introduction to basic terminology used in medical reports and treatment recommendations. Word compositions, prefixes, suffixes, and roots of medical terms are studied in relation to body systems. Extensive use of audiovisual media.

NU 103 Power Up: Success Online Learning (1)
Focuses on preparing students for success in the online learning environment. Designed to introduce students to the Washburn University learning management system and procedures for navigating, available support services, time management skills, strategies for learning online, netiquette, and self-assessment of learning styles. Students validate computer literacy and confirm they have the proper technology to work within online courses. Prerequisite: Admission to RN to BSN Program.

NU 220 Principles of Nutrition (3)
Principles of normal nutrition with emphasis on nutrient interrelationships, dietary assessment, and nutritional needs through the life cycle. Prerequisite: BI 100/BI 101.

NU 301 Applied Pharmacology for RNs (2)
Builds on previously learned knowledge of anatomy, physiology, chemistry, and genetics and introduces concepts of pharmacologic therapy for collaborative nursing practice. Selected medication categories are studied with emphasis on nursing responsibility, accountability, and safety. Case study-based critical thinking exercises focus learning on lifespan issues, patient assessment, and therapeutic response. Prerequisite: Admission to RN to BSN Program.

NU 302 Nursing for Military Healthcare Personnel (2)
This course content covers the assessment and nursing skills that supplements the content from the 68W or equivalent medic training. Students will learn additional assessment and nursing skills to enhance role development as a professional nurse. This is important information that will develop the knowledge, skills, and attitudes to provide holistic nursing care across the lifespan. Prerequisite: Admission to the Nursing program and approved military training (68W or equivalent).

NU 306 Health Assessment & Promotion (4)
Focuses on the complete health assessment, the nursing process, and its relationship to the prevention and early detection of disease in patients across the life span. Introduces processes of health assessment: interviewing, history-taking, and physical assessment. Dominant models, theories and perspectives are used to explain health behavior and considered in relation to evidence-based health promotion and health education strategies. Students are expected to identify and apply pathophysiological principles to selected health issues across the lifespan. Incorporated throughout the course is the importance of communication and collaboration across culturally diverse urban populations. Prerequisite: Admission to the nursing major.

NU 311 Fundamentals Nursing Practice/Practicum (6)
Provides students with the evidence-based theory, rationale and procedure for performing the skills needed for entry level nursing practice. Familiarizes the learner with the problem-solving process, basic communication, collaborative interaction, the teaching-learning process, and critical thinking. Emphasizes cultural influence on health care, the impact of local and global health policies and issues on the quality and safety in nursing practice, and health promotion and prevention of disease. Introduces the student to nursing as a professional discipline. Prerequisite: Admission to the nursing major.

NU 317 Applied Health Assessment for RNs I (2)
Focuses on comprehensive health assessment skills for the professional registered nurse. Expands on health assessment knowledge with an emphasis on health history, critical thinking, clinical reasoning, and advanced physical assessment techniques. Health assessment principles and techniques are expected to be identified and applied to health issues across the lifespan. Incorporated throughout the course is the importance of communication and collaboration across culturally diverse populations and developmental dimensions. Students are expected to identify and apply pathophysiological principles to selected health issues across the lifespan. This fully online course includes virtual simulation experiences. Prerequisite: Admission to RN to BSN Program.

NU 318 Professional Transformation (1)
Introduction to professional nursing expectations. Learning to establish therapeutic relationships is the foundation of professional nursing practice and requires personal accountability and a commitment to lifelong learning. An emphasis is placed on legal issues and the principles of altruism, caring, ethics, communication. The value of self-care and reflection in relation to professional transformation is explored. Prerequisite: Admission to the nursing program.

NU 319 Applied Health Assessment for RNs II (2)
Focuses on the continuation of comprehensive health assessment skills for the professional registered nurse. Expand existing skills and knowledge processes of health assessment to include history taking, physical assessment, and application of clinical reasoning and critical thinking. Emphasis is placed on health promotion and disease prevention across the lifespan. Students are expected to identify and apply pathophysiological principles to selected health issues across the lifespan. Students also synthesize nursing knowledge and physical assessment skills to complete comprehensive health assessments on complex patient scenarios. This fully online course includes virtual simulation experiences. Prerequisite: NU 317 and Admission to RN to BSN Program.
NU 320 Pathophysiology I (3)
Introduces the student to pathophysiologic concepts related to the functional and structural changes that accompany disease processes. Focuses on general mechanisms of disease and the application of the basic concepts to body systems and selected disease processes. Prerequisite: Admission to nursing major or permission of instructor.

NU 321 Professional Transformation (1)
Introduces professional nursing expectations. Students learn to establish therapeutic relationships as the foundation of professional nursing practice and personal accountability. The communication of theory of TEAMSTEPPS is incorporated throughout the course. The value of self-care and reflection in relation to professional transformation is also explored. Prerequisite: Admission to RN to BSN Program.

NU 322 Pharmacology I with Lab (2)
This introductory course builds on students' knowledge of anatomy, physiology, biology, chemistry, and genetics. Emphasis is placed on principles of pharmacokinetics, pharmacodynamics, and pharmacogenetics for major drug classes. Evidence-based guidelines and technologies related to safe medication administration to minimize the risk of harm and maximize benefit for patients are applied and evaluated in the lab portion of the course. The psychomotor skills for medication administration are practiced and evaluated for competency in this course. This includes mastery of drug dosage calculations. Prerequisite: Admission to nursing major or consent of instructor.

NU 323 Applied Pathophysiology for RNs I (2)
Designed for the professional registered nurse building on current knowledge and experience. Focuses on mechanisms of disease and recognition of the importance of clinical management across the lifespan. Students analyze risk factors and clinical manifestation associated with pathophysiological changes. Emphasis is placed on interpretation and prioritization of data. Prepares the professional nurse to critically approach complex situations systematically. Prerequisite: Admission to RN to BSN Program and NU 317 (can be taken concurrently).

NU 324 Pathophysiology II (2)
Focuses on the application of basic pathophysiology concepts to body systems and disease processes. The course builds on previous principles from NU 320 Pathophysiology I. Etiology of disease, prevention, manifestations, laboratory and diagnostic tests are discussed to provide a foundation to understand an individual's illness experience. Prerequisite: NU 320 or consent of instructor.

NU 325 Intro to Nursing Informatics (2)
Provides a systematic application of information and computer technology to related nursing practice. Emphasis is on integrating nursing practice systems and informatics technology. Examination of the evolution, future, and role of nursing informatics is discussed. Prerequisite: NU 311 or consent of instructor.

NU 326 Pharmacology II (2)
Builds on students' knowledge, skills, and professional attitudes acquired in pathophysiology I, pharmacology I, health assessment, and nursing fundamentals. Emphasis is placed on pharmacotherapeutics of agents used in the prevention, promotion, maintenance, and restoration of health in diverse individuals across the lifespan. Nursing implications and priority patient/family education relative to the utilization of drug therapy are examined. Prerequisite: NU 322 or consent of instructor.

NU 327 Applied Pathophysiology for RNs II (2)
 Designed for the professional registered nurse and builds on current knowledge, experience, and Applied Pathophysiology I. Presents the pathophysiology of common variations according to body systems. Students analyze risk factor and clinical manifestations associated with pathophysiological changes. Emphasis continues to be placed on interpretation and prioritization of data, as well as on disease prevention and health promotion. Prerequisite: Admission to RN to BSN Program, NU 323, and NU 319 (can be taken concurrently).

NU 328 Evidence-Based Nursing (2)
Emphasizes appraisal of research studies as the foundation for evidence-based nursing practice. Prerequisites: MA 140 or equivalent and NU 311.

NU 329 Introduction to Nursing Informatics (2)
Provides a systematic application of information and computer technology to related nursing practice. Emphasis is on integrating nursing practice systems and information technology. Examination of the evolution, future, and role of nursing informatics is discussed. Prerequisite: Admission to RN to BSN Program.

NU 330 Indep Study - Nursing (1-3)
Advanced study and/or guided learning experiences in a selected area of nursing. Student defines objectives and learning experiences and selects faculty preceptor. Prerequisite: Consent.

NU 333 Stress Management for Nurses (2)
Discussion of stress theory and the effects stress has on the nurse, professionally and personally. Introduction and application of a variety of stress reduction interventions will be incorporated into each class. Prerequisite: NU 311.

NU 334 Interpreting Lab Tests and Diagnostic Modalities (2)
Interpretation of results of laboratory tests and diagnostic procedures with implications for nursing care of clients. Exploration of new technology used in diagnostic modalities. Prerequisite: NU 311.

NU 335 Special Topics/Nursing (0-3)
Selected subjects of relevance for nursing, announced in advance. Prerequisite: Consent.

NU 336 Nursing for Pain Management (2)
Application of nursing theoretical concepts in the care of clients with pain and comfort needs. Exploration of the nature of the pain experience, theories of pain transmission, types of pain and nursing interventions in the management of pain. Upper division nursing course designed to supplement basic knowledge in the care of patients with pain. Prerequisite: NU 311.

NU 341 Evidence-Based Nursing (2)
Emphasizes appraisal of research studies as the foundation for evidence-based nursing practice. Prerequisite: Admission to RN to BSN Program.

NU 347 Curricular Practical Training (1)
Provides international students the opportunity to gain experience in a USA-based health care system. Emphasis is on an immersion experience to better understand the nursing role within the US health care system. Practicum is a precepted experiences. Prerequisites: 1) Acceptance into the undergraduate nursing program, 2) International student must have a student visa, 3) completion of two required Curricular Practical Training (CPT) forms through the Washburn Office of International Programs, 4) receipt of the CPT authorization on the I-20 document, and 5) approval of the chairperson of the School of Nursing International Studies Committee.
NU 356 Maternal/Women/Newborn Nursing (3)
The study of human life process from conception through the newborn period. Basic theory and concepts related to the maternity cycle, care of the newborn, and nursing care of the mother are emphasized. General knowledge of women's health is introduced. Hospital and community-based learning experiences are provided with individual families during the childbearing phase of the life process. Students utilize application of the nursing process with emphasis on family teaching and health promotion. Prerequisites: All Level 1 and Level 2 courses.

NU 386 Nursing of Older Adults (6)
Designed to build upon learning in previous nursing courses with an emphasis on the aging phase of the life process. Assimilation of intellectual, interpersonal, and technological skills is stressed in caring for adults in varying stages of health in a variety of settings. Practicum experiences emphasize the life process of adulthood and aging. Integration of nursing science into the problem-solving process and extension of intellectual, interpersonal, and clinical skills in the nursing care of older adults, in varying stages of health, in the acute care setting. Prerequisites: All Level 1 courses.

NU 441 Adult Medical-Surgical Nursing Integrative Seminar (1)
Provides uniform mastery and reflective learning experiences to promote the integration of quality health care concepts into nursing practice. Emphasis is placed on holistic, patient-centered, safe, effective, timely, efficient, and equitable health care for patients and families experiencing health crises in a simulated environment. Prerequisites: All Level 1 and Level 2 courses and health clearance.

NU 448 Psychiatric Mental Health Nursing (3)
Basic theories and concepts related to psychiatric care of children, adolescents, adults, and older adults are presented. Emphasis on psychopharmacological and nursing management establishes the basis for mental health care and provides knowledge necessary for a beginning practitioner. Practicum experiences provide opportunities for application of theories and concepts related to the care of psychiatric clients. Emphasis on knowledge of psychopharmacological and nursing management as well as advanced communication skills provide the basis of the clinical experiences in psychiatric nursing necessary for the preparation as a beginning practitioner. Prerequisites: All Level 1 courses.

NU 450 Leadership, Management, Health Policy (2)
Leadership skills emphasize ethical and critical decision-making, initiating and maintaining effective working relationships, communication and collaboration within interprofessional healthcare teams, care coordination, delegation, and development of conflict resolution strategies. Provides a basic overview of complex systems and the impact of power, politics, policy, and regulatory guidelines to these systems. Prerequisites: All Level 1 courses or consent.

NU 451 Leadership, Mgmt, Hlth Policy (2)
Focuses on leadership skills that emphasize ethical and critical decision-making, initiating and maintaining effective working relationships, communication and collaboration within interprofessional healthcare teams, care coordination, delegation, and developing conflict resolution strategies. Students obtain a basic understanding of complex systems and the impact of power, politics, policy, and regulatory guidelines on these systems. Prerequisite: Admission to RN to BSN Program.

NU 456 Adult Medical-Surgical (7)
Theory and concepts related to evidence-based nursing care of adult individuals, families, and groups with varying health-illness needs in a variety of settings. Emphasis is placed on integrating knowledge obtained from natural and social sciences, health assessment, pathophysiology, pharmacology and therapeutic nursing interventions to provide holistic health care with an emphasis on evidence-based, quality, and safe nursing care for baccalaureate generalist. Practicum builds on skills and practice in previous and current courses. Students provide, delegate, and manage care of individual patients and their families in complex health care settings. Students apply evidence, clinical judgment, interprofessional perspectives, and patient preferences in the development and implementation of individual health solutions for patients. Prerequisites: All Level 1 and Level 2 courses.

NU 462 Quality and Safety in Healthcare (3)
System leadership, quality improvement, and safety concepts are presented to promote high quality nursing practice in healthcare settings. Emphasis is placed on the application of evidence-based knowledge from the contemporary sciences and communication with interprofessional healthcare (IHCT) members. Prerequisites: All Level 1, 2 and 3 courses or consent.

NU 463 Quality and Safety in Healthcare (2)
System leadership, quality improvement, and safety concepts are presented to promote high quality nursing practice in healthcare settings. Emphasis is placed on the application of evidence-based knowledge from the contemporary sciences and communication with interprofessional healthcare team members. Prerequisite: Admission to RN to BSN Program.

NU 465 Clinical Prevention and Population Health (3)
Uses the ecological model to explore the determinants of health of aggregates, communities, and populations. Emphasizes public health science and epidemiology principles to guide students in the identification of the social, cultural, environmental and legislative issues within complex community systems. In practicum settings students examine clinical prevention and health promotion strategies for effectiveness, efficiency and equity, and work collaboratively with other health care professionals to identify resources and strategies that contribute to the populations' overall health status. Prerequisites: All Level 1, 2, and 3 courses.

NU 467 Clinical Prevention and Population Health Management/Practicum (4)
In this population-focused course, students use the ecological model to explore the determinants of health of aggregates, communities, and populations. Emphasizes public health science and epidemiology principles to guide students in the identification of the social, cultural, environmental, and legislative issues within complex community systems. During the practicum, students examine clinical prevention and health promotion strategies for effectiveness, efficiency and equity, and work collaboratively with other health care professionals to identify resources and strategies that contribute to the population's overall health status. Prerequisite: Admission to RN to BSN Program.
NU 468 Pediatric Medical-Surgical Nursing (3)
Designed to focus on basic theory and concepts related to adults, children, and their families in varying stages of health (and in specialty settings). Emphasis is placed on understanding situational crises of illness with adults, children, and families in complex care environments. The practicum is designed to allow students to apply principles of leadership, integrate best evidence in practice, and integrate knowledge, skills, and attitudes in caring for adults, children, and their families in varying stages of health in specialty settings. Prerequisites: All Level 1, 2 and 3 courses.

NU 494 Capstone/Seminar (5)
In this final upper-division nursing practicum students integrate all previous theoretical and clinical learning. The focus is on consolidation of clinical and leadership skills and practice coordination and delegation of care. In seminar groups students process clinical experiences; focus on ethical, leadership, management, and practice issues; and prepare for the NCLEX-RN examination. Prerequisites: All Level 1, 2, and 3 courses; Co-requisites: NU 462, NU 465, and NU 468.

NU 495 Leadership Capstone Seminar/Practicum (4)
Students integrate all previous theoretical and clinical learning in a role not experienced within their current jobs. Clinical experience consolidates leadership skills allowing students to practice coordination and delegation of care. Seminars assist students to process the clinical experience and focus on ethical, leadership, management, and practice issues. Prerequisite: Admission to RN to BSN Program.

NU 580 Nursing Externship (1)
Provides international students the opportunity to gain experience in a USA based health care facility. Emphasis is on an immersion experience to better understand the US healthcare system. The immersion experience may provide the student an opportunity to be reimbursed by the facility, practice the English language, and become familiar with US culture and health care customs. Prerequisites: International students with an F-1 student visa only. Accepted into the graduate nursing program with a current RN license in Kansas.

NU 691 Advanced Practice Psychiatric Mental Health Nursing I Practicum (2)
Direct practice experiences with individuals, families, and groups provide opportunities for application of assessment, diagnosis, and psychotherapeutic skills in working with individuals experiencing short-term and commonly occurring psychiatric illnesses. Prerequisites: Admission to Post-Master's Psychiatric Mental Health Nurse Practitioner Program, NU 681, NU 683, concurrent with NU 690.

NU 777 Continuous Enrollment (1)
This course is to allow students additional time to complete graduate practice inquiry DNP project requirements. Prerequisite: Instructor permission.

NU 801 Theoretical Foundations (2)
Emphasis is placed on the philosophical, conceptual, and theoretical foundations of nursing practice. Students are introduced to the language of theory as it has developed over time and the patterns of knowing that have influenced the development of nursing theory. Selected theories and conceptual models are explored and related to contemporary nursing practice. Prerequisite: Admission to DNP program.

NU 802 Population Health (3)
Explores population health principles, concepts and procedures used in the surveillance and investigation of health-related states or events. Emphasis is placed on the concepts and methods of population health through the use of epidemiologic investigation, appropriate summaries and displays of data, and the use of statistical approaches to describe the health of populations. Aggregate data from a variety of sources will be used to demonstrate the use of epidemiologic investigation to support and apply evidence-based practice to current population health concerns. The role of the advanced practice nurse in prevention of disease and injury will be a focus of this course. A basic understanding of the practices of community health and biostatistics is recommended. Prerequisite: Admission to DNP program.

NU 803 Doctoral Leadership - Transformation of Self (1)
Explores the role of doctoral nurse graduates as health care leaders. Students development awareness of self as leader and identify and build upon leadership strengths. Using knowledge of complex systems and leadership theory, students develop strategies and skills to improve patient and population-based health outcomes. Prerequisites: Admission to DNP Program.

NU 804 Emerging Concepts Informatics (2)
Gives the advanced practice nurse the necessary computing skills to critically assess, plan, intervene, and evaluate health care delivery. Discussion topics will include how the advanced practice nurse gathers, stores, retrieves, and utilizes data. Content on utilization of the computer to search for information and data will be included. Prerequisite: Admission to DNP program.

NU 805 Health Policy (2)
Focuses on dynamics of healthcare policy and its influence on complex health care systems and delivery of care. Prepares students to design, implement and influence health care policy formation and to develop skill in competent political action. Prerequisite: Admission to DNP Program.

NU 807 Clinical Scholarship for Evidence-Based Practice (3)
Focuses on the principles and steps of evidence-based practice (EBP), addresses how to apply evidence to practice and how to evaluate the outcomes of an intervention, and addresses practical strategies for the creation of a culture of EBP. Prerequisites: Admission to DNP and successful completion of approved graduate statistics course.

NU 812 Innovations in Quality Care (2)
Emphasis is placed on quality improvement (QI) methods, tools, and strategies from the science of improvement and the science of safety. Students examine phases and steps of QI and tools for data analysis and display. They also examine strategies for improving teamwork, improving communication, preventing errors, and leading QI projects with an emphasis on ambulatory care settings. Prerequisite: Admission to DNP Program.

NU 813 Advanced Psychiatric Mental Health Roles (2)
Designed to familiarize students with the roles and scope of practice of the advanced practice psychiatric mental health nurse practitioner (PMHNP), including those of psychotherapist and psychopharmacologist. Developing roles in emerging delivery of care systems also will be explored. Integration of established scope and standards of advanced psychiatric mental health nurses into practice are examined. Prerequisite: Admission to Post-Graduate Psychiatric Mental Health Nurse Practitioner Program or consent of instructor.

NU 819 Selected Topics of Sub-Relevance for Nursing (1-3)
Selected subjects of relevance for graduate students, announced in advance. Prerequisite: Admission to DNP Program and consent of instructor.
NU 820 Advanced Pathophysiology (3)
Focuses on application of basic pathophysiologic concepts to situations found in ambulatory care with clients across the life-span. Emphasis is given to analysis of presenting manifestations with the intent to determine cause. Provides a foundation for clinical decision-making in terms of diagnostic findings and the initiation of therapeutic regimes. Application situations will be age specific and clinical diagnosis and management must be made accordingly. Prerequisite: Admission to the DNP program or consent.

NU 821 Advanced Pathophysiology Family (1)
Pathophysiology related to children and infants for students in the family nurse practitioner track. Content includes conditions and diseases specific to pregnancy, post-partum, infancy and childhood. Application of principles from advanced pathophysiology course to age-appropriate case studies. Clinical diagnosis and management focuses on birth to eighteen years of age. Course may be taken concurrent with NU 820.

NU 822 Advanced Pharmacology (3)
Emphasizes application of selected drug therapies to meet the needs of adults and children (birth to age 18) from diverse cultural groups. Basic concepts of qualitative and quantitative drug actions within the body are examined. Use of protocols, prescription writing and ethical, legal and economic issues surrounding the advanced nurses’ role in prescribing, monitoring pharmacotherapies is addressed. Patient education and adherence are addressed. Application is made through age appropriate case studies. Prerequisite: NU 820 or consent.

NU 823 Advanced Pharmacology Pediatric (1)
Application of selected drug therapies to meet the needs of children from birth to age 18. Basic concepts of qualitative and quantitative drug actions within the body are examined. Use of standards of practice, prescription writing and ethical, legal and economic issues surrounding the advanced nurses’ role in prescribing and monitoring pharmacotherapies, patient education and adherence are addressed. Application is made through age appropriate case studies. Prerequisite: NU 822 or concurrent.

NU 824 Advanced Health Assessment/Differential Diagnosis (4)
Emphasizes the knowledge and skills necessary for advanced health assessment of adults and families in acute care and community settings. Systemic holistic approach to both history taking and physical examination for the purpose of differentiating normal from abnormal assessments to promote health and prevent disease in those settings. Interpretation of diagnostics is emphasized. Prerequisites: Admission to Doctor of Nursing Program, NU 820.

NU 825 Advanced Health Assessment Child/Adolescent (1)
Combines didactic and clinical training to integrate the knowledge and skills necessary for advanced health assessment in the pediatric population. Systemic holistic approach to history taking and physical examination for the purpose of differentiating normal from abnormal assessment appropriate for childhood through adolescence. Prerequisites: Admission to Post Masters Psychiatric Mental Health Nurse Practitioner Program (Post-MSN PMHNP Program) and previous graduate course in advanced health assessment.

NU 826 Advanced Psychiatric Interviewing Differential Diagnosis (2)
Focuses on development of advanced psychiatric interviewing skills for competent assessment of culturally diverse clients across the lifespan and provides the basis for diagnosis of psychiatric disorders. Prerequisite: Admission to Post Masters Psychiatric Mental Health Nurse Practitioner Program or permission of instructor.

NU 828 Advanced Psychopharmacology/Neurobiology (3)
Neurobiological processes are emphasized in the study of advanced psychopharmacological treatment of psychiatric symptoms and disorders. Medication selection, dosage and monitoring in the psychopharmacological treatment of individuals is covered including prescriptive issues associated with ethnicity and age. Prerequisite: Admission to Post Masters Psychiatric Mental Health Nurse Practitioner Program or permission of instructor.

NU 830 Primary Care I (3)
Develops knowledge and skill to provide person- and family-centered care in the primary care setting for culturally diverse people across the lifespan. Wellness and health promotion of individuals and families are emphasized. Simulated management of cardiovascular, respiratory, endocrine, dermatologic and psychological alternatives and patient responses are considered. Prerequisite: Admission to Doctor of Nursing Practice Program, NU 820, NU 822, and NU 824.

NU 832 Primary Care II Practicum (3)
Application of knowledge and skills in caring for diverse patients across the lifespan in primary care and related settings as they experience common acute and chronic health conditions. Utilization of diagnostic reasoning, clinical decision-making, pharmacologic and non-pharmacologic therapeutics, and interdisciplinary collaboration in the provision of person- and family-centered care is emphasized. Primary, secondary, and tertiary levels of prevention are integrated. Emphasis is placed on advanced nursing roles and provision of ethical care. Prerequisite: Admission to the graduate nursing program, NU 820, NU 822, NU 824, NU 900, and concurrent with NU 830.

NU 834 Primary Care II (3)
Builds upon knowledge and skills to provide person- and family-centered care in the primary care setting for culturally diverse people across the lifespan. Wellness and health promotion of individuals and families are emphasized. Simulated management of urinary, renal, reproductive, genomic, immunologic, gastrointestinal, and psychological alterations and patient responses are considered. Prerequisite: Admission to MSN or DNP Program, NU 830, NU 832.

NU 836 Primary Care II Practicum (3)
Application of knowledge and skills in caring for diverse patients across the lifespan in primary care and related settings as they experience more complex acute and chronic health conditions. Builds upon advancing skills in diagnostic reasoning, clinical decision-making, pharmacologic and non-pharmacologic therapeutics, and interdisciplinary collaboration in the provision of person- and family-centered care. Primary, secondary, and tertiary levels of prevention are integrated. Emphasis is placed on the integration of independent practice models, collaboration, and team-based care. Prerequisite: Admission to MSN or DNP program, NU 830, NU 832, and concurrent with NU 834.

NU 838 Primary Care III (3)
Builds upon and advances knowledge and skills to provide person- and family-centered care in the primary care setting for culturally diverse people across the lifespan. Wellness and health promotion of individuals and families are emphasized. Simulated management of neurologic, musculoskeletal, sensory, and psychological alterations and patient responses are considered. Maternal and newborn health topics are discussed. Special topics are introduced to address emerging practice needs. Prerequisite: Admission to MSN or DNP Program, NU 834 and NU 836.
NU 840 Primary Care III Practicum (3)
Application of knowledge and skills in caring for diverse patients across the lifespan in primary care and related settings as they experience complex acute and chronic health conditions. Utilizes advanced skills in diagnostic reasoning, clinical decision-making, pharmacologic and non-pharmacologic therapeutics, and interdisciplinary collaboration in the provision of person- and family-centered care. Special emphasis is placed on patient- and family-centered care of healthy pregnant and post-partum women, newborns, and patients with complex health conditions. Primary, secondary, and tertiary levels of prevention are integrated. Prerequisite: Admission to MSN or DNP Program, NU 834 and NU 836, and concurrent with NU 838.

NU 850 Advanced Practice Psychiatric Nursing I (3)
Theoretical approaches are explored in addressing short-term and less complex illnesses. Evidence-based psychotherapeutic approaches are explored for the treatment of individuals, families, and groups and provide the foundation for clinical management of psychiatric mental health problems that are often time-limited as well as those that commonly occur across the life span. Health promotion and prevention measures are included in therapeutic interventions. Prerequisite: Admission to Post Masters Psychiatric Mental Health Nurse Practitioner Program, NU 824 and NU 828.

NU 852 Advanced Practice Psychiatric Nursing Practicum I (2)
Direct practice experience with individuals, families, and groups provide opportunities for application of assessment, diagnosis, and psychotherapeutic skills in working with individuals experiencing short-term and commonly occurring psychiatric illnesses. Prerequisites: Admission to Post Masters Psychiatric Mental Health Nurse Practitioner Program, NU 826, NU 828, and Concurrent with NU 850.

NU 854 Advanced Practice Psychiatric Mental Health Nursing II (3)
Theoretical approaches are explored in addressing chronic and complex illnesses. Evidence-based psychotherapeutic approaches are explored for the treatment of individuals, families, and groups experiencing complex and chronic mental illnesses and addictions. Differential diagnostic skills and interventional strategies are explored as well as the role of rehabilitation and psycho-educational approaches across the life span. Prerequisites: Admission to Post Masters Psychiatric Mental Health Nurse Practitioner Program, NU 850, NU 852.

NU 856 Advanced Psychiatric Mental Health Nursing II Practicum (3-4)
Provides opportunity for role development of the advanced practice psychiatric nurse in working with individuals, families and groups experiencing complex and chronic mental illnesses and addictions. Prerequisites: Admission to Post Masters Psychiatric Mental Health Nurse Practitioner Program, NU 850, NU 852, Concurrent with NU 854.

NU 858 Advanced Practice Psychiatric Special Focus Practicum (4-5)
In this final precepted practicum, students function in the role of the advanced psychiatric mental health practitioner providing psychopharmacological and psychotherapy interventions. This practicum provides opportunity for the student to focus on skill building in a particular practice setting or client population of interest as well as the synthesis of knowledge into this advanced practice role. Prerequisite: Admission to Post Masters Psychiatric Mental Health Nurse Practitioner Program, NU 854, and NU 856.

NU 860 Special Topics: Advanced Psychiatric Nursing Child/Adolescent (1-2)
Designed to enhance students’ knowledge of current evidence-based psychotherapeutic approaches in treatment of children and adolescents. Prerequisite: Admission to Post Masters Psychiatric Mental Health Nurse Practitioner Program, NU 826, and NU 828 or permission of instructor.

NU 900 Philosophical World Views APN (2)
Emphasizes the philosophical orientations that serve as the basis for advanced nursing practice. Promotes philosophical reflection, understanding of evolutionary processes of nursing science, application of nursing and interdisciplinary philosophies and theories to simulated scenarios, and articulation of the student’s philosophical worldview. Prerequisites: Admission to DNP Program.

NU 902 Health Care Economics (3)
Focuses on economic theories and principles that can assist health care providers to be effective leaders and decision makers. Examines the economic and political environment in which health care is delivered in the United States and explores the role of regulation in protecting consumers. Provides frameworks for conceptualizing costs, risk, value, and strategic decision making in a competitive environment. Students explore economic analysis commonly used in health care decision making. Prerequisites: Admission to DNP Program, AC 924.

NU 904 DNP Residency: BSN-DNP (2-6)
Expands advanced nursing practice clinical knowledge and skills within the track. Synthesis of clinical knowledge and incorporation of evidence-based decision making is used to construct symptom-based assessments, advanced differential diagnoses, independent therapeutic interventions, and outcome evaluation of the care of clients/families. Prerequisite: NU 840 and NU 858.

NU 905 DNP Residency: MSN-DNP (1-7)
Expands breadth and depth of current advanced practice nursing clinical knowledge and skills with a focus on delivery of sub-specialty care services and/or full spectrum health care services. Synthesis of clinical knowledge and incorporation of evidence-based decision making is used to construct symptom-based assessments, advanced differential diagnoses, independent therapeutic interventions, and outcome evaluation of the care of clients/families/populations. Prerequisite: NU 807 and NU 840 or NU 858 (Course prerequisite depends on the specialty track in which the student is enrolled.)

NU 906 Policy Leadership in Global Health (3)
Explores the concepts and theories of leadership in the areas of personal leadership, leadership in organizations, and leadership in global communities. Emphasis is on innovative leadership skills to foster transformation. Focuses on the complexities of contemporary global health issues within the context of social, economic, political, and environmental factors. Prerequisites: Admission to DNP Program.

NU 971 Practice Inquiry DNP Project I (2)
Provides an overview of methods to promote the systematic uptake of clinical research findings and other evidence-based practices into routine practice. Students complete an in-depth investigation of a practice-focused problem and prepare an evidence-based project proposal for a practice setting. Prerequisite: NU 807, NU 812, NU 902, NU 906.

NU 972 Practice Inquiry DNP Project II (2)
Prepares students to translate evidence into practice and implement evidence-based changes into a practice setting. Data are collected and analyzed to guide recommendations for practice change and hence to improve the quality and effectiveness of health care services. Prerequisite: NU 971.
NU 973 Practice Inquiry DNP Project III (2)
Provides the culminating experience for students to complete and defend the DNP Practice Inquiry Project. Project design, application of theory, implementation processes, analysis of financial implications, contributions to the profession of nursing, leadership skills, and interprofessional experiences are considered. Dissemination of the project findings to a targeted audience is an expectation. Prerequisite: NU 972.

NU 977 Continuous Enrollment (1)
This course is to allow students additional time to complete graduate practice inquiry DNP project requirements. Prerequisite: Instructor permission.

Philosophy (PH)

PH 100 Introduction to Philosophy (3)
Philosophy is introduced to students by a survey of major areas of Philosophy (e.g., metaphysics, epistemology, ethics, history of philosophy) with an emphasis on traditional techniques of philosophical analysis and logical argument. Prerequisite: None. (General Ed Humanities. Global Citizenship Ethics Div.)

PH 102 Ethics: Introduction to Moral Problems (3)
Rational decision-making procedures in moral theory and their application to specific moral problems and problem areas; e.g. racism and sexism; the moral status of animals; moral issues in sexual orientation. (General Ed Humanities. Global Citizenship Ethics Div.)

PH 103 Introduction to Political Philosophy (3)
Philosophical examination of the central problems and ideas of Politics and the State; e.g., the legitimate nature and extent of the State; justification of political authority; rights of citizens. (General Ed Humanities. Global Citizenship Ethics Div.)

PH 104 Introduction to Logic and Critical Thinking (3)
Students are exposed to general principles of thought and reason and to workable guidelines for improving their powers of rational thought. Prerequisite: None. (General Ed Humanities. Critical and Creative Thinking.)

PH 105 Introductory Topics in Philosophy (1-3)
Topics will vary from semester to semester and will be announced in advance. May be repeated for credit when topics vary. (General Ed Humanities. Critical and Creative Thinking.)

PH 115 Philosophy of Love & Sex (3)
An introduction to philosophical thinking about human love and sexual relationships. The course will examine fundamental questions such as "What is Love?" and "What is Perversion?" It will also raise moral questions dealing with the proper role and circumstances of sex, and deal with socio-sexual issues such as pornography and the sexist implications of sex. (General Ed Humanities. Global Citizenship Ethics Div.)

PH 117 Creation, Evolution, Morality (2-3)
Evolutionary theory appears to hold that human beings are natural products of evolutionary forces, without special moral or religious status. What does this mean for morality? Can notions of right and wrong, good and evil, have a place in an evolutionary world? What are the religious implications of evolution? This course will consider these and other philosophical and moral issues raised by Darwinism. (General Ed Humanities. Global Citizenship Ethics Div.)

PH 200 General Topics in Philosophy (1-3)
Topics will vary from semester to semester and will be announced in advance. May be repeated for credit when topics vary. (General Ed Humanities. Critical and Creative Thinking.)

PH 201 Corrupting the Youth: Ancient Greek Philosophy (3)
It is probably no exaggeration to say that the entire Western intellectual cannon can trace its roots to the first Philosophers in fifth-century BCE Greece. By far the most famous, was Socrates. So, should we be disturbed that he was sentenced to death for 'corrupting the youth'? We will look at the claims he made that resulted in his execution, before focusing on the ways in which his student, Plato, built upon and systematized these ideas. We will close by looking at Plato's student, Aristotle, widely regarded as one of the most influential thinkers in human history, and of whom it has been said, "it is doubtful whether any human being has ever known as much as he did." Prerequisite: EN 101 or EN 102 with a grade of C or better. (General Ed Humanities. Critical and Creative Thinking.)

PH 202 I think therefore I Am? Modern Philosophy 1600-1800 (3)
Contemporary scientific consensus seems to be that the Universe is an infinitely large machine, and that, ultimately, everything in it - including us - can be explained mathematically. But where did these notions come from, and why should we believe them? Is this really how the world is, and how can we find out? We will trace the origin of these claims to the sixteenth century. Rene Descartes, the 'father of modern philosophy', proclaimed, "I think, therefore I am." As one of the 'Rationalists' he argued that the world could be explained, mathematically, and through reason, alone. We will follow by investigating the 'Empiricists', who argued instead that the world could be known, if at all, only through experience. We will finish in the eighteenth century with Immanuel Kant, who claimed that the world as we know it is in some sense a product of our own minds. Prerequisite: EN 101 or EN 102 with a grade of C or better. (General Ed Humanities. Critical and Creative Thinking.)

PH 203 Introduction to Buddhist Philosophy (3)
An introduction to the basic problems, issues and theories of the Buddhist philosophical tradition, including: the four noble truths, the claim that there is no self as we normally understand it, and the claim that everything is impermanent and illusory. Prerequisite: EN 101 or 102 with grade of C or better. (General Ed Humanities. Critical and Creative Thinking.)

PH 205 Existentialism (3)
Introduction to both theistic and atheistic existentialism through the study of some of the more prominent existentialists (e.g. Kierkegaard, Nietzsche, Sartre, Camus, Buber, Tillich), major existentialist themes (e.g., concrete individuality, freedom of choice, dread, alienation and death), and the influences of existentialist thought on contemporary literature, ethics, social and political theory, psychology and religion. Prerequisite: EN 101 or EN 102 with a grade of C or better. (General Ed Humanities. Critical and Creative Thinking.)

PH 207 Existence of God (3)
An elementary course in Philosophy and Religion focusing upon the specific rational arguments which have been advanced for and against the existence of a supreme being. Prerequisite: EN 101 or EN 102 with a grade of C or better, or consent of the Instructor. (General Ed Humanities. Critical and Creative Thinking.)

PH 211 Introduction to Ethical Theory (3)
Introductory survey of problems and positions in ethical theory: moral absolutism and moral relativism; moral decision-making theories, including Utilitarianism and Kant; evidence in moral argument. Prerequisite: EN 101 or EN 102 with a grade of C or better.
PH 214  Medical Ethics (3)
Philosophical examination of moral problems that arise in health care; e.g., professional-patient relationship; role and rights of the patient; truth-telling and confidentiality; abortion and euthanasia. Prerequisite: EN 101 or EN 102 with a grade of C or better.  
(General Ed Humanities. Global Citizenship Ethics Div.)

PH 220  Symbolic Logic (3)
Analysis of argument forms, using symbolic logic as a primary tool. Prerequisite: None.  
(General Ed Humanities. Quan and Sci Reason Lit.)

PH 300  General Topics in Philosophy (1-3)
Topics will vary from semester to semester and will be announced in advance. May be repeated for credit when topics vary.

PH 301  I think therefore I am? Modern Philosophy 1600-1800 (3)
Contemporary scientific consensus seems to be that the Universe is an infinitely large machine, and that, ultimately, everything in it — including us — can be explained mathematically. But where did these notions come from, and why should we believe them? Is this really how the world is, and how can we find out? We will trace the origin of these claims to the sixteenth century. René Descartes, the ‘father of modern philosophy’, proclaimed, “I think, therefore I am.” As one of the ‘Rationalists’ he argued that the world could be explained, mathematically, and through reason, alone. We will follow by investigating the ‘Empiricists’, who argued instead that the world could be known, if at all, only through experience. We will finish in the eighteenth century with Immanuel Kant, who claimed that the world as we know it is in some sense a product of our own minds. Prerequisites: EN 101 or EN 102 with a grade of C or better AND either PH 100, 201, 203, or 207 with a grade of C or better.

PH 302  Philosophy of Religion (3)
Analyzes basic religious concepts such as God, faith, the problem of evil, etc. and looks closely at the meaning of religious language. Prerequisite: PH 201 or PH 202 with a grade of C or better, or consent of the instructor.

PH 303  Topics-History of Philosophy (3)
Advanced study of a major period, movement, or individual in the History of Philosophy. May be repeated for credit when topics vary. Prerequisite: PH 201 or PH 202 with a grade of C or better, or consent of the instructor.

PH 311  Issues in Ethical Theory (3)
Specific issues in the philosophical study of morality; e.g., the objectivity of moral judgments, the place of reason in moral thinking, proof of basic moral principles, the status of moral language. Prerequisite: At least one of the following: PH 100, PH 102, PH 201, PH 202, or PH 211 with a grade of C or better.

PH 312  Social-Political Philosophy (3)
Current problems in social and political philosophy including but not limited to distributive justice, reparations, liberalism, alienation, radicalism, freedom and natural rights, social decision procedures, the concept of public interest, and the relationship between justice and equality. Prerequisite: At least one of the following: PH 100, PH 102, PH 103, PH 201, PH 202, or PH 211 with a grade of C or better.

PH 313  Professional Ethics (3)
The study of complex ethical issues that arise in professions such as medicine, finance, law, journalism, engineering, and others. Issues examined include, but are not limited to those that are found across many different professions: whistleblowing and loyalty, truth-telling and lying, privacy and confidentiality, and issues of social responsibility for professionals. 3 credit hours of Philosophy, or instructor’s consent. Prerequisite: At least one of the following: PH 100, PH 102, PH 103, PH 201, PH 202, or PH 211 with a grade of C or better.  
(General Ed Humanities. Global Citizenship Ethics Div.)

PH 315  Philosophy of Law (3)
A philosophical examination of such topics as the fundamental concept of law; relations between legal theory and moral theory; the nature of legal reasoning; justification of punishment. Prerequisite: 3 credit hours of Philosophy with a grade of C or better.  
(General Ed Humanities. Global Citizenship Ethics Div.)

PH 320  Advanced Logic (3)
Advanced study of logical theory and language calculi. Prerequisite: PH 220 with a grade of C or better.

PH 325  Philosophy of Mathematics (3)
Philosophical aspects of mathematics, including the foundation of mathematics, the nature of mathematical truth, and the ontological status of mathematical objects. Prerequisite: PH 220 or MA 207 with a grade of C or better.

PH 327  Philosophy of Science (3)
Philosophical aspects of the physical and social sciences, including the nature and problems of theory construction and concept formation, empirical testability, explanation and prediction, and problems of induction and confirmation. When the topics studied differ significantly, this course may be repeated for credit. Prerequisite: PH 104 or PH 200 with a grade of C or better.

PH 330  Philosophy of Mind (3)
Classical and contemporary treatments of the traditional problems of mind-body, other minds, mental acts, self, persons, perception etc. Prerequisite: PH 100, PH 201 or PH 202 with a grade of C or better, or consent of the instructor.

PH 335  Metaphysics (3)
Alternative theories of the nature of ultimate reality, including concepts such as cause, substance, time, etc. Prerequisite: PH 201 or PH 202 with a grade of C or better, or consent of the instructor.

PH 340  Aesthetics (3)
A philosophical approach to such questions as the nature of art, aesthetic value, and art criticism. Prerequisite: PH 201 or PH 202 with a grade of C or better, or consent of the instructor.

PH 386  Special Studies (1-3)
Individual study in the thought of a particular philosopher or on a particular philosophical problem. Regular conferences to be scheduled with the professor directing the study. May be repeated for credit. Prerequisites: 9 hours of Philosophy, and permission in advance by the professor with whom the student desires to work.
PH 398 Senior Thesis Preparation (3)
Independent research in preparation for a senior thesis. Students will complete preliminary research in the area of their senior thesis and prepare a thesis proposal. In addition, students will complete the portfolio project which asks them to submit a folder containing philosophy papers from previous courses along with their reflection upon their development over time in writing such papers. The proposal completed in PH 398 may not be or have been submitted for credit in any other course. Prerequisite: Senior Philosophy Major

PH 399 Senior Thesis (3)
Independent research, writing and defense of a substantial paper, under faculty supervision. Work completed in PH 398 and PH 399 may not be or have been submitted for course credit in any other course. Prerequisite: PH 398 with a grade of C or better.

PH 520 Advanced Logic (3)
Advanced study of logical theory & language calculi. Prerequisite: PH 220.

PH 527 Philosophy of Science (3)
Philosophical aspects of the physical and social sciences, including the nature and problems of theory construction and concept formation, empirical testability, explanation and prediction, and problems of induction and confirmation. When the topics studied differ significantly, this course may be repeated for credit. Prerequisite: PH 104 or PH 220.

PH 540 Aesthetics (3)
A philosophical approach to such questions as the nature of art, aesthetic value, and art criticism. Prerequisite: PH 201 or PH 202 or consent of the instructor.

PH 600 General Topics in Philosophy (1-3)
Topics will vary from semester to semester and will be announced in advance. May be repeated for credit when topics vary. Prerequisites: Consent of instructor.

PH 603 Topics in History Philosophy (3)
Advanced study of a major period, movement, or individual in the history of philosophy. May be repeated for credit when topics vary. Prerequisites: PH 201 or PH 202 with a grade of C or better, or consent of the instructor.

PH 611 Issues in Ethical Theory (3)
Specific issues in the philosophical study of morality; e.g., the objective of moral judgments, the place of reasoning in moral thinking, proof of basic moral principles, the status of moral language. Prerequisites: PH 100 or PH 201 or PH 202 or PH 211 with a grade of C or better.

PH 615 Philosophy of Law (3)
A philosophical examination of such topics as the fundamental concept of law; relations between legal theory and moral theory; the nature of legal reasoning; justification of punishment. Prerequisites: 3 hours of Philosophy with a grade of C or better.

PH 620 Advanced Logic (3)
Advanced study of logical theory and language calculi. Prerequisite: PH 220 with a grade of C or better.

PH 625 Philosophy of Mathematics (3)
Philosophical aspects of mathematics, including the foundation of mathematics, the nature of mathematical truth, and the ontological status of mathematical objects. Prerequisites: PH 220 or MA 207 with a grade of C or better.

PH 627 Philosophy of Science (3)
Philosophical aspects of the physical and social sciences, including the nature and problems of theory construction and concept formation, empirical testability, explanation and prediction, and problems of induction and confirmation. When the topics studied differ significantly, this course may be repeated for credit. Prerequisite: PH 104 or PH 220 with a grade of C or better.

PH 630 Philosophy of Mind (3)
Classical and contemporary treatments of the traditional problems of mind-body, other minds, mental acts, self, persons, perception, etc. Prerequisites: PH 100 or PH 201 or PH 202 with a grade of C or better, or consent of the instructor.

PH 635 Metaphysics (3)
Alternative theories of the nature of ultimate reality, including concepts such as cause, substance, time, etc. Prerequisites: PH 201 or PH 202 with a grade of C or better, or consent of the instructor.

PH 640 Aesthetics (3)
A philosophical approach to such questions as the nature of art, aesthetic value, and art criticism. Prerequisite: PH 201 or PH 202 with a grade of C or better, or consent of the instructor.

PH 686 Special Studies (1-3)
Individual study in the thought of a particular philosopher or on a particular philosophical problem. Regular conferences to be scheduled with the professor directing the study. May be repeated for credit. Prerequisite: 9 hours of Philosophy and permission in advance by the professor with whom the student desires to work.

Physics (PS)

PS 101 Introduction to Physics (3)
For non-majors. Recommended for partial fulfillment of the graduation requirement in natural science. Selected topics from the field of classical and modern physics are studied and discussed in terms of their impact on modern society without mathematical emphasis. (General Ed Natural Science. Quan and Sci Reason Lit.)

PS 102 Physics for Health Professions (3)
For non-majors. Recommended for partial fulfillment of the graduation requirement in natural science. Selected topics from the field of classical and modern physics are studied and discussed in terms of their impact on the health profession. Students will not receive credit for both PS 101 and PS 102. Prerequisite: MA 112 or MA 116 or higher, or concurrent enrollment. (General Ed Natural Science. Quan and Sci Reason Lit.)

PS 108 Physical Science (3)
Introduces basic physics and chemistry with an emphasis on the understanding and significance of accepted fundamental principles. It provides an opportunity to develop critical thinking suited to pursuing any science, as well as giving a larger perspective than can be obtained by study of a single science. Explores contemporary issues as well as the methods, limitations, and societal implications of scientific advancement. Students will be encouraged to explore the relationship between science and everyday life. For non-majors. Recommended for partial fulfillment of the graduation requirement in natural science. Prerequisite: MA 112 Essential Mathematics or MA 116 College Algebra or higher, or concurrent enrollment. (General Ed Natural Science. Quan and Sci Reason Lit.)
PS 120 Meteorology (3)
The Earth's atmosphere and basic circulation patterns including types and classification of clouds and air masses, the formation of fronts, winds aloft computations, principles of forecasting, energy considerations and other associated physical processes. Prerequisite: MA 104 or one and one-half years of High School algebra.
(General Ed Natural Science. Quan and Sci Reason Lit.)

PS 126 Physical Science for Elementary Educators (5)
This course provides an introduction to the fundamentals of physics and chemistry, for the pre-service elementary school teacher. Course activities are inquiry-based, serving to improve confidence in both scientific process and content learning, with methods applicable to elementary curricula.
(General Ed Natural Science. Quan and Sci Reason Lit.)

PS 131 Biological Physics for the Health and Life Sciences (3)
A one-semester course covering classical and modern physics, designed primarily for students in the health professions. Typical subjects include the laws of motion, gravity, heat, sound, light, electricity, and magnetism. Subjects are treated conceptually along with the use of basic data. Recommended for partial fulfillment of the graduation requirement in natural science. Not applicable toward credit for physics major requirements. Students will not receive credit for both PS 101 and PS 131. Prerequisite: MA 112 Essential Mathematics or MA 116 College Algebra or higher, or concurrent enrollment.
(General Ed Natural Science. Quan and Sci Reason Lit.)

PS 132 Biological Physics for the Health and Life Sciences Laboratory (1)
A laboratory exploring classical and modern physics, designed primarily for students in the health professions. Experiments in motion, gravity, heat, sound, light, electricity, and magnetism are designed to teach physics concepts and basic laboratory techniques. The course is designed to introduce students to laboratory techniques used in physics emphasizing instrumentation, data acquisition, and analysis. Recommended for partial fulfillment of the graduation requirement in natural science. Not applicable toward credit for physics major requirements. Prerequisite: PS 131 Biological Physics for the Health and Life Sciences or concurrent enrollment. Concurrently enrolled students may not drop PS 131 and remain enrolled in PS 132.

PS 261 College Physics I (5)
Recommended for medical arts and general science students. Mechanics, heat, and sound are studied. Lecture-recitation and laboratory. Prerequisite: MA 117 or MA 123 or MA 151 (or concurrent).
(General Ed Natural Science. Quan and Sci Reason Lit.)

PS 262 College Physics II (5)
A continuation of College Physics I. Electricity, optics and modern physics. Lecture-recitation and laboratory. Prerequisite: PS 261 with a grade of C or better.

PS 281 General Physics I (5)
Required for students who wish to major in physics and astronomy and for pre-engineering students. Mechanics, heat, and sound are studied. Lecture-recitation and laboratory. Prerequisite: MA 151 or concurrent enrollment.
(General Ed Natural Science. Quan and Sci Reason Lit.)

PS 282 General Physics II (5)
A continuation of General Physics I. Electricity and magnetism, optics, and modern physics. Lecture-recitation and laboratory. Prerequisite: PS 281 with a grade of C or better.

PS 291 Elementary Computational Physics (2)
An introduction to computer modeling of physics problems using spreadsheet programs, computer algebra systems, and other mathematical software. Prerequisite: MA 151 or concurrent.

PS 310 Relativity (2)
Concepts of space and time, frames of reference, Einstein's Theory of Special Relativity and Elements of General Relativity. Prerequisite: PS 262 or PS 282; MA 253.

PS 318 Earth and Space Science for STEM Educators I (3)
Designed to introduce the history, structure, composition, and dynamic processes that shape our planet, as well as the impact humans have on Earth's resources, to STEM educators. Connects astronomy and geology through the study of planetary science and exploration. This course does not satisfy any physics requirement outside of the STEM education program. Prerequisites: CH 317 with a letter grade of C or higher; concurrent enrollment in ED 318.

PS 320 Electromagnetic Theory I (3)
The basic theory of electro-magnetic fields and waves using the calculus and vector methods. Prerequisites: PS 262 or PS 282; MA 253.

PS 321 Electromagnetic Theory II (3)
A continuation of Physics 320. Prerequisite: PS 320.

PS 322 Electrical Laboratory (2)
Basic theory of semiconductors and the application of this theory in electrical measurements. One-hour lecture and three hours laboratory a week. Prerequisites: PS 262 or PS 282.

PS 330 Optics (3)
Physical and geometrical optics. Lecture-recitation. Prerequisite: PS 262 or PS 282.

PS 332 Optics Lab (1)
Experiments with lens systems, mirrors, aberrations, the spectrometer, interference and diffraction, and polarization. Prerequisite: PS 330 or concurrent enrollment.

PS 334 Thermodynamics (3)
Consideration of heat phenomena, first and second laws of thermodynamics, their principal consequences and application to simple systems, and the kinetic theory of gases. Prerequisite: PS 262 or PS 282; MA 253.

PS 335 Theoretical Mechanics I (3)
A mathematical study of classical mechanics. Rigid body statics and dynamics, kinematics and dynamics of particles and systems of particles, and conservative and non-conservative force fields. Prerequisites: PS 262 or PS 282; MA 253.

PS 336 Theoretical Mechanics II (3)
A continuation of Theoretical Mechanics I. Prerequisite: PS 335.

PS 340 Electronics (3)
Digital electronic circuits and devices with special emphasis on computer interfacing to instrumentation. Two one-hour lectures and one three-hour laboratory a week. Prerequisites: PS 262 or PS 282; MA 253.

PS 350 Modern Physics I (3)
Phenomena specific to the extra-nuclear structure of the atom; phenomena peculiar to the atomic nucleus; introduction to quantum and wave mechanics, and relativity. Prerequisites: PS 262 or PS 282; MA 253.

PS 351 Modern Physics II (3)
A continuation of Physics 350. Prerequisite: PS 350.
PS 352 Modern Physics Laboratory (1)
Measurements of constants fundamental to atomic physics: Planck’s constant, electron charge and mass, speed of light, etc. Techniques of nuclear alpha, beta and gamma ray spectroscopy. Prerequisite: PS 350.

PS 360 Physics Research (1, 2)
Experimental design and techniques. Extensive use of technical literature will be necessary. Independent work is encouraged. This Capstone requires summative reflection, serving as a culminating experience for Bachelor’s degree students. Prerequisite: Consent of instructor.

PS 365 Introduction to Theoretical Physics (3)
Application of ordinary and partial differential equations, Fourier series and Transforms, partial differential equations with solution methods, and tensor analysis as applied to problems in the fields of physics and engineering. Prerequisites: PS 262 or PS 282 or concurrent enrollment; MA 253.

PS 366 Introduction to Computational Physics (3)
Techniques and models in computational physics. Prerequisites: PS 262 or PS 282; MA 253.

PS 368 Computational Physics Research (3)
Computational physics research in any of the areas of physics. A written and an oral presentation of the work is required. This Capstone requires summative reflection, serving as a culminating experience for Bachelor’s degree students. Prerequisite: Departmental permission.

PS 370 Special Subjects in Physics (1-3)
Offered on demand as teaching schedules permit. Material is to be chosen according to student interest from any one of a number of fields of physics. Prerequisite: consent of instructor.

Political Science (PO)

PO 106 The Government of the United States (3)
Theory, organization and functioning of our democratic government in modern society with special emphasis on the national government and its relations with the states. The role of government in a democratic society as a supplier of services, the embodiment of values and the arbiter of conflict is stressed.

PO 107 Kansas and the U.S., State and Local Government (3)
Examines American state and local politics, government, and public policies from the grassroots to the institutional level with a particular emphasis on the similarities and differences that exist in Kansas in comparison to the characteristics found in the rest of the states. Contrasting the fundamental differences between states and localities and the national government is also an emphasis of the course.

PO 225 Introduction to International Politics (3)
Theory and practice of international politics with special attention to foreign policy and decision-making process, major issues facing the international system, the role and functions of international and transnational organizations with respect to conflict and cooperation in the international community.

PO 235 Governments of the World: Comparative Politics (3)
Examines selected governments of the world. Basic concepts, theories and methods in comparative analysis of political institutions, processes, and policies of nations. Case studies of selected political systems developed and developing, Western and non-western, democratic and non-democratic illustrate the analytical approaches.

PO 244 Introduction to Public Administration (3)
Designed to acquaint the student with the organization and functioning of the administration of government. Includes introduction to theories of administration, policy and administration values, study of the governmental bureaucracy and administrative behavior.

PO 255 Introduction to the American Legal System (3)
Designed to acquaint the student with the basic institutions and procedures of the American legal system. Also a very basic introduction to substantive areas of American law such as: torts, contracts, civil procedure, regulation of business.

PO 300 Special Topics/Political Science (1-3)
Topics will vary from semester to semester and will be announced in advance.

PO 305 Public Policy (3)
Examines the role of government as a supplier of services to its citizens. It will cover the following topics: the nature of politics and policy, social problem identification and articulation, interest groups and the formation of public policy, the analysis of policy content, policy implementation, and policy evaluation.

PO 306 Urban-Metropolitan Government (3)
Analysis of historical, political, economic, and social development of urban America. Emphasis will be placed on discussion of contemporary urban problems through investigation of the legal status of municipal and county governments, machine, reform, and ethnic politics, socioeconomic class status and urban society, community power, forms of participation in urban politics, the problems and politics of urban policymaking, and suggestions for improving urban-metro governments.

PO 307 Internship - State or Local Government (3-6)
Experience in an operating office of state or local government in order to gain insight into government at these levels. Problem paper required. Prerequisites: Political Science 107 and/or consent of instructor. Junior or Senior standing.

PO 308 American Elections and Federalism (3)
Examines American national elections in the context of the American federal system. A study of the nature, patterns, and impact of American federalism, including historical, fiscal, economics, policy and political significance.

PO 309 Kansas Legislative Experience (3)
Analysis of the Kansas legislature and governor, along with other statewide offices and the media — how all function within the governmental system of Kansas. Along with an in-depth study of the legislative session, the student will be required to attend legislative committee meetings, floor debates, and gubernatorial press conferences. Students will also conduct participant observation within a legislative or executive branch office. No prerequisites.
PO 325 Advanced International Relations (3)
The course will examine traditional realist approaches to international power, alternative perspectives to power politics; American foreign policy, and understandings of the roots and resolution of international conflict. Prerequisite: PO 225. Non-majors may enroll without prerequisite by instructor permission.

PO 332 Politics through Film & Literature (3)
Exposes students to the nature and varied dynamics of politics through film and literature. Emphasis will be placed on classical, modern, and post-modern understandings of politics as expressed in film and literature with the expectation of sharing an informed and inviting view of politics in the Western world. No prerequisites.

PO 335 Advanced Comparative Politics (3)
A study of the governments, policies, and political cultures of the countries in particular regions of the world e.g. Latin America, Central and Western Europe, or China, Japan and Eastern Asia. Analysis of the political processes, government institutions, national and multi-national alliances, public policies, political economies, cultures, interest groups and leaders that shape the political landscapes of the particular region covered in a given semester constitutes the scope of each semester’s class. A specific emphasis on the forces of political and economic change will be central to the course. Prerequisite: PO 235. Non-majors may enroll without prerequisite by instructor permission.

PO 337 Religions and Politics (3)
Describes the many current trends of religions and politics in the U.S. focusing on the major religions and their political teachings, considerable political power and activism in contemporary American politics, society and life. Prerequisite: 3 hours of political science, or consent of the instructor.

PO 343 Administrative Law (3)
The scope of the law as it applies to administrative agencies of the government. Focuses on the powers of agencies, administrative rule-making, regulatory activities, due process, and judicial review of administrative actions.

PO 346 Problems in Public Administration (3)
Problems and cases involved in administering public policy.

PO 371 Topics: American Politics and Government (3)
At the discretion of the instructor this course may investigate any aspect of the theories, institutions, contexts, or contemporary problems of American politics and government. Chief subject elements they include are the various branches of American government, federalism, constitutionalism, the roles of the press, public opinion, interest groups and non-governmental policy and service institutions, and the various policy fields of the government, e.g. economic, welfare, education, public health, and military defense.

PO 372 Topics: Comparative Politics (3)
At the discretion of the instructor this course may investigate any aspect of the theories, institutions, contexts, or contemporary problems of comparative politics. Chief subject elements may include regional international alliances, democratization, non-democratic governmental systems, international political economy, human rights issues, global trade, the international political implications of immigration, food production, environmental degradation and restoration, species migration, and climate change.

PO 373 Topics-International Relations (3)
At the discretion of the instructor this course may investigate any aspect of the theories, institutions, contexts, or contemporary problems of international relations. Chief subject elements may include theories of nation-state interaction, negotiation, and war, American foreign policy, and examining aspects of changing global hegemonic power.

PO 374 Topics-Public Administration (3)
At the discretion of the instructor this course may investigate any aspect of the theories, institutions, contexts, or contemporary problems of the field of Public Administration including but not limited to: the theories of bureaucratic administration; public law; personnel management and labor relations; organizational theory, management and behavior; public policy making, implementation, and evaluation; intergovernmental relations; leadership; public finance, budgeting and auditing.

PO 386 Directed Readings (1-3)
Readings in the selected fields of Political Science. May be taken until three credit hours are earned. This course is repeatable for another 1-3 hours if the topic areas differ. Prerequisite: Senior Political Science major or approval of the department head.

PO 390 Applied Political Research (3)
Introduction to utilization of basic research techniques in public administration and political science.

PO 391 Public Personnel Administration (3)
The principles and techniques involved in managing public employees. Particular attention is given to staffing, separation, and administrative functions related to public employment.

PO 393 Public Budgeting (3)
The politics of planning, financing, and managing governmental budgets at the national, state, and local levels.

PO 394 Public Management Techniques (3)
A study of the differences in the setting of the management of the various kinds of public organizations, and a survey of the basic techniques of strategic planning, fund-raising, decision-making, community inter-organization development, leadership, negotiations, mission definition, policy analysis and evaluation for maximum effectiveness in the public sector.

PO 395 Non-Profit Management (3)
A survey of the various forms and particular differences of the management and operation of Non-Profit organizations as distinguished from traditional government administration.

PO 396 Topics in Applied Research (3)
This is an expansion of the methodological foundation laid in PO 390, the required methodology course for PO majors. In this course the basic techniques and tools introduced in PO 390 are reviewed and expanded to include contemporary techniques in multi-variate analysis. Students will also be expected to develop and complete research inquiries into relevant quantitative and/or qualitative data, and prepare and present their analysis before a departmental audience. Prerequisite: PO 390 or by permission of the course instructor.
PO 397 Advanced Applied Research (3)
This is an advanced course in social science research methodology involving instruction and student participation in various aspects of the research enterprise as used by political campaign staffs, consultants, public agencies and other public policy investigative organizations. Possible areas of investigation include but are not limited to survey research design, questionnaire development and testing, focus group research, quasi-experimental research design and execution, qualitative research tools, multi-variate statistical analysis, OLS regression analysis, data description, and presentation formatting. Prerequisite: PO 390 or by permission of the course instructor.

PO 401 Program Evaluation Methods (3)
The most vital methods of evaluating the effects of programs and agency goals of government and non-profit agencies.

PO 450 Senior Seminar (1)
This is required for graduating Seniors majoring in political science. It is a capstone course offered every semester. It is a review of the major theories in the areas of Political Theories, American Politics, Comparative Politics, Public Administration, and International Relations, plus quantitative research methods. The course is team taught by the faculty. Student proficiency in the discipline will be measured by a national performance exit exam over areas of Political Science.

PO 671 Topics in American Politics and Government (3)
At the discretion of the instructor this course may investigate any aspects of the theories, institutions, contexts, or contemporary problems of American Politics and Government. Chief subject elements may include the various branches of American government, federalism, constitutionalism, the roles of the press, public opinion, interest groups and nongovernmental policy and service institutions, and the various policy fields of the government, e.g., economic, welfare, education, public health, and military defense. Prerequisites: Admission to MLS graduate program or consent.

PO 672 Topics in Comparative Politics (0-3)
At the discretion of the instructor this course may investigate any aspect of the theories, institutions, contexts, or contemporary problems of comparative politics. Chief subject elements may include regional international alliances, democratization, non-democratic governmental systems, international political economy, human rights issues, global trade, the international implications of immigration, food production, environmental degradation and restoration, species migration, and climate change. Prerequisites: Admission to MLS graduate program or consent.

PO 686 Directed Readings (1-3)
Readings in the selected fields of political science. May be taken until 3 credit hours are earned. Prerequisites: Admission to the MLS Program or consent.

Practical Nursing (PNS)
PNS 111 Pharmacology (3)
This course introduces the principles of pharmacology, drug classifications, and the effects of selected medications on the human body. The nursing process is used as the framework for ensuring safe and effective nursing care for clients across the life span.
PNS 115 Foundation of Nursing Clinical (2)
This course explores the art and science of nursing. In this clinical course emphasis is placed on the nursing process, cultural and spiritual awareness, communication, data collection, performance of basic nursing skills, and documentation. Principles of safe medication administration are introduced.
PNS 121 Strategies for Success (2)
This course is the first in a sequence of practical nursing courses and is designed as an introduction to the many facets of the college experience. Emphasis is placed on affecting student success including orientation to the academic arena, study skills, computer proficiency, skills procedures, and basic mathematic skills.
PNS 145 KSPN Fund of Pharm&Safe Med Ad (2)
This course provides an introduction to the principles of pharmacology. Emphasis is placed on nursing care related to the safe calculation and administration of medications to clients across the life span.
PNS 152 KSPN Foundation of Nursing Ad I (5)
This course focuses on the care of adult clients experiencing common medical/surgical health alterations with predictable outcomes. Emphasis is placed on the care of clients with alterations in cardiac output and tissue perfusion, oxygenation, regulation and metabolism, and integument. Principles of pre-and post-operative care and IV therapy are also addressed.
PNS 155 KSPN Nursing Care Ad I Clinic (2)
This course focuses on the care of adult clients with common medical/surgical health alterations. The clinical laboratory experience provides the student an opportunity to apply the theoretical concepts from Nursing Care of Adults I and implement safe client care in selected settings.
PNS 161 Medical Surgical Nursing I (4)
This course focuses on the effect of disorders of selected systems throughout the lifespan and applies the nursing process in meeting basic needs. Health promotion and maintenance, rehabilitation, and continuity of care are emphasized. The role of the practical nurse is incorporated throughout.
PNS 166 Med Surg Nursing I Clinical (3)
Simulated and actual care situation of selected systems throughout the lifespan, utilizing acute and long-term care setting. An emphasis is placed on critical thinking and clinical decision-making skills.
PNS 211 Medical Surgical Nursing II (4)
This course focuses on the effect of disorders of selected systems throughout the lifespan using the nursing process in meeting basic needs. Prevention, rehabilitation, and continuity of care are emphasized. The role of the practical nurse is incorporated throughout.
PNS 212 KSPN Nursing Care of Adults II (5)
This course focuses on the care of adult clients experiencing common medical/surgical health alterations with predictable outcomes. Emphasis is placed on the care of clients with alterations in cognition and sensation, mobility, elimination, immunity and hematology, and reproduction. Principles related to emergency preparedness are also addressed.
PNS 215 KSPN Nursing Care Ad II Clinic (3)
This course focuses on the care of adult clients with common medical/surgical health problems. The clinical laboratory experience provides the student an opportunity to build on the theoretical concepts from Nursing Care of Adults I and II and implement safe client care in selected settings. Students are given the opportunity to practice leadership skills while managing a caseload of clients.

PNS 216 Med Surg Nursing II Clinical (3)
This experience uses simulated and actual care situations of selected systems throughout the lifespan, and utilizing acute and long-term care settings. An emphasis is placed on critical thinking and clinical decision-making skill development. Principles of leadership for the practical nurse will be implemented, as well as multi-task management skills for transition as a practical nurse.

PNS 221 Maternal Child Nursing (2)
This course focuses on pre-and post-natal maternal nursing care, as well as the care of children from infancy to adolescence. Emphasis is given to normal reproduction and frequently occurring biological, cultural, spiritual, and psychosocial needs of the child bearing and child rearing family.

PNS 226 Maternal Child Nrs Clinical (1)
This clinical course applies concepts from Maternal Child I. Emphasis is placed on the nursing process and meeting the basic needs of the maternal child client.

PNS 230 Gerontology (2)
This course is designed to explore issues related to the aging adult using the nursing process as the organizing framework. Also discussed are the impact of aging, alterations in physiological and psychosocial functioning, and the role of the practical nurse in caring for older adult clients.

PNS 232 KSPN Care of Aging Adults (2)
This course is designed to explore issues related to the aging adults. Course content addresses the impact of ageism, alterations in physiological and psychosocial functioning, and the role of the practical nurse in caring for older adult clients across a continuum of care.

PNS 235 KSPN Mental Health Nursing (2)
This course explores basic concepts and trends in mental health nursing. Therapeutic modalities and client behavior management are discussed. Emphasis is placed on using the nursing process and meeting the basic human needs of the client with a mental health disorder.

PNS 240 Mental Health (2)
This course explores basic concepts and trends in mental health nursing. Therapeutic moralities and client behavior management are discussed. Emphasis is placed on using the nursing process and meeting the basic human needs of the mental health client.

PNS 242 KSPN Leadership, Roles & Issues (2)
This course provides orientation to leadership roles of the LPN and related responsibilities. It will introduce issues to the student they will encounter in the workplace.

PNS 245 NCLEX-PN (1)
This course is designed to provide a structured review of key content in the PN program. Test-taking strategies for NCLEX and requirements for NCLEX exam registration will be covered in this course. Review materials will be focused on foundations of nursing, care of the adult, mental health, pharmacology, maternal-child nursing, and leadership. The course will end with a comprehensive predictor to determine the student's readiness for the NCLEX exam.

PNS 250 Role Development (2)
This course includes expansion of the leadership and management skills necessary for personal and career growth and development, emphasizing assignments delegation, and conflict management. This course also provides an opportunity to acquire additional knowledge in areas of concern and to build on areas of strength to improve the chances of being successful in the NCLEX-PN.

PNS 255 Role Development Clinical (2)
This course applies concepts of leadership and management skills necessary for personal, career growth and development, emphasizing assignments delegation, and conflict management. Importance is placed on critical thinking and clinical decision making. The student applies knowledge and understanding of content gained in all previous and concurrent didactic and clinical courses in various clinical environments.

Psychology (PY)

PY 100 Basic Concepts in Psychology (3)
An introduction to fundamental areas of Psychology including an overview of the concepts and methods of such areas as perception, learning, motivation, memory, development, personality, abnormal and social.

(General Ed Social Science. Critical and Creative Thinking.)

PY 151 Psychological Statistics (3)
The course will introduce students to descriptive and inferential statistical techniques used in contemporary psychology. The course will not only help students understand the mathematical and statistical concepts presented but also to assist in the application of the procedures. Prerequisite: PY 100 with a grade of C or better, or concurrent enrollment, and MA 104.

PY 209 Psychological Development through the Life-Span (3)
Psychological research and theories which describe and explain life-cycle stability and change in perception, cognition, language, psychomotor behavior, personality, interpersonal relationships, etc. Prerequisite: PY 100.

PY 210 Psychology of Infancy and Childhood (3)
Overview of theory and research on the psychological development of infants and children. Included are the development of sex roles, aggression, friendship, attachment to parents, perception, cognition, language, and moral reasoning and behavior. Prerequisite: PY 100.

(General Ed Social Science. Global Citizenship Ethics Div.)

PY 211 Adolescent Psychology (3)
Theory and research on adolescent personality, social and cognitive development, including problems of adjustment during the teenage years. Prerequisite: PY 100.

(General Ed Social Science. Global Citizenship Ethics Div.)

PY 212 Psychology of Adulthood and Aging (3)
Psychological theory and research on the changes and continuities of the adult years: personality, intelligence, memory, sex roles, interpersonal relationships, death and dying, and the psychological consequences of physical and health changes. Prerequisite: PY 100.

(General Ed Social Science. Information Literacy and Tech.)

PY 215 Consumer Psychology (3)
Survey of the psychological principles, theories, and methodology in learning, perception, motivation, attitude formation, personality, etc. as they affect consumer behavior. Prerequisite: PY 100.
PY 231 Abnormal Psychology (3)
A survey of the origins, processes, and diagnostic characteristics of representative syndromes of maladaptive behavior. Prerequisite: PY 100. (General Ed Social Science. Global Citizenship Ethics Div.)

PY 234 Applied Behavior Analysis (3)
Elementary principles of learning & their application for managing the behavior of normal & abnormal populations in a variety of settings including schools, mental institutions, businesses. Prerequisite: PY 100.

PY 251 Research Methods in Psychology (3)
This course is an introduction to research methods in psychology. The goals of the course are for the student to learn how research is planned, carried out, communicated, and critiqued. Although only a few of students may pursue a career as a research psychologist, everyone is a consumer of research from psychology and other scientific disciplines. As such, a major goal of this course is to develop the capacity for critically evaluating "scientific evidence" that is communicated in journals, magazines, newspapers, and news programs. Prerequisite: PY 100.

PY 295 Special Topics (1-3)
Selected topics in psychology, announced in advance. Prerequisite: Specified for each topic.

PY 299 Psychological Forum (1)
Survey of applied issues in the profession of Psychology including an overview of employment and graduate school opportunities as well as vocational techniques for achieving those goals. Pass/Fail Only. Prerequisites: PY 100 and Sophomore Psychology Major.

PY 301 Principles of Learning (3)
Examine factors involved in acquiring and changing behaviors. Theories, historical and current models, and empirical findings in the field of learning and memory are explored. Prerequisite: PY 100.

PY 305 Sensation & Perception (3)
Focus on the anatomy and functions of sensory systems (vision, audition, olfaction, gustation, haptics). Emphasis on differences in theoretical backgrounds. Prerequisite: PY 100.

PY 306 Cognition (3)
A study of the intellectual structures and processes involved in the acquisition, storage, transformation, and use of knowledge. Prerequisite: PY 100. (General Ed Social Science. Critical and Creative Thinking.)

PY 307 Physiological Psychology (3)
Examines the physiological basis of psychological phenomena (e.g., behavior). Concentrates on the function of biological systems on both general and specific behaviors. Prerequisite: PY 100.

PY 309 Theories of Personality (3)
Psychological theories of personality, including psychoanalytic, learning, and humanistic approaches. Prerequisite: PY 100.

PY 310 Social Psychology (3)
Theory and research on cognitive and behavioral responses to social stimuli. Prerequisite: PY 100.

PY 312 Psychology of Creativity (3)
Exploration of the many facets of creativity, including the nature, measurement, prediction, and cultivation of creativity, and its relationship to other cognitive abilities. Prerequisite: PY 100.

PY 314 Personality and Social Behavior (3)
Description of the characteristics that distinguish individuals and a review of the processes by which these characteristics are thought to be established and changed. Prerequisite: PY 100.

PY 317 Music and the Brain (3)
Study of the biological processes of active and passive music involvement and the resulting effect on individuals' learning, physical health, and mental well-being. Includes an experimental component. Prerequisite: EN 101 and BI 100 or higher; or PY 100; or consent of instructor. (General Ed Social Science. Critical and Creative Thinking.)

PY 320 Psychological Testing and Measurement (3)
Theory and methods in psychological measurement, and their application to the construction, selection, and interpretation of psychological tests. Includes a survey of representative personality and ability tests. Prerequisite: PY 100.

PY 325 Community Psychology (3)
The study of community and organizational approaches to intervention and prevention strategies for mental health care, general health care, and various social problems. Prerequisite: PY 100.

PY 326 Health Psychology (3)
Introduction to the contributions of psychology to the prevention and treatment of illness, promotion and maintenance of health, and the improvement of the healthcare system. Topics include the role of stress and physiological factors in illness, chronic pain disorders and pain management, lifestyle and psychosocial influences on health, complementary and alternative methods for health promotion, and interpersonal factors involved in illness and health. Prerequisites: PY 100.

PY 327 Correctional Psychology (3)
An introduction to the field of Correctional Psychology. Applies psychological theories, principles and research to correctional issues. Topics include inmate behavior, women in prison, and psychological disorders found among offenders and prevention of fatigue, stress, and burnout in staff members. Prerequisite: PY 100 or consent.

PY 333 Counseling Psychology (3)
Major theories and techniques of psychological counseling. Prerequisite: PY 100.

PY 336 Internship (1-3)
Supervised experience in the application of psychological concepts and methods or volunteer work. Work in non-classroom situations required. Arrangements for enrollment must be completed prior to registration. (May be used to meet Senior Capstone Experience requirement). Pass/Fail Only. Prerequisites: One related advanced course and consent of instructor.

PY 338 Childhood Psychopathology (3)
An overview of psychological and behavioral disorders of children and adolescents, including their characteristics, origins, and treatment. Prerequisite: PY 231.

PY 339 Psychology of Sex and Gender (3)
This course will examine and analyze ways biology, culture, and society shape females' and males' identities, life experiences and other aspects of psychology. To study the psychology of sex and gender, we will examine historical views, physiology, socialization, friendships, sexuality, romantic relationships, childbearing and rearing, work, and mental and physical health. Prerequisite: PY 100.

PY 350 Introduction to Clinical Psychology (3)
Clinical Psychology as a science and a profession. The history, scope, ethics, theories, and methods of clinical psychology. Prerequisite: PY 100.
PY 353 Psychology of Everyday Life (3)
Applications of psychological theory and research in common life arenas, including family, work, and interpersonal relationships. Prerequisite: PY 100.

PY 356 Psychology of Marital and Family Processes (3)
An overview of psychological theories and research pertaining to family processes and the influence of the family on the psychological development of the individual. Topics to be covered include various psychological theories pertaining to family functioning, family dysfunction and divorce, and relationships between family functioning and psychopathology. Prerequisite: PY 100.

PY 385 From Classroom to Career (3)
Students work with the instructor and career services to hone professional development skills to transfer from the classroom into their careers and review academic literature relating to some aspect of professional development. This course helps to address APA's Professional Development guidelines for undergraduate psychology majors. Pre-requisite: PY 100.

PY 386 Advanced Research Design/Scientific Writing (3)
This course is primarily designed for students considering directed research and graduate school. This course will provide students with hands-on experience with regard to experimental research methods. Students will gain the skills necessary to conduct a literature review that will then be used to design, conduct, and analyze a novel empirical investigation. This course will enhance student’s writing skills, with an emphasis on scientific writing using APA format. Prerequisites: PY 151 and PY 251 with grades of "C" or better; 3.0 cumulative GPA.

PY 387 History and Systems of Psychology (3)
An examination of philosophical and empirical roots that led to the development of the discipline of psychology and the historical progression of ideas central to modern psychology. (May be used to meet Senior Capstone Experience requirement). Prerequisite: Psychology Senior or consent.

PY 388 Directed Collaborative Research (3)
Supervised small group research project(s) designed to provide the opportunity to work collaboratively with peers. (May be used to meet Senior Capstone Experience requirement). Prerequisites: PY 386 and consent of instructor.

PY 389 Independent Study (1-3)
Individual problems planned and executed by the student under supervision. (May be used to meet Senior Capstone Experience requirement.) May be repeated up to a total of 6 hours. Prerequisite: Consent of instructor.

PY 390 Directed Research (1-3)
Supervised independent research involving gathering, analysis, and reporting of empirical data. This course serves as a culminating experience for Bachelor's degree students and may be used to meet the Senior Capstone Experience requirement. May be repeated up to a total of 6 hours. Prerequisites: PY 386 and consent of instructor.

PY 395 Special Topics (1-3)
Selected topics in psychology, announced in advance. Can be repeated for credit under different topic areas. Prerequisite: Specified for each topic.

PY 602 Advanced Physiological Psychology (3)
Critical issues within cognitive and behavioral neuroscience are discussed, including neuronal physiology, functional neuroanatomy, and methods used in psychophysiological research. Special emphasis is placed on biological foundations of psychopathology and psychopharmacology. Prerequisite: Consent.

PY 603 Advanced Health Psychology (3)
Advanced health psychology examines how biological, psychological, and social factors interact with and affect the efforts people make in promoting good health and well-being as well as preventing illness. Advanced study includes reviewing and discussing contemporary empirical research related to the science and practice of health psychology. Prerequisite: Graduate standing or consent of instructor.

PY 610 Intermediate Statistics (3)
Survey of basic statistical principles including parametric and non-parametric hypothesis testing techniques, correlation, and an introduction to computer statistical packages. Prerequisite: Consent.

PY 611 Graduate Research Design (2)
Advanced, detailed study of research design, including experimental, quasi-experimental, and non-experimental designs. Issues of ethics, sampling, reliability, validity, and analysis will be discussed. Students will also develop skills in critiquing and reporting scientific research. Prerequisite: Consent.

PY 612 Scientific Writing (1)
Scientific writing is a unique form of writing and vastly different from the manner students typically write. Students in this course will be exposed to the various nuances that define APA style scientific writing, be exposed to the common errors made when writing scientifically, and will develop their skill in writing in a scientific manner. Prerequisite: PY 611.

PY 615 Counseling Skills and Interviewing Techniques (1.5)
The purpose of this course is to assist students in developing necessary skills to be an effective interviewer/therapist. This will be done through readings, self-exploration, and practicing therapeutics skills of motivational interviewing and other therapeutic and information-gathering techniques. Prerequisite: Consent.

PY 625 Advanced Psychopathology (3)
Theory, research, and clinical approaches to problems of adulthood and childhood. Prerequisite: Consent.

PY 631 Psychological Assessment of Adults Practicum (1.5)
This practicum, which is a co-requisite of PY 632 Psychological Assessment of Adults, is designed to provide students with the applied skills required to competently administer, score and interpret various adult psychological assessments. Students will also utilize related information gathering techniques toward the goal of validly and reliably assessing the intellectual, personality, and, to a lesser degree, social, emotional, and behavioral functioning of adults. Prerequisite: Departmental permission.

PY 632 Psychological Assessment of Adults (3)
The purpose of this course is to provide students with the fundamental skills and knowledge necessary to choose, administer, and interpret various instruments and information gathering techniques with the goal of assessing the intellectual, social, emotional, and behavioral functioning of adults. Prerequisite: Graduate standing.
PY 633 Psychological Assessment of Children (3)
The purpose of this course is to provide students with the fundamental skills and knowledge necessary to choose, administer, and interpret various instruments and information gathering techniques with the goal of assessing the intellectual, social, emotional, and behavioral functioning of children. Prerequisite: Graduate standing.

PY 634 Psychological Assessment of Children Practicum (1.5)
This practicum will focus on the application of child and family assessment skills acquired in PY 633 Psychological Assessment of Children. The practicum will involve a combination of lecture, discussion, role plays, supervision, and practical experience with clients in the Psychological Services Clinic. Prerequisite: Graduate standing.

PY 635 Ethics Psychological Practice (2)
This course will explore contemporary aspects of professional practice germane to masters level psychologists. The primary focus will be on the understanding and application of the APA Ethics Code when providing psychotherapy and psychological assessment services. Special topics such as requirements for licensure and career options may also be explored. Prerequisite: Graduate Standing.

PY 637 Diversity Issues Treatment & Assessment (2)
Introduction to diversity issues in counseling and psychological/educational assessment, including culture, gender, language, and related issues. Training in models for providing effective psychological services to clients, taking into account their unique background. Prerequisite: Graduate standing.

PY 640 Introduction to Psychotherapy Techniques (3)
Theory and practice of basic interviewing and therapy skills, with an emphasis on the cognitive behavioral approach for treatment of anxiety disorders. Must be taken with PY 641. Prerequisites: Graduate standing.

PY 641 Psychotherapy Practicum I (1.5)
Students are expected to demonstrate and master a variety of clinical techniques involving therapeutic skills being taught concurrently in PY 640. Prerequisite: Concurrent enrollment in PY 640.

PY 653 Psychological Assessment of Children (3)
The purpose of this course is to provide students with the fundamental skills and knowledge necessary to choose, administer, and interpret various instruments and information gathering techniques with the goal of assessing the intellectual, social, emotional, and behavioral functioning of children. Prerequisite: Graduate standing.

PY 670 Individual Adult Psychotherapy (3)
Theory and practice of psychotherapeutic intervention skills with an emphasis on interpersonal, cognitive, and brief therapy approaches for treatment of mood disorders. Must be taken concurrently with PY 671. Prerequisites: PY 630 and PY 640.

PY 671 Psychotherapy Practicum II (1.5)
Students are expected to demonstrate and master a variety of clinical techniques involving therapeutic skills being taught concurrently in PY 670. Prerequisite: Concurrent enrollment in PY 670.

PY 680 Psychological Assessment: Personality and Behavior (3)
Research bases and clinical applications of objective psychological instruments, projective techniques, and behavioral assessment designed to measure child, adolescent, and adult personality, affect, and psychopathology. Prerequisite: Consent.

PY 690 Group Therapy: Theory & Application (2)
This course provides foundational knowledge and experience to support the facilitation of group approaches to psychotherapy. Didactic instruction will be supplemented with an experiential training component. Prerequisites: Consent.

PY 691 Group Therapy Practicum (1)
The faculty is committed to the belief that the integration of theoretical knowledge and practical experience is an integral part of the curriculum. This practicum will focus on application of group therapy theory and skills acquired in PY 690 Group Therapy: Theory and Application. PY 691 will involve a combination of lecture, discussion, and practical experience with clients in the Psychological Services Clinic. Prerequisite: PY 690.

PY 700 Child, Family and Marital Therapy (3)
Theory and practice of interventions in marital, family, and child management problems. Prerequisite: PY 670.

PY 701 Child, Marital, and Family Therapy Practicum (1.5)
This practicum will focus on the application of child, family and marital therapy theory and skills acquired in PY 700 Child, Family, and Marital Therapy. The practicum will involve a combination of lecture, discussion, role plays, and practical experience with clients in the Psychological Services Clinic. Concurrent enrollment in PY 700 is required. Prerequisite: Graduate standing.

PY 720 Seminar in Psychology (2)
Selected topics of relevant psychological, clinical, and professional issues. May be repeated with different topics. Prerequisite: Consent.

PY 780 Internship (1-4)
Field training experience oriented toward development of skill in assessment and therapeutic intervention, consultation experiences, preventive applications, and group and family interventions. Repeated to a maximum of 12 hours toward the degree. Prerequisite: Admission to candidacy status and consent of instructor.

PY 795 Directed Research (1-3)
Independent supervised research. Does not count toward graduation. Prerequisite: 6 completed hours in PY 799.

PY 799 Thesis (1-3)
Independent supervised research. Repeated to a maximum 6 credit hours toward degree. Prerequisite: Admission to candidacy status.

Reading (RD)

RD 484 Reading in Content Areas (3)
A study of the specific reading skills relating to the various disciplines found in middle and secondary schools. This course addresses the philosophy that the effective content teacher includes the teaching of reading as an essential element for affecting the content. Emphasis is given to the importance of pre and post assessment of students’ reading skills and abilities, comprehension strategies, thinking and study skills, readability of materials and collateral reading. This course is required for all middle school and secondary school majors in the State of Kansas. This course may be taken for undergraduate and graduate credit. Prerequisite: Admission to teacher education.
RD 610 Literacy/ESOL Instructional Approaches (3)
This course is designed to investigate theories and practices of reading instruction with the goal of improving literacy instruction in the classroom. Students learn various current theories of the reading and writing processes as well as the internal and external variables that affect the acquisition of literacy skills. From these theories students are encouraged to adopt a personal view of the literacy process upon which instructional decisions as critical and reflective professionals in classrooms with diverse cultural and learning needs can be made. Current literacy research that supports instructional decision-making for native English speakers and ESOL learners will be infused throughout the course. Theory, which forms the basis for the course, is balanced with concern for practical applications in the classroom. Prerequisite: Graduate Standing.

RD 612 Literature for Children, Adolescents, and Young Adults (3)
This course examines literature across P-12 levels with an emphasis on how literature can be used in the development of literacy skills, including with learners whose native language is not English. Students will explore a variety of literature, including multicultural books, picture books, award winning books, poetry, and non-fiction books. Students will explore trends and issues in literature, including censorship, gender bias, cultural representation, as well as others. Prerequisite: Graduate Standing.

RD 616 Teaching Writing in Classrooms (3)
Current approaches to teaching writing based on whole language philosophy across a K-9 curriculum. Instructional strategies for improving writing skills through a writing workshop and methods of evaluating writing including portfolio assessment will be emphasized. Explores current issues and recent research findings relating to teaching writing.

RD 618 Integrating Language Arts in Classrooms (3)
Current approaches to teaching communication skills based on whole language philosophy across a K-9 curriculum. Instructional strategies for developing oracy and literacy skills are based on an integrated language arts perspective and include the development of thematic planning and reading workshop. Explores current issues and recent research findings relating to teaching language arts.

RD 619 Literacy for Young Adults (3)
Study of books read by young adults between 12 and 18. Covers history of young adult literature, the relationship between children's and young adult literature, censorship and selection, and teaching methods.

RD 620 Literacy and ESOL Assessment (3)
Principles and techniques of assessment of literacy skills of learners whose native language is English and in ESOL settings. Students will examine purposes for assessment, types of assessments (including formal and informal assessment procedures), analyzing assessment data, and evaluating learners' strengths and areas of need to determine goals for instruction. Prerequisite: Graduate Standing.

RD 622 Literacy/ESOL Instructional Strategies (3)
The scope of this course includes the principles and techniques of literacy instruction for learners whose native language is English and for ESOL learners with diverse learning needs. Current research in literacy provides the basis for understanding the needs of learners and the best strategies for assisting them. Focus on learning will be on making critical and reflective decisions in selecting the most appropriate strategies, resources, and materials for readers who exhibit specific strengths and challenges in reading. Prerequisite: Graduate Standing.

RD 624 Practicum in Reading (3)
Supervised clinical experience with learners who exhibit reading problems. Students administer tests, analyze data, determine reader's strengths and weaknesses, develop an instructional plan, select and implement appropriate strategies and materials, and assess progress towards instructional goals. Prerequisites: RD 610, RD 620, and RD 622.

RD 626 The Literacy/ESOL Specialist (3)
A seminar in the role of the literacy specialist and ESOL specialist in elementary, middle, or secondary school settings with emphasis on the knowledge and skills necessary to think and act as a literacy/ESOL professional with students, teachers, paraprofessionals, administrators, professional colleagues, and the community. This course will focus on federal, state, and local literacy/ESOL programs, current research and curricular practices, historical and current trends and issues in the field of literacy and ESOL, and organizations which support and advocate for literacy, ESOL learners, and literacy/ESOL specialists.

RD 628 Linguistics, Language Development, and Assessment (3)
Principles of the processes of language development including factors which affect language development, the stages of language acquisition, and the relationship between oral language and literacy. Focus on developing assessment procedures and instructional strategies to facilitate language development. The course also focuses on language and linguistics in ESOL settings, including first and second language acquisition processes; English phonology, morphology, syntax, and discourse; and implications for teaching English language learners. Prerequisite: Graduate Standing.

RD 630 Literacy/ESOL Practicum (3)
A supervised clinical experience in which students work with learners to improve their literacy skills. Students administer assessments, analyze data, determine learners' strengths and weaknesses, develop instructional plans, select and implement appropriate strategies and materials, and assess progress towards instructional goals using skills developed as critical and reflective professionals. Appropriate conduct is maintained with parents and classroom teachers with oral or written reports as deemed appropriate. Prerequisites: RD 610 and RD 612 and RD 620 and RD 622 and RD 628

RD 656 Advanced Children's Literature (3)
Advanced survey and analysis of the literature written for children through middle school. A variety of literary forms are explored. Emphasis on evaluation and development of specific strategies to enhance reader comprehension and appreciation. Emphasis also on incorporating children's literature in instruction across the curriculum.

RD 684 Literacy Instruction in the Middle and Secondary Content Areas (3)
A study of the specific literacy skills relating to the various disciplines found in middle and secondary schools. Emphasis is given to the importance of text complexity and readability, academic vocabulary acquisition, comprehension skills, use of text-based evidence, critical & analytical reading and writing, reading strategies (both universal and discipline specific), and working with ESOL learners. Prerequisite: Graduate Standing.
Religious Studies (RG)

RG 101 Introduction to Religion (3)
This course serves as an introduction to the academic discipline of religious studies. We will explore the human side of religion through the careful study of contextualized religious communities. Along the way, we'll develop a vocabulary for describing and comparing religious communities, and we'll learn some scholarly approaches to explaining why people are religious. Prerequisite: None.
(General Ed Humanities. Global Citizenship Ethics Div.)

RG 102 World Religions (3)
Study of the teachings and practices associated with some so-called "world religions" (including Islam, Christianity, Buddhism, Hinduism, and Yoruba) through ethnographies, films, TV clips, novels, and site visits, with special emphasis on local contexts and on interrogating the very concept of "world" religions. Prerequisite: None.
(General Ed Humanities. Global Citizenship Ethics Div.)

RG 103 Introduction to the Bible (3)
An introduction to the academic study of the Bible, including 1) biblical and non-biblical ancient texts in their historical contexts and 2) the historical processes that led to the creation of different canons of the Bible among Jews and Christians. Prerequisite: None.

RG 105 Introduction to Jewish Scriptures (3)
We will study a selection of ancient Jewish scriptures, including some that were eventually included in the Hebrew Bible (the Christian Old Testament) and some that were not, focusing on the specific political reasons that people had for writing these books and spreading them within their communities. Prerequisite: None.
(General Ed Humanities. Global Citizenship Ethics Div.)

RG 106 Introduction to Christian Scriptures (3)
Study of a selection of ancient scriptures read and/or written by ancient Christian communities, focusing on how it was determined which books would be included in the canonical New Testament. Prerequisite: None.
(General Ed Humanities. Global Citizenship Ethics Div.)

RG 110 Special Topics/Religion (1-3)
Topics will vary from semester to semester and will be announced in advance. May be repeated for credit when topics vary.

RG 207 Existence of God (3)
An elementary course in Philosophy and Religion focusing upon the specific rational arguments which have been advanced for and against the existence of a supreme being. Prerequisite: EN 101 or EN 102.
(General Ed Humanities. Critical and Creative Thinking.)

RG 300 Special Topics/Religion (2-3)
Topics will vary from semester to semester and will be announced in advance. May be repeated for credit when topics vary. Prerequisite: three hours of Religion or PH 302.

RG 301 Prophets and Prophetic Books in Ancient Judaism (3)
In this course, ancient Jewish prophetic literature is examined, including biblical books like Isaiah and extra-canonical traditions like Enoch. Prophecy is studied against the backdrop of ancient Near Eastern divination, and focus is on the role of prophetic books (a uniquely Jewish phenomenon) in the shaping of early Judaism. Prerequisite: three hours of Religion.

RG 303 The Historical Jesus? (3)
Two thousand years ago, a Galilean peasant upended the world. Who was he? How would we know, when he himself wrote nothing and his followers told his story decades later from their own perspectives? In this course, we re-examine primary literary sources and archaeological data in an attempt to reconstruct the life of Jesus of Nazareth. In the process, we interrogate the ways that our quests for the historical Jesus are also quests to understand our own distinct historical moment(s). Prerequisite: three hours of Religion.

RG 305 The Apostle Paul as Jew and as Christian (3)
Arguably, no figure had more of an impact on the shape of Christianity than the Apostle Paul—not even Jesus of Nazareth himself. Yet Paul lived and died thinking of himself as a Jew. In this course, the historical Paul is reconstructed through his authentic writings, and then the ways that Christians have built on Pauline traditions in antiquity, during the Reformation, and into the 21st Century are examined. Prerequisite: three hours of Religion.

RG 331 Understanding Religion (3)
What do we mean when we call something "religion"? Who decides what is and is not "religion"? This course examines various approaches to the academic study of religion, focusing on current disciplinary debates over description versus explanation, insider/outside dynamics, and the heuristic value of "religion" when applied to non-Western traditions. Prerequisite: Six hours of RG 201 OR PH 201 and PH 202 OR three hours of RG and PH 201 OR three hours of RG and PH 202.

RG 386 Special Study (1-3)
Individual study of specialized subjects pertaining to religion. May be repeated for credit. Prerequisites: nine hours of Religion and permission in advance by the professor with whom the student desires to work.

RG 398 Senior Thesis Preparation (3)
Independent research in preparation for a senior thesis. Students will complete preliminary research in the area of their senior thesis and prepare a thesis proposal. In addition, students will complete the portfolio project which asks them to submit a folder containing religious studies papers from previous courses along with their reflection upon their development over time in writing such papers. The proposal completed in RG 398 may not be or have been submitted for credit in any other course. Prerequisite: Senior Religious Studies Major

RG 399 Senior Thesis (3)
Independent research, writing and defense of a substantial paper, under faculty supervision. Work completed in RG 398 and RG 399 may not be or have been submitted for course credit in any other course. Prerequisite: RG 398.

RG 600 Special Topics in Religion (1-3)
Topics will vary from semester to semester and will be announced in advance. May be repeated for credit when topics vary. Prerequisites: 3 hours of Religion or PH 302.

RG 601 Old Testament Prophets (3)
An examination of selected prophetic texts in the Old Testament (e.g., the books of Amos, Hosea, Isaiah, Jeremiah, Ezekiel). Prerequisites: 3 hours of Religion.

RG 603 Jesus in the Gospels (3)
RG 605 The Mission & Message of Paul  (3)
An examination of Pauline Christianity and its place in the early church. Focus is on the genuine Pauline letters to determine the nature of Paul’s contribution to early Christian thought and its impact on developing Christian beliefs and practices. Prerequisites: 3 hours of Religion.

RG 631 Concepts of God: East and West  (3)
The variety of concepts used to describe the nature and activity of God according to the philosophical and theological interpreters of the world’s major religions. Prerequisites: 3 hours of Religion or Philosophy.

RG 686 Special Study  (1-3)
Individual study of specialized subjects pertaining to religion. May be repeated for credit. Prerequisite: nine hours of Religion and permission in advance by the professor with whom the student desires to work.

Social Work (SW)

SW 100 Introduction to Social Work & Social Welfare  (3)
The purpose of the course is to introduce interested students to the basic mission, values and ethics, knowledge base, methods, and services of the social work profession. An overview of the United States’ historical response to human needs and the current status of public social welfare policy will be explored. Prerequisite: None.

SW 250 General Social Work Perspectives  (3)
This course presents an overview of Generalist Social Work Perspectives. The emphasis of this course will be on introducing students to the integration of biological, psychological and social contexts in order to prepare them for upper-level course work in social work theories and practice. Prerequisite: None.

SW 325 Micro Human Behavior & Social Environment  (3)
The purpose of this course is to develop knowledge about human behavioral interactions, using a person-in-environment perspective. Bio-psycho-social aspects of individual, family and group development and interactions will be emphasized. This course will provide the foundation for developing direct social work practice skills. Prerequisites: SW 100 and SW 250.

SW 326 Macro Human Behavior & Social Environment  (3)
The purpose of this course is to develop knowledge about human interactions relevant to large groups, organizations, communities, cultures, societies, and other, larger systems. The emphasis will be to build upon the person-in-environment perspective, and to expand this model to encompass the effects of larger systems on individual functioning. This course will provide the foundation for developing social work macro-level practice skills. Prerequisites: SW 100 and SW 250.

SW 350 Social Policy and Programs  (3)
The major purpose of this course is to develop the conceptual knowledge of policy formulation, and the content, values, and process elements necessary for conducting social policy analysis. Prerequisites: SW 100 and SW 250.

SW 352 Micro Social Work Practice  (3)
The major purpose of this course is to prepare social work students for their field practicum work. The emphasis is on the development of working knowledge of the generalist practice model, interactional theories, and methods of facilitating change. In addition, there will be an emphasis placed on developing skills for providing social work services. For social work majors only. Prerequisites: SW 100 and SW 250.

SW 353 Macro Social Work Practice II  (3)
This second practice course will emphasize more advanced theoretical material, and the application of the generalist practice model to more complex systems. Skill development will be emphasized for assessment of client systems, and delivery of social work services. For social work majors only. Prerequisites: SW 100 and SW 250.

SW 354 Seminar & Field Practicum I  (6)
This course integrates the Field Practicum component and the Practice Seminar. Students will spend 16 hours per week in their field placements, with direct supervision by a licensed professional social worker. Opportunities for engaging in generalist social work practice at micro, mezzo and macro levels will be provided. In addition, students will attend a three-hour seminar each week. The seminar will emphasize the integration of their field experiences with the generalist practice model, and theories of change. Students must make application for the field in their junior year by the posted deadlines. Concurrent enrollment in SW 425 Pre-BSW Practicum Workshop is required. The culmination of the BSW program is the Field Practicum Placement. Two consecutive practicum/seminar courses are required and constitute this culminating educational experience. Prerequisites: SW 100, SW 250, SW 325, SW 326, SW 352, SW 353, and a 2.5 cumulative grade point average; admission to the BSW program; and a practicum-director-approved placement in a Field Practicum.

SW 355 Seminar & Field Practicum II  (6)
This is the second semester of the field experience and field seminar required for social work majors. The culmination of the BSW program is the Field Practicum Placement. This Practicum requires summative reflection, serving as a culminating experience for Bachelor’s degree students. Two consecutive practicum/seminar courses are required and constitute this culminating educational experience. Prerequisites: SW 100, SW 250, SW 325, SW 326, SW 352, SW 353, SW 354; admission to the BSW program; and a practicum director-approved placement in a Field Practicum.

SW 356 Social Work Practice in Healthcare  (3)
This course introduces students to generalist social work practice in healthcare settings, including the technological, social, political, ethical, and financial factors impacting patient care. This course emphasizes the relevant theories and models for healthcare practice at the micro, mezzo, and macro levels. Prerequisite: None.

SW 357 Inclusive and Competent Social Work Practice in Healthcare  (3)
The purpose of this course is to prepare social workers for generalist healthcare practice with clients with diverse backgrounds. The emphasis is on inclusive and culturally competent social work practice, to include the development of cultural awareness, humility; and knowledge about health and healthcare, as well as issues that can affect inclusive access, such as language and literacy, physical and cognitive ability, gender and sexuality, and macro, policy, and legal factors. Prerequisite: None.

SW 358 Family Decisions in Healthcare  (3)
The purpose of this course is to provide overall theoretical information about how families function and communicate during the process of health and long-term care decision-making. This course will provide overall generalist social work application skills and addresses interdisciplinary communication skills critical for working in a variety of healthcare settings. Prerequisite: None.
SW 359 Human Sexuality and Social Work Practice (3)
The major purpose of this course is to prepare social work students to explore the physiological, psychological, and socio-cultural variables associated with sexual identity, sexual orientation, sexual behavior, as well as to introduce a variety of theories explaining sexual behavior, development of sexual norms, and gender fluidity. Students will develop an understanding and appreciation of all aspects of human sexual behavior. Prerequisite: None.

SW 360 Geriatric Social Work Practice (3)
The purpose of this course is to provide students with an overview of gerontological social work in generalist practice with an emphasis on the principles of practice, the application of research, and the formulation of policies as they relate to older adults. The course will define the role of the social worker from a gerontological perspective and will introduce considerations for special populations that are most vulnerable: aging people of color, the disabled, and gay and lesbian aged. Prerequisite: None.

SW 361 Independent Study (1-3)
Social Work majors may pursue an independent research project approved by the BSW Program Director in consultation with the Department Chair. Independent Study may not be used in place of any courses required of the social work major. Independent Study courses must meet equivalencies to Federal definition of a credit hour. Prerequisites: SW 100 and SW 250.

SW 362 Social Work Research I (3)
Introduces students to the basic principles of generalist quantitative social work research, including ethics, problem formulation, and quantitative research designs and methodologies. Emphasis is placed on becoming a responsible consumer of quantitative research as well as exploring quantitative evaluation of programs and outcomes of practice. Prerequisites: SW 100 and SW 250.

SW 363 Social Work Research II: App (3)
Introduces students to the basic principles of generalist quantitative social work research, including ethics, problem formulation, and qualitative research designs and methodologies. Emphasis is placed on becoming a responsible consumer of qualitative research as well as exploring qualitative evaluation of programs and outcomes of practice. Prerequisites: SW 100 and SW 250.

SW 390 Contemporary Issues in Social Work (1-3)
A series of courses are designed to supplement the core curriculum. Each of these four required elective courses will focus on a contemporary issue, and will emphasize the integration of core social work values and ethics, the generalist practice model, and theories of human interactions and change. Specific courses taught under this course number include, among other courses: Child Welfare, Social Work and the Law, Multicultural Social Work, Case Management, and Social Work Policy Practice.

SW 395 Social Work International Service (3)
This course uses an international lens to provide BSW students the opportunity to learn about social work practice, including the effects of historical, social, psychological, physical, and environmental conditions on well-being at the micro, mezzo, and macro levels. The course will emphasize ways that culture and diversity intersect with social work practice. A portion of this course includes international travel.

SW 425 Pre-BSW Practicum Workshop (0)
In this mandatory one-day workshop, BSW students will be oriented to the field practicum, expectations regarding professional comportment, duties/responsibilities in completing tasks, required practicum program paperwork, and other aspects of the practicum experience. Concurrent enrollment in SW 354 Seminar and Field Practicum is required. Prerequisites: SW 100, SW 250, SW 325, SW 326, SW 352, SW 353, and a 2.5 grade point average overall; admission to the BSW program; and a practicum-director-approved placement in a Field Practicum.

SW 606 Micro Human Behavior in Social Environment (3)
This course uses an international lens to provide BSW students the opportunity to learn about social work practice, including the effects of historical, social, psychological, physical, and environmental conditions on well-being at the micro, mezzo, and macro levels. The course will emphasize ways that culture and diversity intersect with social work practice. A portion of this course includes international travel.
SW 622 Qualitative Social Work Research (3)
Introduces students to the basic principles of qualitative social work research, including ethics, problem formulation, and qualitative research designs and methodologies. Emphasis is placed on teaching students to become critical thinkers and responsible consumers of qualitative research. In addition, students will learn how to utilize various qualitative research strategies and methodologies to evaluate social service programs and practice outcomes. Spring semester only. Prerequisites: Admitted MSW students only or consent.

SW 640 Fundamentals of Social Work Practice (3)
Presents concepts and skills of generalist social work practice and includes the ecological and empowerment framework. Attention is given to preparation for the clinical concentration. Includes an examination of multi-level systems practice, and development of cultural competency is emphasized and integrated throughout the course. MSW students must complete this course or its equivalent before enrolling in SW 690, SW 691, and SW 692. Fall semester only. Prerequisites: Admitted MSW students only or consent.

SW 680 Clinical Social Work Practice in Healthcare (3)
This course introduces students to clinical social work practice in healthcare settings, including the technological, social, political, ethical, and financial factors impacting patient care. This course emphasizes the relevant theories and models for healthcare practice at the micro, mezzo, and macro levels. Prerequisite: Enrolled MSW students only.

SW 681 Inclusive and Competent Social Work Practice in Healthcare (3)
The purpose of this course is to prepare social workers for clinical health care practice with clients with diverse backgrounds. The emphasis is on inclusive and culturally competent social work practice, to include the development of cultural awareness, humility, and knowledge about health and healthcare, as well as issues that can affect inclusive access, such as language and literacy, physical and cognitive ability, gender and sexuality, and macro, policy, and legal factors.

SW 682 Family Decisions in Healthcare (3)
The purpose of this course is to provide overall theoretical information and application about how families function and communicate during the process of health and long term care decision-making. This course allows students to develop clinical skills that assist families in making these difficult end of life and healthcare decisions. This course also addresses interdisciplinary communication skills and how these skills are necessary for working with others who have different professional backgrounds in a variety of healthcare settings.

SW 683 Human Sexuality and Social Work Practice (3)
The major purpose of this course is to provide a theoretical background for social work students to explore the physiological, psychological, and socio-cultural variables associated with sexual identity, sexual orientation, sexual behavior, as well as introducing a variety of theories explaining sexual behavior, development of sexual norms, and gender fluidity. Students will develop an understanding and appreciation of all aspects of human sexual behavior, and will then also learn theoretically-based clinical skills that they can apply in a wide variety of social work settings.

SW 685 Dimensions of Professional Social Work (3)
In this course, students will become familiar with the history and development of the social work profession, the history of social welfare, the work ethic of the social work profession, the various roles and related responsibilities of social workers in the many different fields of practice that the profession embraces, career opportunities in social work nationally and internationally, the practical aspects of the NASW Code of Ethics, and selected portions of state rules and regulations that govern the practice of social work in Kansas. In addition, students will have an opportunity to develop sensitivity to, and respect for, human diversity and the value base that underlies the social work professions. An advanced standing student may be required by the MSW Program Director to complete this course. MSW students must complete this course or its equivalent before enrolling in SW 690, SW 691, and SW 692. Prerequisites: Admitted MSW students only or consent. Required of all regular standing MSW students who have not taken an introductory course to social work and social welfare at the undergraduate or graduate level.

SW 690 Pre-Generalist Practicum Workshop (0)
In this mandatory one day workshop, regular standing MSW students will be oriented to the generalist field practicum, expectations regarding professional comportment, duties/responsibilities in completing tasks, required practicum program paperwork, and other aspects of the practicum experience. Concurrent enrollment in SW 650, SW 791 and SW 651 is required. Spring semester only.

SW 691 Generalist Practicum I (3)
Students will gain supervised generalist level social work experience in selected community agencies. A minimum of 16 hours per week (240 clock hours) will be spent in mastering the knowledge and skills for multi-level client assessment, planning, intervention and evaluation. Concurrent enrollment in SW 690 and SW 692 is required. Spring semester only. Prerequisites: Admitted MSW students only, completion of at least 12 graduate hours in the MSW foundation including SW 640, and a practicum-director-approved placement in a field practicum.

SW 692 Generalist Practice Seminar I (3)
This seminar, taken concurrently with SW 691, provides students with the opportunity to integrate academic course work, including values and ethics, with their field practicum experiences. Concurrent enrollment in SW 690 and SW 691 is required. Spring semester only. Prerequisites: Admitted MSW students only, completion of at least 12 graduate hours in the MSW foundation including SW 640, and a practicum-director-approved placement in a field practicum.

SW 693 Generalist Practicum II (3)
This Generalist practicum provides the student further opportunities to gain supervised social work experience in selected community organizations and programs for a minimum of 20 hours per week (160 clock hours). The focus is on refining generalist practice skills, and applying them to more complex social work situations, with multi-level systems. Concurrent enrollment in SW 694 is required. Summer only. Prerequisites: Admitted MSW students only and completion of SW 690, SW 691, and SW 692.

SW 694 Generalist Practice Seminar II (3)
This seminar, taken concurrently with SW 693, provides students with further opportunities to integrate academic course work with the practice of generalist social work. Concurrent enrollment in SW 693 is required. Prerequisites: Admitted MSW students only and completion of SW 690, SW 691, and SW 692.
SW 700 Clinical Assessment and Diagnosis (3)  
Practically an in-depth analysis of assessment techniques and diagnostic tools, including the DSM-IV, guided by social work values and ethics. Focus is on developing the knowledge and skills for competent, multi-cultural assessment of client functioning, within societal and environmental contexts. Prerequisites: Admitted MSW students only and completion of all MSW foundation coursework or consent.

SW 705 Clinical Social Work Practice with Individuals (3)  
Students are expected to develop an understanding of theories, and development of skills, relevant to assessment and intervention with individuals, consistent with social work values and ethics. Special consideration is given to developing cultural competency and providing services to individuals who are vulnerable and/or oppressed. Prerequisites: Admitted MSW students only and completion of all MSW foundation coursework.

SW 706 Clinical Social Work Practice with Families (3)  
Students are expected to develop an understanding of theories, and development of skills, relevant to assessment and intervention with families, consistent with social work values and ethics. Special consideration is given to developing cultural competency and providing services to family units who are vulnerable and/or oppressed. Prerequisites: Admitted MSW students only and completion of all MSW foundation coursework.

SW 707 Clinical Social Work Practice with Groups (3)  
Students are expected to develop an understanding of theories and development of skills relevant to assessment and facilitation of small group interactions, consistent with social work values and ethics. Special consideration is given to developing cultural competency and providing services to vulnerable populations. Prerequisites: Admitted MSW students only and completion of all MSW foundation coursework.

SW 777 Continuous Enrollment (1-3)  
This course is to allow students additional time to complete Capstone, Thesis or Practicum requirements. Prerequisites: Instructor Permission

SW 779 Independent Study (1-3)  
This opportunity for study is designed for students wishing to complete an in-depth project in a specific area. The study must be approved by and coordinated with an individual member of the core social work faculty.

SW 780 Special Topics (1-3)  
Using a (1-3) credit hour format, a variety of clinical social work electives may be offered. These are meant to introduce a specific topic or intervention skill to students. Elective courses that are currently listed under the special topics number include but are not limited to: Applied Behavior Analysis, Multisystemic Family Therapy, Adult Mental Health, Play Therapy, and Social Work Policy Practice. Prerequisites: Admitted MSW students only and completion of MSW foundation coursework.

SW 781 Clinical Social Work Practice with the Exceptional Child (3)  
In this elective clinical course within the MSW program, students are expected to develop an understanding of the historical and current social work practices relating to the educational characteristics, needs, and placement alternatives for exceptional learners. Prerequisites: Admitted MSW Students only, completion of all MSW foundation coursework, and a practicum-director-approved placement in a clinical field practicum.

SW 782 Clinical Social Work Practice in the Educational Environment (3)  
Students in this content-driven course are expected to develop the knowledge and skills necessary for school social work practice or other forms of social work practice that might be influenced by the educational setting. In this course, students will gain a deeper understanding of the history, philosophy, and issues/trends of the American educational system. Students will be provided with an opportunity to critically analyze and discuss various historical, philosophical, and current trends in the education system, all the while juxtaposing social work philosophy, ethics, and practice principles against their findings. Prerequisites: Admitted MSW students only, completion of all MSW foundation coursework, and a practicum-director-approved placement in a clinical field practicum.

SW 783 Clinical Social Work Practice in Schools (3)  
Students in this course are expected to develop the knowledge and skills necessary for effective practice of school social work. An emphasis on the impact of policies for student and family functioning is included. Concurrent placement in a school-based clinical practicum is suggested.

SW 784 Psychopharmacology (3)  
Students in this course are expected to develop the conceptual background needed to understand current pharmacological interventions used with clients. An emphasis is placed on the social worker’s role in direct service with the client, the family, and other providers. Ethical issues involved with medications and medication compliance are stressed.

SW 786 Clinical Social Work Practice with Trauma (3)  
Students in this course are expected to develop the knowledge and skills necessary for effective clinical or systemic interventions for children, adolescents, and adults who have survived a traumatic event.

SW 787 Geriatric Social Work in Clinical Practice (3)  
This course is designed to provide students with an overview of gerontological social work in clinical practice with an emphasis on the principles of practice, the application of research, and the formulation of policies as they relate to older adults. The course will define the role of the social worker from a gerontological perspective. It will introduce the student to special populations that are most vulnerable: aging people of color, the disabled, and gay and lesbian aged.

SW 788 Multicultural Social Work in Clinical Practice (3)  
Students in this course are expected to develop the knowledge and skills necessary for effective assessment and treatment of ethnic minorities, women, and other disenfranchised groups. The psychological and sociological implications of discrimination are examined from a local, national and international framework, as well as the development of specific skills, including advocacy and empowerment, in working with disadvantaged groups.

SW 789 International Social Work (3)  
This course is designed to provide clinical social work students with an overview of international aspects of social work and its global context. This course covers working with migration, refugees, natural disasters, terrorism, and human rights issues. It will look at the role of humanitarian groups worldwide. This course will challenge students to explore the various ways that different cultures perceive the role of social work and social workers. Students will learn to analyze social development and policy issues. The course will define the role of the social worker from a global perspective, and introduce the student to special populations worldwide with an emphasis on the most vulnerable.
SW 790 Pre-Clinical Practicum Workshop (0)
In this mandatory one day workshop, MSW students will be oriented to the clinical field practicum, expectations regarding professional comportment, duties/responsibilities in completing tasks, required practicum program paperwork, and other aspects of the practicum experience. Concurrent enrollment in SW 791 and SW 792 is required. Fall semester only. Prerequisites: Admitted MSW students only; completion of all MSW foundation coursework, and a practicum-director-approved placement in a clinical field practicum.

SW 791 Clinical Practicum I (3)
This first semester of Clinical Practicum is taken concurrently with SW 792 Clinical Seminar. In this semester, students begin their professional development in community agencies. Small case load and close supervision is expected. Concurrent enrollment in SW 790 and SW 792 is required. Fall semester only.

SW 792 Clinical Practice Seminar I (3)
In this seminar, taken concurrently with the Clinical Practicum I, students are expected to integrate academic course work, including values and ethics, with the practice of clinical social work, and to analyze and evaluate their effectiveness with clients. Concurrent enrollment in SW 790 and SW 792 is required. Fall semester only.

SW 793 Clinical Practicum II (3)
This field experience is a continuation of Clinical Practicum I. Students are expected to further develop their clinical skills for assessment and intervention with individuals, families, and groups. Spring semester only.

SW 794 Clinical Practice Seminar II (3)
Clinical Seminar II must be taken concurrently with Clinical Practicum II. This online seminar/online course provides students with further opportunity to integrate academic course work, including values and ethics, with the actual practice of clinical social work, and to think critically about their clinical work with clients. The seminar/online course allows students to continue with peer clinical case consultation format. In addition, the seminar/online course permits students to focus on creating a portfolio that will be reviewed by peers and the instructor at the end of the semester. Spring semester only.

SW 795 Social Work International Service (3)
This course uses an international lens to provide MSW students the opportunity to learn about social work practice, including the effects of historical, social, psychological, physical, and environmental conditions on well-being at the micro, mezzo, and macro levels. The course will emphasize ways that culture and diversity intersect with social work practice. A portion of this course includes international travel.

Sociology (SO)

SO 100 Introduction to Sociology (3)
This course introduces students to theories, concepts, and methods used by sociologists in the study of society. Through this course, students should come to realize how many aspects of their lives are influenced by the social world in which they live and, as a result, should obtain a better understanding of themselves as social individuals and their place in society. Students will also develop an awareness and appreciation of how other individuals, groups, and/or societies have arrived at quite different perspectives. Prerequisite: None.

SO 101 Social Problems (3)
This course introduces students to the complexity of major social problems that are currently facing the U.S. and the world. Special emphasis is given to problems emerging from various divisions and inequalities in society related to social power, social class, race/ethnicity, sex, etc. Students will learn tools needed to critically evaluate these issues using sociological perspectives. Prerequisite: None.

SO 200 Special Topics in Sociology (1-3)
Topics will vary from semester to semester and will be announced in advance. May be taken for more than one semester. Prerequisite: SO 100 or SO 101.

SO 207 Race and Ethnic Relations (3)
This course examines the historical social construction of race in the U.S. We will focus on how race and ethnicity shape social life. This course will explore the experiences of various ethnic and racial groups. Prerequisite: SO 100 or AN 112.

SO 300 Special Topics in Sociology (1-3)
Topics will vary from semester to semester and will be announced in advance. May be taken for more than one semester. Prerequisite: SO 100 or SO 101.

SO 301 Population and Society (3)
This course provides students with an overview of the field of population studies. In the course, students will explore topics including fertility, mortality, immigration, marriage, and the consequences of these demographic changes on both social and individual levels. Prerequisite: SO 100.

SO 302 Culture & Human Sexuality (3)
This course provides a theoretical and empirical survey of human sexual beliefs and activities in selected Western and non-Western cultures. Prerequisite: AN 112 or SO 100.

SO 304 The Family (3)
This course provides an examination of contemporary U.S. and global family life, including courtship, marriage, divorce, child-rearing, and caring for aging parents. Prerequisite: SO 100.

SO 305 Criminology (3)
This course examines theories of causation of crime as well as conformity (non-criminal behavior), and their relationships to social structure and culture. In this course, we examine how laws are created, applied, and enforced in society. Prerequisite: Six hours of Sociology including SO 100 or SO 101.

SO 306 Law and Society (3)
In this course, the legal system is studied not in terms of the rules that make up the system, but in terms of the activities involved in creating, interpreting and enforcing these rules. The primary concern is with the ways in which the legal system affects society and in which society is an integral part of the larger social system and not an isolated set of rules, procedures, and activities. Prerequisite: SO 100 or SO 101.

SO 307 Penology (3)
This course provides a historical examination of the treatment of convicted adults and juveniles, as well as discussions of modern alternatives to prison, such as probation, parole, restorative justice, and suspended sentencing. The course includes field trips to local institutions. Prerequisite: SO 100 or SO 101.
SO 308  Sociology of Mental Health  (3)
Survey and sociological analyses of major theoretical approaches toward mental health and illness exploring the social factors associated with mental illness; examination of the dynamics of societal reactions to mental illness. Prerequisite: SO 100.

SO 309  Sociology of Deviance  (3)
This course includes presentation, evaluation, and integration of sociological perspectives of deviance. The course focuses on the social processes producing and maintaining deviance. Consideration is given to a variety of deviant expressions. Prerequisite: SO 100 or SO 101.

SO 310  Social Class in the U.S.  (3)
This course explores the definition of social class and the impact of social class on everyday lives including opportunity, education, marriage, and parenting. Prerequisite: SO 100.

SO 311  Juvenile Delinquency  (3)
This course examines the characteristics and extent of youthful deviancy. The focus is on possible causes, concepts of treatment, and societal reaction. Prerequisite: SO 100.

SO 313  Sociology of Disasters  (3)
This course analyzes the phenomena we call "disaster" using a sociological perspective. Some of the topics covered will include: What is a disaster? Do disasters randomly affect populations, or are some groups more vulnerable than others? How can disasters act as an agent for or against social change? Prerequisite: SO 100.

SO 314  Organizations  (3)
This course examines organizations from the sociological perspective with emphasis on formal organizations. Through this course, students will learn to apply concepts of organizational structure; organizational culture; processes of power, leadership, and decision-making; and understand outcomes of organizations on individuals, communities, and society, as well as the larger environments. Prerequisite: SO 100.

SO 315  Sociology of Sport  (3)
In this course we examine sport as a microcosm of society, in that we critically examine the social, cultural, political, and economic realities of society. Further, the sociology of sport exists to promote, stimulate, and encourage the sociological study of play, games, and contemporary physical culture and examine what these activities tell us about society. Prerequisite: SO 100.

SO 316  Japan and East Asia  (3)
The main objective of this course is to examine social, cultural, demographic, economic, and political trends in East Asia through the lens of sociologists and other social scientists. Emphasis will be on China, Japan, and Korea. Prerequisites: SO 100.

SO 318  Sociology of Religion  (3)
This course provides a comparative study of the phenomenon of religion with special emphasis on the impact and future of religion in the modern world. Classical and contemporary theories serve as a basis for the approach to religious values, norms, institutional structures, and changing religious practices. Prerequisite: SO 100.

SO 319  Food and Culture  (3)
Food is a part of everyday life, and we often taken the act of cooking and eating for granted. In this course, we will explore larger social phenomena through our consumption of food. Much of the focus of this course will involve reading scholarly analyses of different issues surrounding food. Prerequisites SO100 or consent of instructor.

SO 323  The City and Urban Life  (3)
This course provides a comparative study of the origin and development of cities. The focus is on processes of urban development, rural-urban migration, inter-relationships between people, urban cultures, social institutions, use of space and competing theoretical perspectives. Prerequisite: SO 100 or SO 101.

SO 326  Aging and Society  (3)
This course explores the aging process from the vantage point of sociological theories and related empirical studies. Emphasis is on the social, political, economic, medical, and demographic contexts of aging. Special attention is given to "new ageism." The course also focuses on the effect on U.S. society of an aging population. Prerequisite: SO 100.

SO 338  Strategies for Social Change  (3)
This course explores the major economic, political, and social forces that influence structural and cultural change in the U.S. and the world using a sociological perspective. The course also introduces students to different types of social movements and provides a framework for activism, as individuals and as members of groups. Prerequisite: SO 100 or SO 101.

SO 360  Sociological Theory  (3)
This course provides a historical examination of the field of sociology and the development of sociological theory from its classical roots to contemporary debates. "Scholars of thought" and the work of particular theorists are used to explore central concepts. Prerequisite: Declared major, junior/senior standing.

SO 362  Methods of Social Research  (3)
Specific research techniques employed by sociologists, anthropologists, and other social scientists are considered, including polls and surveys, the interview and participant observation. Each student will complete an outside project. One of two capstone courses required of Sociology majors. Prerequisites: Declared major and 15 hours of Sociology, or consent.

SO 363  Internship  (1-3)
Field training to provide students with experience in an operational or research setting through assignment to local social agencies or museums approved and supervised by a faculty member. May be elected twice for a maximum of three hours. Prerequisites: Declared major, senior standing and consent.

SO 366  Directed Readings  (1-3)
Under supervision of a faculty member, students will undertake an extensive readings course to further their understanding of a specific topic within Sociology. May be repeated for a maximum of six hours. Students are limited to six hours total from SO 366 and SO 367 combined. Prerequisite: Declared major, junior/senior standing, and consent.

SO 367  Directed Research  (1-3)
Upon supervision of a faculty member, students may undertake an independent research project in a specific aspect of Sociology. May be repeated for a maximum of six hours. Students are limited to six hours total from SO 366 and SO 367 combined. Prerequisite: Declared major, junior/senior standing, and consent.

SO 377  Sociology of Education  (3)
This course examines theories and methods focusing on the role of education in stabilizing and changing industrial society particularly the United States. We describe and analyze how schools and universities figure into recurring crises and struggles especially those related to the job market and to people's concerns as to what constitutes a rewarding life. Prerequisite: SO 100, SO 101 or consent of instructor.
SO 400 Special Topics/Sociology (1-3)
Topics will vary from semester to semester and will be announced in advance. May be taken for more than one semester. Prerequisite: SO 100 or SO 101.

SO 600 Special Topics in Sociology (1-3)
Topics will vary from semester to semester and will be announced in advance. May be taken for more than one semester. Prerequisites: Admission to a graduate program and consent of instructor.

SO 614 Organizations (3)
This course examines organizations from the sociological perspective with emphasis on formal organizations. Through this course, students will learn to apply concepts of organizational structure; organizational culture; processes of power, leadership, and decision-making; and understand outcomes of organizations on individuals, communities, and society, as well as part of larger environments. Prerequisites: Admission to a graduate program or consent of the instructor.

SO 638 Strategies for Social Change (3)
This course explores the major economic, political, and social forces that influence structural and cultural change in the U.S. and the world using a sociological perspective. The course also introduces students to different types of social movements and provides a framework for activism, as individuals and as members of groups. Prerequisites: Admission to a graduate program or consent of instructor.

SO 660 History and Theory Sociology (3)
This course provides a historical examination of the field of sociology and the development of sociological theory from its classical roots to contemporary debates. “Schools of thought” and the work of particular theorists are used to explore central concepts. Prerequisites: SO 100 and admission to a graduate program, or consent of instructor.

Sonography Licensure Prep (SONO)

SONO 300 Vascular Ultrasound Review (2)
This Vascular Ultrasound Review Course is designed to prepare the sonographer for the ARDMS registry exams. In this course you will cover the entire realm of vascular sonography. It will provide review materials, case studies of imaging pathology (sermonettes), faculty interaction and mock board exams. Along with 2 college credits or submission for CME’s.

SONO 301 Ultrasound Physics Review (2)
This Ultrasound Physics Review Course is designed to prepare the sonographer for the ARDMS registry exams. In this course you will cover the entire realm of sonography principles and instrumentation. It will provide review materials, case studies of imaging pathology (sermonettes), faculty interaction and mock board exams. Along with 2 college credits or submission for CME’s.

SONO 302 Cardiac Ultrasound Review (2)
This course is structured to provide a comprehensive review to better prepare an individual for the ARDMS® or CCI® registry exams. This course provides cardiac information specific to the content outlines provided by the ARDMS® and CCI®. Information is provided by different instructional methods such as sermonettes, case-studies, videos, and PowerPoints. Unlimited mock exams are available to take at your convenience.

SONO 303 Ob/Gyn Ultrasound Review (2)
This OB/GYN ultrasound online review course is designed to prepare the sonographer for the sonography credentialing exams. In this online course you will cover the entire realm of OB/GYN sonography as related to the sections of anatomy & Physiology, Pathology, Integration of Data, Protocols, Physics & Instrumentation, and Treatment. It will provide review materials, case studies of imaging pathology (sermonettes), faculty interaction and mock board exams. 2 college credits will be awarded upon successful completion.

SONO 304 Abdominal Ultrasound Review (2)
This Abdominal ultrasound online review course is designed to prepare the sonographer for the sonography credentialing exams. In this online course you will cover the entire realm of abdominal sonography as related to the sections of anatomy & Physiology, Pathology, Integration of Data, Protocols, Physics & Instrumentation, treatment, managing medical emergencies, and traumatic injury. It will provide review materials, case studies of imaging pathology (sermonettes), faculty interaction and mock board exams. 2 college credits will be awarded upon successful completion.

Spanish (SP)

SP 101 Beginning Spanish I (4)
Introduction to conversation, reading, grammar, and composition. Development of oral/aural skills. Particular emphasis on contemporary culture and social customs in the Spanish-speaking world. An audiovisual program to develop phonological skills is a component of this course. No prerequisite.

SP 102 Beginning Spanish II (4)
Continuation of Spanish 101. Prerequisite: SP 101 or two years of high school Spanish, or consent of instructor.
(General Ed Humanities. Global Citizenship Ethics Div.)

SP 105 Intensive Beginning Spanish I & II (8)
Same content as SP 101 and SP 102 but accomplished in one semester of intensive study. Not open to native speakers of Spanish or students who received credit for SP 101 or SP 102. Recommended for students who have already had some high school Spanish.

SP 201 Intermediate Spanish I (3)
This course is intended as reinforcement of the 5 skills learned in SP 102: speaking, listening, reading, writing and culture. Offered fall semester only. Prerequisite: SP 102 or 3 years of high school Spanish with B or better.
(General Ed Humanities. Global Citizenship Ethics Div.)

SP 202 Intermediate Spanish II (3)
This course is the continuation of SP 201. Offered spring semester only. Prerequisite: SP 201 or consent of the instructor.
(General Ed Humanities. Global Citizenship Ethics Div.)

SP 207 Basic Spanish Conversation (3)
Development of oral skills with emphasis on practical vocabulary. Use of magazines, newspapers, and other topical materials as basis for conversation. Offered fall semester only. Prerequisite: SP 202 or two years of high school Spanish, or consent of instructor.

SP 274 Independent Study (1-3)
Directed study. May be repeated. Prerequisite: Consent of instructor.
SP 290 Study Abroad Spanish Speaking Country (1-15)  
Students who are planning to study in a Spanish speaking country should enroll under this number after consultation with their major advisor. Prerequisite: 1 year of university-level Spanish (SP 101/SP 102) or equivalent.

SP 295 Faculty Led Program Spanish Speaking Country (0-6)  
Students who plan to study Spanish in a Spanish speaking country in a program led by a faculty member at Washburn should enroll in this class. Prerequisite: Consent of Faculty Group Leader.

SP 307 Contemporary Hispanic Culture (3)  
This course explores the diversity and complexity of the Spanish-speaking world through its geography, history, politics, and cultural manifestations. Through the study of different media, the course examines how culture interprets and shapes the identity of Hispanic countries. THIS COURSE IS TAUGHT IN ENGLISH. Spanish majors may enroll in this course and use it as an elective if not counting SP 308. Prerequisite: Sophomore status.

(General Ed Humanities. Global Citizenship Ethics Div.)

SP 308 Hispanic Narrative in Translation (3)  
This course introduces students to some of the most important Hispanic speaking thinkers (writers, poets, and film directors). An emphasis on the historical and cultural context will provide students with a better understanding of literary texts and culture. Each course is organized around one theme or question subject to change. Students will enhance their skill of analyzing narrative [literature, films] and gain an understanding of historical and cultural aspects in the modern Spanish-speaking world. Students will work on producing good academic prose, clear and concise essays on novels, plays, poems, films and/or theoretical works studied in class. Selected films in Spanish will be shown with English subtitles. Class will be conducted in English and it is only valid for the major in the language as a correlated course. Prerequisite: Sophomore Standing or Consent of Instructor.

(General Ed Humanities. Global Citizenship Ethics Div.)

SP 311 Spanish Grammar Review (3)  
Comprehensive review of Spanish grammar with emphasis on the development of free composition. Grammatical accuracy, clarity, and the appropriate use of idioms and syntax are stressed. Offered fall semester only. Prerequisite: SP 202 or consent of instructor.

SP 312 Spanish Composition (3)  
Development of grammatical accuracy and proficiency in composition. Use of readings to illustrate grammatical points and form the basis for composition and discussion. Offered spring semester only. Prerequisite: SP 311 or consent of instructor.

SP 315 Translation (3)  
Spanish-English and English-Spanish translation of a variety of texts. Focus on techniques of translation and improving Spanish grammar, syntax and idioms. Prerequisite: SP 311 or consent of instructor.

SP 321 Spanish for Business (3)  
Upper-level Spanish course applied to the world of business from a Hispanic cultural perspective, focusing on grammar review, vocabulary, cultural protocols and business concepts. Prerequisite: SP 312 or consent of instructor.

SP 324 Civilization of Spain (3)  
Oral and written treatment of geography, history, art, economy, and customs in order to understand present conditions in this country. Use of multimedia resources. Prerequisite: SP 312 or consent of instructor.

SP 325 Civilization of Mexico (3)  
Oral and written treatment of geography, history, art, economy, and customs in order to understand present conditions in this country. Use of multimedia resources. Prerequisite: SP 312 or consent of instructor.

SP 326 Civilization of Latin America (3)  
Oral and written treatment of geography, history, art, economy, and customs in order to understand present conditions in this area of the world. Use of multimedia resources. Prerequisite: SP 312 or consent of instructor.

SP 331 Introduction to Hispanic Literature (3)  
Intensive readings in modern Hispanic literature to give students critical methods for dealing with Hispanic literary genres. Prerequisite: SP 312 or consent of instructor.

SP 340 History/Literature Latin America (3)  
This course focuses on the relationship between history and literature in modern Latin America. Through the study of novels, poetry, film, and other genres the course examines how authors use literature to interpret the meaning of history and society as well as moments in which literature became part of the historical process. THIS COURSE IS TAUGHT IN ENGLISH. Students majoring in Spanish can take the course for Spanish credit if they do the readings, write papers, and take tests in Spanish. Prerequisite: SP 312 or consent of instructor.

SP 350 Spanish Literature through the 19th Century (3)  
Readings of unabridged works from the Middle Ages through the 19th century. Written and oral discussion of the literary significance of the works, as well as their sociohistorical background. Prerequisite: SP 312 or consent of instructor.

SP 353 Twentieth Century Spanish Peninsular Literature (3)  
Readings and discussion of unabridged novels and plays as well as short stories and poetry of modern writers. Focus on the expression of contemporary problems and aspirations. Prerequisite: SP 312 or consent of instructor.

SP 370 Latin American Literature through the 19th Century (3)  
Readings and discussion of unabridged novels, short stories, plays and poetry of Latin American writers from Pre-Hispanic to 19th century Latin America. Focus on how the past has shaped the contemporary traditions. The class will include discussion of modern adaptations of classic works (i.e., movies). Prerequisite: SP 312 or consent of instructor.

SP 372 Twentieth Century Latin American Literature (3)  
Readings and discussion of unabridged novels, plays, short stories, and poetry of modern writers. Focus on the expression of contemporary problems and aspirations. Prerequisite: SP 312 or consent of instructor.

SP 374 Independent Study (1-3)  
Directed study. May be repeated. Prerequisite: Consent of instructor.

SP 375 Spanish Seminar (3)  
Application of the techniques of literary analysis to particular authors or literary movements. May be repeated. Prerequisite: Consent of instructor.

SP 380 Hispanic Culture thru Film (3)  
This course is an introductory survey of the history of Hispanic film, and how film reflects and shapes Hispanic history, culture, and society. The course can focus on a particular Spanish-speaking country. Special attention will be paid to the study of significant movies, stars and directors, as well as the basics of critical language needed to talk and write about a film. Prerequisite: SP 312 or consent of instructor.

(General Ed Humanities. Global Citizenship Ethics Div.)
SP 390  Study Abroad Spanish Speaking Country (1-15)
Students who are planning to study in a Spanish speaking country should enroll under this number after consultation with their major advisor. Prerequisite: 2nd year of university-level Spanish (SP 201/SP 202) or equivalent.

SP 395  Faculty Led Program Spanish Speaking Country (0-6)
Students who plan to study Spanish in a Spanish speaking country in a program led by a faculty member at Washburn should enroll in this class. Prerequisite: Consent of Faculty Group Leader.

SP 399  Special Topics/Spanish (3)
Study of individual authors or literary topics. May be repeated. See chairperson and/or schedule for current offerings. Prerequisite: Consent of instructor.

SP 400  Senior Thesis (3-6)
A major research project culminating in a thesis which deals with a literary topic, or other topics as approved by the thesis director. May be presented to the departmental faculty for consideration for departmental honors. Prerequisite: Senior standing.

SP 674  Independent Study (3)
Directed study. May be repeated. Prerequisites: Admission to MLS program and consent of instructor.

SP 699  Special Topics/Spanish (3)
Study of individual authors or literary topics. Prerequisites: Admission to MLS program and consent of instructor.

Special Education (SE)

SE 420  Planning for Children and Youth with Mid-Moderate Disabilities (3)
Introduction to programming, planning and scheduling procedures to structure the learning environment for pre-school and elementary students with learning and behavioral problems. Emphasis placed on establishment of procedures for laws and regulations, regular class integration, student and teacher time management, class scheduling, grading practices, and student/program evaluation. Prerequisite: Admission to the Professional Teacher Education Program and ED 302.

SE 422  Educational Planning for Youth with Disabilities (3)
Introduction to programming, planning and scheduling procedures to structure the learning environment for middle and secondary school students with learning and behavioral problems. Emphasis placed on establishment of procedures for regular class integration, student and teacher time management, class scheduling, grading practices, and student/program evaluation. Prerequisite: Admission to the Professional Teacher Education Program and ED 302.

SE 430  Methods & Materials for Teaching Youth with Disabilities (Pre K-Grade 5) (3)
Emphasis on selection and implementation of instructional methods including affective and learning behaviors, selection and adaptation of materials to support student learning, behavior, and social adjustment in regular education classroom. IEP development. Prerequisites: Admission to teacher education and ED 302.

SE 432  Methods & Materials for Teaching Youth with Disabilities (Grade 6-12) (3)
Emphasis on selection and implementation of instructional methods including affective and learning behaviors, selection and adaptation of materials to support student learning, behavior, and social adjustment in regular education classroom. Prerequisite: Admission to the Professional Teacher Education Program and ED 302.

SE 440  Individual & Group Management - Children & Youth with Disabilities (3)
Principles and applications of individual and group management techniques for children and youth with mild/moderate disabilities. Topics addressed include various theoretical approaches, practical techniques, and assessment procedures. Prerequisites: Admission to teacher education and ED 302.

SE 456  Special Education Practicum (4)
Directed and supervised intensive teaching experiences with children with mild/moderate disabilities in educational settings which include elementary age children. Prerequisite: Admission to the Professional Teacher Education Program, ED 302, and Admission to Student Teaching.

SE 460  Exceptions-Early Childhood (3)
Focuses on children with disabilities ages birth through grade three. Emphasis is placed on understanding assessment, uses of technology, working with families, development of IEP's/IFSP, legal and historical foundations, program models, and collaboration with school personnel. Prerequisite: ED 302.

SE 476  Psychology of the Exceptional Student (3)
Historical and current practices relating to the educational characteristics, needs, and placement alternatives for exceptional students. Emphasis placed on procedure and strategies for teaching exceptional students in the regular classroom. Prerequisites: Admission to teacher education.

SE 610  Learning and Behavioral Problems of Children and Youth with Mild-Moderate Disabilities (3)
Social, cognitive, behavioral, educational, medical aspects of development to establish etiology, characteristics, and best practice interventions for children and youth with learning and behavioral problems and theories of the causes of learning and behavioral problems. Emphasis on identifying disabilities according to state guidelines, utilizing appropriate assessment data, engaging in multi-disciplinary planning, and developing appropriate interventions. Prerequisite: ED 302 or SE 476.

SE 620  Educational Planning for Children and Youth with Mild-Moderate Disabilities (Pre-School/Elementary) (3)
Introduction to programming, planning and scheduling procedures to structure the learning environment for pre-school and elementary students with learning and behavioral problems. Emphasis on establishment of procedures for laws and regulations, regular class integration, student and teacher time management, class scheduling, grading practices, and student/program evaluation. The Individual Educational Planning (IEP) process and training in development of computerized IEP included. Prerequisite: SE 610.

SE 622  Educational Planning for Children and Youth with Mild-Moderate Disabilities (Middle/Secondary School) (3)
Introduction to programming, planning and scheduling procedures to structure the learning environment for middle and secondary school students with learning and behavioral problems. Emphasis on establishment of procedures for regular class integration, student and teacher time management, class scheduling, grading practices, and student/program evaluation. Prerequisite: SE 610.

SE 630  Methods and Materials for Teaching Mild-Moderate Disabled Children/Youth (Pre-School/Elem School) (3)
Emphasis on selection and implementation of instructional methods including affective and learning behaviors, selection and adaptation of materials to support student learning, behavior, and social adjustment in regular classroom. Prerequisite: ED 302 or SE 610.
SE 632 Methods and Materials for Teaching Mild-Moderate Disabled Children/Youth (Middle School/Secondary) (3)
Implementation of comprehensive Individualized Education Program (IEP). Emphasis on selection and implementation of instructional methods including affective and learning behaviors, selection and adaptation of materials to support student learning, behavior, and social adjustment in regular classroom. Prerequisite: ED 302 or SE 610.

SE 635 Conferencing and Consulting in Special Education (3)
Introduction of counseling and communication skills to develop multidisciplinary approaches to work with parents and other professionals to secure supportive school/home environments for exceptional children. Prerequisite: ED 302 or SE 476 and SE 610.

SE 640 Individual and Group Management for Children and Youth with Mild-Moderate Disabilities (3)
Principles and applications of individual and group management techniques for youth with mild/moderate disabilities. Methods of targeting behaviors through positive management procedures stressed, various theoretical approaches and practical techniques.

SE 655 Special Education Practicum (4)
Directed and supervised intensive teaching experiences with children with mild/moderate disabilities in educational settings which include elementary age children. Prerequisite: Admission to Student Teaching.

SE 656 Special Education Practicum I (Pre-Elementary) (2, 3)
Directed and supervised intensive teaching experiences with children with mild/moderate disabilities in educational settings which include pre-school/elementary age children. Prerequisite: SE 610, SE 620 (or concurrent).

SE 657 Special Education Practicum II (Pre-Elementary) (2, 3)
Interrelated teaching experiences with students with mild/moderate disabilities. Prerequisite: SE 656 and 18 hours of graduate coursework.

SE 658 Special Education Practicum I (Middle/Secondary) (2, 3)
Directed and supervised intensive teaching experiences with children with mild/moderate disabilities in educational settings which include middle school and secondary age children. Prerequisite: SE 610, SE 620 (or concurrent classified as educable mentally handicapped learning enrollment in SE 622).

SE 659 Special Education Practicum II (Secondary) (2, 3)
Interrelated teaching experiences with students with mild/moderate disabilities. Prerequisite: SE 658 and 18 hours of graduate coursework.

SE 660 Assessment in Special Education (Pre-Elementary) (3)
Survey and analysis of individual tests, curriculum-based and ecological measures applicable to diagnosing and planning instructional programs for children with mild/moderate disabilities. Emphasis on development of individual portfolios through data collection, administration and interpretation of multi-sourced educational information, test results, and personal records to develop appropriate curriculum. Stresses use of data in the development of Individualized Educational Plans. (Fee may be assessed to cover the cost of consumable materials.) Prerequisite: SE 610, SE 620, and consent of instructor.

SE 662 Assessment in Special Education (Middle/Secondary) (3)
Survey and analysis of individual tests and curriculum-based measures applicable to diagnosing and planning instructional programs for children with mild/moderate disabilities. Emphasis on developing individual portfolios through data collection, administration and interpretation of multi-sourced educational information, test results, and personal records to develop appropriate curriculum. Stresses use of data in the development of individual educational plans. (Fee may be assessed to cover the cost of consumable materials.) Prerequisite: SE 610, SE 620, and consent of instructor.

SE 663 Exceptionals in Early Childhood Education (3)
Focuses on children with disabilities ages birth through grade 3. Emphasis is placed on understanding assessment, uses of technology, working with families, development of IEP.

SE 674 Special Topics in Special Education (3)
Topics vary from semester to semester and will be announced in advance. ED 674 may be repeated for credit. Prerequisites: Permission of Department Chairperson and Instructor.

SE 676 Psychology of the Exceptional Student (3)
Historical and current practices relating to the educational characteristics, needs, and placement alternatives for exceptional students. Emphasis on procedure and strategies for teaching exceptional students in the classroom. Prerequisite: Graduate Standing.

SE 680 Resources for Families with Disabilities (3)
Study of the local, state and national resources available to assist children with disabilities and their families. Structural characteristics of families is presented to assist students in understanding the needs of individuals with disabilities. Prerequisite: ED 302 or graduate standing.

Surgical Technology (SUR)

SUR 105 Introduction to Surgical Tech (4)
The course introduces the student to professional responsibilities, duties, and general functions of the operating room. It also introduces the student to the rest of the operating room team and their functions, responsibilities for safety of the patient and themselves, organization of the hospital and the operating room, legal and ethical issues, and the importance of communication in the operating room, credentialing, and professionalism. The use of electricity and lasers in the operating room are also covered as are the pre-op routines of the circulator prior to the patient entering the operating room.

SUR 110 Microbiology (2)
The course introduces the student to basic micro-organisms and how they relate to the operating room and sterile technique.

SUR 120 Medical Terminology (3)
The course introduces the student to the language of the medical field. Medical prefixes, suffixes, and combining forms are introduced to the student so they may have a thorough knowledge and understanding of what they are reading and writing in the medical field. An emphasis is placed on terms, pathological conditions, and diagnostic terms that relate to surgery.

SUR 125 Surgical Medical Terminology (3)
The course introduces the student to the language of the medical field. Medical prefixes, suffixes, and combining forms are introduced to the student so they may have a thorough knowledge and understanding of what they care reading and writing in the medical field. An emphasis is placed on terms, pathological conditions, and diagnostic terms that relate to surgery.
SUR 155 Surgical Procedures I (4)
The course instructs the student in basic general, gynecological, and genitourinary surgical procedures. Besides the procedure itself, the student will learn the instrumentation needed, pathology, sutures used, and special considerations.

SUR 165 Surg Procedures I (3)
The course instructs the student in basic general, gynecological, and genitourinary surgical procedures. Besides the procedure itself, the student will learn the instrumentation needed, pathology, sutures used, and special considerations.

SUR 175 Clinical I (3)
The student will start to apply the basic skills they have learned for the operating room in the actual operating room of a clinical facility. They will also pick up experience in the instrument room and pre-operative area of the hospital. Clinical proficiency at our facilities prepares the student with a minimum of 120 cases, 80 of which are in the first scrub role and comprise a variety of surgical scrub experiences.

SUR 245 Surgical Procedures II (5)
This course will expand ENT, maxillofacial, orthopedic, vascular, plastic surgery, and neuro surgical procedures. Besides the procedure itself, included in this course is pathology involved, surgical instruments needed, positioning of the patient, and special considerations for each surgical procedure.

SUR 250 Surgical Pharmacology (2)
This course begins with weights and measurements using the metric system and its application in the medical field. A review of basic math skills and figuring ratios is included. Medications used in the operating room during surgery both for the surgeon and the anesthesia provider will be discussed. Pre-operative and post-operative medications for anxiety, pain, emergencies, and other operating room (OR) related health issues will be discussed. Anesthetic agents used including IV, inhalation, regional, and local will be presented to the student.

SUR 265 Surgical Procedures III (5)
The course will introduce students to vascular, thoracic, plastic, ophthalmic, pediatric surgical procedures and trauma surgery. Included in this is pathology involved, surgical instruments needed, positioning the patient, and special considerations for each surgical procedure. Students will also learn basic physics and robotics as applied to the operating room.

SUR 270 Clinical II (4)
In the surgical suite students will apply knowledge and skills learned in Surgical Procedures II and Principles and Practices Lab to the operating room on all surgical procedures. This course is designed to increase the student's self-confidence as a surgical tech and allow them to become more aware of their sterile technique and preparedness for each surgical procedure. Anticipation of the surgeon is critical. Clinical proficiency at our facilities prepares the student with the required 120 surgical cases, 80 of those in the 'first scrub' role.

SUR 285 Clinical III (6)
In the surgical suite students will apply knowledge and skills learned in Surgical Procedures and Principles and Practices to the operating room on more advanced procedures. This course is designed to increase the student's self-confidence and have them know instruments needed and general preparedness for each surgical procedure. Anticipatory skills are enhanced. Clinical proficiency at our facilities prepares the student with the required 120 surgical cases, 80 of these will be in the 'first scrub' role.

SUR 290 Clinical III (4)
Comprehensive review of surgical technology concepts and practical preparation for the national certification examination including but not limited to: Preoperative preparation of the surgical patient, Intra-operative procedures, Post-operative procedures, Administrative and personnel, Equipment sterilization and maintenance, Anatomy and physiology, Microbiology, and Surgical pharmacology.

SUR 295 ST Certification Review (1)
Comprehensive review of surgical technology concepts and practical preparation for the national certification examination including but not limited to: a. Preoperative preparation of the surgical patient; b. Intra-operative procedures; c. Post-operative procedures; d. Administrative and personnel; e. Equipment sterilization and maintenance; f. Anatomy and physiology; g. Microbiology; and h. Surgical pharmacology.

Technical Drafting (TED)

TED 100 General Drafting (4)
Introduces the application of fundamental drawing types which includes geometric construction, orthographic views, sections, auxiliary views, and development. Students are instructed in the care and use of the tools and equipment.

TED 110 Drafting Standards (1)
Drafting standards is a course in time keeping, filing, drawing logs, and drawing cross references. Developmental skills in organization, accuracy, neatness, attendance policies, dress codes, and safety in the workplace are taught.

TED 120 Technical Math I (2)
This course is a math review of practical skill as related to the drafting workplace where the students utilize fractions, decimals, simple equations, powers and roots, ratios and proportion, plane geometry, right triangles, oblique triangles, computation of areas and volumes, and use of charts and graphs. Prerequisite: Technical Math I

TED 125 Technical Math II (3)
This course is a math review of practical skill as related to the drafting workplace where the students utilize plane geometry, right triangles, oblique triangles, trigonometric natural and co-functions, solutions of triangles right and oblique, computation of areas and volumes, and use of charts and graphs. Prerequisite: Technical Math I
**TED 130 CAD I (5)**  
First course in a three-term sequence introducing AutoCAD software as a drafting tool. Instruction will be given in file handling, basic commands function, drafting techniques, presentation, and plotting. Architectural and mechanical applications will be used in lab exercises to demonstrate AutoCAD commands. Work will be completed with AutoCAD.

**TED 135 CAD II (3)**  
Second course in a three-term sequence covering intermediate AutoCAD commands including attribute blocks, external references, object linking/embedding, advanced drawing set-up, and user coordinate systems. Work will be completed with AutoCAD. Recommended prerequisite: CAD I

**TED 140 Machine Design (6)**  
This course is an introductory to fundamentals, theory, terminology, and practical construction methods in the machine disciplines. Use of actual working drawing used as reference to industry standards. Students will use a combination of drawing board and CAD in this segment. Practical skills refinement in methods, materials identification and labeling, and drafting techniques and standards used in various types of drawings used in the machine industries are taught. Recommended prerequisite or co-requisites: General Drafting; CAD II

**TED 200 Architect Design (5)**  
Introduces fundamental aspects of architectural drafting. Covers drafting of residential and light commercial buildings, sections and elevations, schedules, design lay-outs, details, and working drawings. Recommended prerequisite or co-requisite: CAD II

**TED 210 Industrial Design (6)**  
Introduces mechanical drafting utilizing Autodesk's INVENTOR software through parametric 3D-design tools for assembly centered modeling and collaborative engineering. Students develop fundamental knowledge in the areas of part and assembly modeling, using adaptive features, utilizing work groups, surfacing basics, data management, and layout presentation. Recommended prerequisites or recommended co-requisites: Machine Design; CAD III

**TED 220 Civil Design (6)**  
Introduces civil drafting applications using civil, mapping, and survey products. Drawings will be developed to include plats, related civil infra-structure, public utilities, contours, and roads. Recommended prerequisite or recommended co-requisite: CAD II

**TED 230 CAD III (5)**  
Third course in a three-term sequence covering advanced AutoCAD commands including advanced plotting, plotter, CAD standards, modeling 3-D wire frame, surfaces, solids, and 3-D presentation. Work will be completed with AutoCAD. Recommended prerequisite: CAD II

**TED 250 Workplace Skills I (2)**  
Students that have completed all course objectives and criteria plus having an opportunity for employment related to the drafting field may utilize On-the-Job Training (OJT) with instructor and administrative permission.

**Technology Administration (TA)**

**TA 300 Evolution & Development of Technology (3)**  
This course includes a historical account of the development and innovation of technology. Emphasis is on the development of scientific knowledge and its relationship to inventions, their role in careers and impact on civilization.

**TA 310 Technology & Society (3)**  
Course will focus on current technology in the context of historical development and the effect of technology on today's society. Students will develop critical analysis of technological innovation through a variety of readings, research and projects.

**TA 320 System Design, Assessment, & Evaluation (3)**  
This course provides practice in skills to analyze organizational opportunities and evaluates systems using techniques such as flow charts, cause and effect diagrams and others to determine how systems can be utilized to meet organizational challenges. The course will cover such topics as systems planning, analysis, design, testing, implementation and maintenance. Prerequisite: MA 110, or MA 112, or MA 116, or MA 140.

**TA 330 Safety Analysis & Quality Assurance (3)**  
The purpose of the course is to review the organization of accident prevention programs, job hazards, accident cost control, and planning and maintaining a safe environment. The course includes analysis of data, including the use of statistical process control, risk management, and quality assurance issues such as inspections, reports, and external standards of federal, state and local agencies.

**TA 340 Technology Policy (3)**  
This course will provide an in-depth study of policy and law practices relating to technology. The course will deal with technology policy, legal ramification in relation to local environments, state, national and international communities. Consideration in the course will deal with issues such as technological efficiency, socio-economic development, environment, security and others. Special emphasis will be given to the political process in which technology policies are shaped in public and private organization.

**TA 360 Independent Study (1-4)**  
Technology Administration majors may pursue an independent research project approved by the Program Director in consultation with the Department Chair. Independent Study may not be used in place of any courses required of the TA work major. Independent Study courses must meet equivalencies to Federal definition of a credit hour. Prerequisites: Consent

**TA 370 Technology Internship (1-4)**  
Provides the opportunity under the direction of a faculty member to gain insight and practical experiences in an area of technology administration.

**TA 380 Technology and the Future (3)**  
This course will examine applications of a variety of predication tools and techniques to forecast future developments in their career field. Outcomes will include identification and implementation of strategies to create a desired future in an operation, production or market. Prerequisite: (MA 110 or MA 112 or MA 116) and EN 101.

**TA 381 Technology and Ecology (3)**  
The purpose of the course is to examine ecological policy in terms of technology and innovation, including the political, geographical, legal and social contexts in which technological innovation occurs. The course will examine conflicts between innovation and resources, risk assessment, national and global impact, and scale of consequences.

**TA 390 Special Topics in Technology (1-3)**  
These special topic courses cover a variety of subjects designed to instill current topics into the technology program.
TA 400 Technology Administration (3)
This course provides an introduction to several core concepts in technology management and the role of managers of technology in their respective organizations. The course will cover topics such as technology strategy, effective use of resources, the impacts of technology systems, funding technology and ethical approaches to using and managing technology.

TA 410 Technology Planning (3)
This course investigates the increasing use of projects to accomplish organizational goals, including how project plan inputs are accurately gathered, integrated and documented. Topics include project life cycle, work breakdown structure, and the importance of quality, risk, and contingency management in planning development. Prerequisite: None.

TA 420 Technology Project (3)
Students working individually and in teams will complete projects as assigned. These projects may take a variety of forms, but will integrate students' technical and professional coursework. Students will be required to produce written and oral presentations of their projects. Evaluation will be based both on individual performance and performance as a team member. Leadership skills will be a critical component of the course. This Capstone project requires summative reflection, serving as a culminating experience for Bachelor's degree students. Prerequisite: TA 300, TA 310, TA 320, TA 330 or concurrent.

Theatre (TH)

TH 100 Theatre Practicum (0-1)
This course is designed for both theatre majors and other students interested in performing onstage or working backstage to provide practical experience as a member of a theatre production crew. Students will have the opportunity to perform onstage, or serve as crew members, designers or directors, who may work in several technical or production areas, including stage management, costumes, set design and construction, lighting, sound, properties, house management, and publicity.

TH 101 Drama Classics on Video (3)
Introduction to the theatre through play reading and viewing of selected video tapes of staged plays that cover the work of theatre artists, production styles range from the Greeks to the American Musical theatre. Students who enroll in or have completed TH 301 are ineligible to enroll in TH 101.
(General Ed Creative Performing, General Ed Humanities. Critical and Creative Thinking.)

TH 102 Introduction to Theatre (3)
Current views of theatre in society; theatre as art and ritual and its relationship to other fine arts, the nature of the theatrical metaphor and the aesthetic evaluation by the audience. Career opportunities associated with the art: professional, educational, community, and amateur.
(General Ed Creative Performing, General Ed Humanities. Critical and Creative Thinking.)

TH 103 Voice, Diction & Interpretation (3)
Training the speaking voice; study of vocal mechanism, breathing, projection, articulation, enunciation; practical application of speaking principles in oral interpretation reading; projects.
(General Ed Creative Performing, General Ed Humanities. Communication.)

TH 104 Theatre Movement Dance I (3)
Theatre Movement and Dance I is designed to introduce students to the fundamentals of dance. Dance I is a beginner class. Repeatable for credit. Prerequisite: None.

TH 199 Special Topics in Theatre (1-3)
Newly developed course material offered for variety and expansion of the course curriculum.

TH 202 Acting I (3)
Movement, voice and improvisation exercises and activities. Introduction to basic acting principles and practice, developing focus and imagination.
(General Ed Creative Performing, General Ed Humanities. Communication.)

TH 204 Theatre Movement Dance II (3)
Theatre Movement and Dance I is designed to further the development and understanding of the performers’ body and mind connection. Dance II is an intermediate class. Prerequisites: TH 104 or permission of the instructor.

TH 206 Early Theatre History (Origins to 18th century) (3)
Play-reading in historical context. Study of elements of production, performance practice, and style which emerge representative of period. Periods: Greek, Roman, Medieval, Renaissance and Elizabethan.
(General Ed Creative Performing, General Ed Humanities. Critical and Creative Thinking.)

TH 207 Late Theatre History (18th century to contemporary) (3)
Play-reading in historical context. Study of elements of production, performance practice, and style which emerge representative of period. Periods: Restoration, French and Spanish Classicism, Neoclassicism, Romanticism, Realism. Students who enroll in or have completed EN 236 are ineligible to enroll in TH 207.
(General Ed Creative Performing, General Ed Humanities. Critical and Creative Thinking.)

TH 208 Principles of Playwriting (3)
Practical writing lab. Analysis of established texts leads students to creation and development of dramatic monologues, short and one-act plays. Class will culminate in public readings and/or staging of original work.

TH 209 Musical Theatre Performance I (3)
Performance class; students practice fundamental performance techniques for musical theatre repertoire; fundamental analysis of song forms and acting objectives for solo and scene work from selected styles. Singing, movement and public performance required. Prerequisite: None.

TH 211 Stagecraft (3)
Lecture and laboratory exploration of the concepts of stage drafting, construction and painting. Crew assignment will be required.

TH 212 Acting II-Text/Scene Analysis (3)
This acting course focuses on the process of creating a character for the stage. The course includes text analysis, scene study and scene and monologue work.

TH 218 Acting & Directing Workshop I (3)
Practical experiences in acting and directing through analysis, preparation and performance of scenes and monologues, and other performance exercises. Focus: Realism and Serious Contemporary Drama. Prerequisite: None.
TH 300 Theatre Practicum (0-1)
This course is designed for both theatre majors and other students interested in performing onstage or working backstage to provide practical experience as a member of a theatre production crew. Students will have the opportunity to perform onstage, or serve as crew members, designers or directors, who may work in several technical or production areas, including stage management, costumes, set design and construction, lighting, sound, properties, house management, and publicity.

TH 301 Drama Classics on Video (3)
An introductory Theatre course which involves viewing performances and play reading. Production styles range from the Greeks to the American Musical theatre. This course carries a mutual exclusion with the following course; you may not enroll in TH 301 if you have completed TH 101 with a passing grade. (General Ed Creative Performing, General Ed Humanities. Critical and Creative Thinking.)

TH 303 Acting III (3)
Practical application of a method for text analysis and performance of Shakespeare and other presentational and verse forms through monologue and scene work. Prerequisite: TH 202 or consent.

TH 304 Theatre Movement Dance III (3)
Course is designed to continue to develop dance skills and techniques. Dance III includes jazz, modern, ballet and tap. Prerequisites: TH 204 or permission of the instructor.

TH 306 Contemporary Theatre (3)
Study of developments in playwriting, directing, and acting since WWII to the present with special emphasis on influences that have affected contemporary theatre and drama. Students who enroll in or have completed EN 336 are ineligible to enroll in TH 306/TH 606. (General Ed Creative Performing, General Ed Humanities. Critical and Creative Thinking.)

TH 307 Non-Western Drama (3)
Detailed examination of the drama and theatre of selected Non-Western theatrical forms. Special emphasis is placed upon the relationship of cultural elements to the theatrical event.

TH 308 Principles of Playwriting (3)
Practical writing lab. Analysis of established texts leads students to creation and development of dramatic monologues, short and one-act plays. Class will culminate in public readings and/or staging of original work.

TH 309 Musical Theatre II (3)
Performance Class; students practice intermediate performance techniques for musical theatre repertoire; analysis of form, style, acting and movement for solo, scene and ensemble work from multiple styles. Singing, movement and public performance required. Prerequisites TH 210 or permission.

TH 311 Stagecraft (3)
Lecture and laboratory exploration of the concepts of stage drafting, construction and painting. Crew assignment will be required.

TH 313 Introduction to Children's Theatre (3)
Study of theatre production for children and youth. Investigation into the Children's Theatre repertory with special emphasis on playwriting. Development of a philosophy of theatre for children and youth.

TH 314 Children's Theatre Tour (3)
Touring area schools as a performer or stage manager throughout a given semester. Preparation, rehearsal and performance of play chosen for a specific age group. Prerequisite: TH 202, TH 313 or consent.
TH 409 Musical Theatre Performance II (3)
Performance Class: Students practice advanced performance techniques for musical theatre repertoire; analysis of form, style, acting, movement for solo, scene and ensemble work from varied styles. Singing, movement and public performance required. Prerequisite: TH 310 or permission of the instructor.

TH 415 Experimental Theatre (3)
Practical introduction and practice in performance theory, collective creation and conceptualization. Creation of theatre piece from existent or original sources.

TH 416 Special Theatre Projects (1-3)
Majors must complete a faculty mentored project. Specifically developed projects or internships (1-3) in acting, directing, playwriting, design, public relations, and theatre management.

TH 606 Contemporary Theatre (3)
Study of developments and playwriting, directing, and acting since WW II to the present with special emphasis on influences that have affected contemporary theatre and drama. Students who enroll in or have completed EN336/636 are ineligible to enroll in TH 306/606. Prerequisites: Consent of instructor.

TH 607 Non-Western Drama (3)
Detailed examination of the drama and theatre of selected Non-Western theatrical forms. Special emphasis is placed upon the relationship of cultural elements to the theatrical event. Prerequisites: Consent of instructor.

Washburn University (WU)

WU 101 The Washburn Experience (3)
This three-hour course for first-year students focuses on developing the skills necessary to be successful in college. Each section of the course will use common themes such as the exploration of study skills, wellness, technology, academic integrity, information literacy, global citizenship and others to introduce students to a series of best practices. Prerequisite: None. (Information Literacy and Tech.)

WU 105 Life Skills (1)
Focuses on developing the critical-thinking and life skills needed for a successful transition into independence. The course covers topics ranging from basic auto maintenance to personal finance with the goal of promoting the development and refinement of important life skills. The target audience for this course is students participating in success programs through the Center for Student Success and Retention. Prerequisite: Approval of course instructor.

WU 110 Peer Educator Training (0)
The WU 110 course is utilized to train new peer educators for future service in FYE courses. Students will gain skills in classroom management, student engagement, and public speaking. Prerequisite: Consent of Instructor.

WU 115 Academic Enhancement (0)
The WU 115 course is utilized as a learning laboratory for students participating in curricular success programs offered through the Center for Student Success & Retention. Prerequisite: Consent of Instructor.

WU 120 Major and Career Exploration (2)
WU 120 will use a Social Science research process to guide students through academic and career exploration in the Information Age. Engaged and capable citizens need a firm grounding in digital research to navigate successfully the Knowledge Economy. Because this world continues to evolve rapidly, having a skill set that provides the ability to evaluate a changing environment is essential. This course meets a core student need by teaching Information Literacy and Technology skills while encouraging students to consider thoughtfully their role as citizens. Prerequisite: None.

Welding (WEL)

WEL 101 Welding Safety/OSHA 10 (2)
Through a variety of classroom and/or lab learning and assessment activities, students in this course will explain job/site safety and precautions for job/site hazards, determine the uses of personal protective equipment (PPE), identify the safety equipment and procedures related to safe work practices and environment, identify fire prevention and protection techniques, and explore Hazardous Communications (HazCom) including Material Safety Data Sheets (MSDS).

WEL 110 Print Reading/Math I (1)
This course is designed to teach a basic understanding of welder's math and the symbols used on blueprints. The symbols used on blueprints give the designer a way to relay information to the fitter and welder. The graphic language on blueprints uses various symbols, lines, and notes to convey information. A blueprint is used by a welder to visualize the parts final form, to position and align various members, and to determine the type of joint preparation. It tells the welder what type of filler metal to use, where the weld metal is to be placed, the extent of welding and the size, contour, and finish method for the welds.

WEL 120 Oxy-Fuel/Cutting Procedures (3)
This course will include cutting of ferrous and non-ferrous materials with manual, motor driven, and oxy-fuel shape cutting equipment. Also included are plasma-arc cutting (PAC) and carbon-arc cutting (CAC-A). Safety, equipment, and the basic fundamentals of cutting processes will be introduced. Student will be expected to produce acceptable oxy-fuel, PAC, and CAC-A cuts. This unit follows ANSI / AWS C4.2-90 an American National Standard.

WEL 131 SMAW (3)
This course will include cutting of ferrous and non-ferrous materials with manual, motor driven, and oxy-fuel shape cutting equipment. Also included are plasma-arc cutting (PAC) and carbon-arc cutting (CAC-A). Safety, equipment, and the basic fundamentals of cutting processes will be introduced. Student will be expected to produce acceptable oxy-fuel, PAC, and CAC-A cuts. This unit follows ANSI / AWS C4.2-90 an American National Standard.

WEL 135 SMAW I (3)
This course is a continuation of SMAW. Additional positions, metals, and metal alloys will be introduced providing the student additional experience with Shielded Metal Arc Welding.
WEL 141 GMAW (3)
Through classroom and/or lab/shop learning and assessment activities, students in this course will explain gas metal arc welding (GMAW) process, demonstrate the safe and correct set-up of the GMAW work station, correlate GMAW electrode classifications with base metals and joint criteria, demonstrate proper electrode selection and use based on metal types and thicknesses, building pads of weld beads with selected electrodes in the flat position, build pads of weld beads with selected electrodes in the horizontal position, produce basic GMAW welds on selected weld joints, and conduct visual inspection of GMAW welds. Prerequisites: Welding Safety/OSHA 10; SMAW I

WEL 145 GMAW Welding (3)
This course is a continuation of GMAW. Additional positions, metals, and metal alloys will be introduced providing the student additional experience with gas metal arc welding.

WEL 150 Workplace Skills I (2)
This course teaches some of the skills needed to get a job in any field. This course utilizes Work Keys assessments which include Applied Math (basic word problem-solving), Reading for Information, and Locating Information. This course also introduces some of the testing methods used in the welding industry. Destructive and non-destructive testing methods will be discussed.

WEL 160 Oxy-Fuel Welding (4)
This course teaches basic welding using and oxy-fuel welding set-up. A student will learn how to set-up and torch and become proficient in the start-up and shut down procedures. Basic welding skill and understanding of the process is needed in this area. This will lead into gas tungsten arc welding (GTAW) at a later date.

WEL 170 Fabrication Measuring & Layout (3)
This course focuses on understanding proper measurement tools and application along with using mathematics to determine exact locations of required additional items and penetrations associated to each Fabrication job. Using tape measure squares and other tools to layout reference lines and grids to meet specs and tolerances required.

WEL 180 Blueprint & Estimation (3)
This course focuses on reading, interpreting, and creating blueprints. Students will learn how to sketch out designs by hand and use them to create a print showing multiple views, measurement along with welding symbols, materials needed and their cost.

WEL 190 CNC Cutting & Brake Processes (3)
This course introduces Computer Numerical Control (CNC) and will be introduced to a CNC machine used in the precision cutting and bending applications. They will gain practical experience in the application of creating and using CNC programs, and machine setup and operation.

WEL 195 CAD Systems & Drafting (3)
This course introduces CAD software as a Layout and drafting tool. Instruction will be given in file handling, basic commands function, drafting techniques, programming, and plotting. Fabrication applications will be used in lab exercises to demonstrate CAD programs and commands. Work will be completed with CAD systems.

WEL 210 Print Reading/Math II (2)
This course is designed to teach a basic understanding of blueprints. The symbols used on blueprints give the designer a way to relay information to the fitter and welder. The graphic language on blueprints uses various symbols, lines, and notes to convey information. A blueprint is used by a welder to visualize the parts final form, to position and align various members, and to determine the type of joint preparation. It tells the welder what type of filler metal to use, where the weld metal is to be placed, the extent of welding and the size, and the contour and finish method for the welds. Prerequisite: Print Reading/Math I.

WEL 220 FCAW Welding (5)
The Flux Cored Arc Welding Unit (FCAW) is designed to teach the student the correct techniques to weld in all positions. Safety is stressed in the shop. Practice and training in the welding shop will develop the basic skill level necessary to produce quality welds in all positions and in different joint configurations. Prerequisites: Welding Safety/OSHA 10; SMAW I; GMAW.

WEL 221 FCAW (3)
The Flux Cored Arc Welding Unit (FCAW) is designed to teach the student the correct techniques to weld in flat and horizontal positions along with operational procedures. Practice and training in the welding shop will develop the basic skill level necessary to produce quality welds in flat and horizontal positions and different joint configurations.

WEL 222 FCAW I (2)
The Flux Cored Arc Welding Unit (FCAW) is designed to teach the student the correct techniques to weld in flat and horizontal positions along with operational procedures. Practice and training in the welding shop will develop the basic skill level necessary to produce quality welds in flat and horizontal positions and different joint configurations.

WEL 230 SMAW II (5)
The Shielded Metal Arc Welding II (SMAW) unit is designed to teach the student the correct techniques to weld in the vertical up and overhead position. Safety is stressed in the shop. Practice and training in the welding shop will develop the basic skill level necessary to produce quality welds in these positions using lap joints and tee joints.

WEL 241 Welding Special Topics (5)
The Gas Metal Arc Welding Aluminum (GMAW) unit is designed to teach the student the correct techniques to weld in all positions. Safety is stressed in the shop. Practice and training in the welding shop will develop the basic skill level necessary to produce quality welds in all positions and in different joint configurations. Prerequisites: Welding Safety/OSHA 10; GMAW.

WEL 242 GMAW - Aluminum (5)
The Gas Metal Arc Welding Aluminum (GMAW) unit is designed to teach the student the correct techniques to weld in all positions. Safety is stressed in the shop. Practice and training in the welding shop will develop the basic skill level necessary to produce quality welds in all positions and in different joint configurations. Prerequisites: Welding Safety/OSHA 10; GMAW.

WEL 246 GTAW (3)
Through classroom and/or lab/shop learning and assessment activities, students in this course will explain the gas tungsten arc welding (GTAW) process, demonstrate the safe and correct set-up of the GTAW work station, relate GTAW electrode and filler metal classifications with base metals and joint build pads of weld beads with selected electrodes and filler material in the flat position, build pads of weld beads with selected electrodes and filler material in the horizontal position, perform basic GTAW welds on selected weld joints, and perform visual inspection of GTAW welds.
WEL 250 Workplace Skills II (2)
Workplace skills include writing a resume and job search technique. This section is at the very end of the program and if a student is going directly into the work force then resumes should be sent to prospective employers. Any job searches and possible job interviews will take place during this section. This is also final preparation for the exit assessment by using Key Train software for Applied Math and Reading for Information.

WEL 267 GTAW I (2)
This course is a continuation of GTAW. Additional positions, metals, and metal alloys will be introduced providing the student additional experience with gas tungsten arc welding.

WEL 270 Fabrication Equip/Procedures (3)
This course focuses on identifying and using proper equipment and hand tools used for fixturing and fitting material along with fabricating materials to complete jobs. Students will learn how to use various clamps, guides, and squares along with other measuring tools and power tools from lay-out to completion.

WEL 280 Rigging Lifting & Handling (3)
This course focuses on determining the correct size and type of rigging equipment required to safely perform lifting operation. Proper Rigging Hardware Selections, Weight Calculations, and Handling procedures will be covered to show students how to properly transport and relocate heavy and uneven materials to perform layout task and complete jobs.

WEL 290 Fixturing Fit & Pre-Assembly (3)
This course focuses on fixturing materials into proper position along with securing materials to reduce warpage to meet location tolerances and welding codes. Students will learn how to tack materials in locations required to be ready for inspection so they can be approved for completion.

WEL 295 Job Completion & Inspection (3)
In this course students will learn how to be given a pre-assembled job, job sheet, and blueprint to interpret stopping points along with what is left until completion. Students will weld together pre-assembled projects while following welding code guidelines, print requirements, manufacturers directions and critical path flow charts while also maintaining weld size tolerances and clearance tolerances. Students will learn to inspect completed jobs to confirm their completion.

Women’s and Gender Studies (WG)

WG 175 Introduction to Women’s Studies (3)
Introduces the principal history, methods, issues and debates in Women’s Studies utilizing an interdisciplinary approach. Through a broad range of issues confronting women, the course examines both historical and contemporary ideas, institutions, and constraints that shape women’s lives. Attention will be focused on differences among women as well as the potential for women’s unity and empowerment. Prerequisite: None. (General Ed Humanities. Global Citizenship Ethics Div.)

WG 199 Special Topics (0-3)
Topics will vary from semester to semester and will be announced in advance. May be taken for more than one semester. Prerequisite: Varies by course and instructor.

WG 290 Human Trafficking and Modern Day Slavery (3)
An advanced undergraduate course that focuses on contemporary human trafficking and slavery. Types of trafficking and slavery to be covered include sex trafficking, bonded labor, forced labor, child soldiers, chattel slavery, and domestic servant slavery. The contributing roles of the state, organized crime, the media, culture, and corruption will be examined. Debates about defining trafficking and the connection between sex trafficking and prostitution will be reviewed. Course materials may include testimonies and autobiographies by survivors, research reports, theoretical essays, policy statements, expert testimonies, podcasts and videos. Prerequisite: Junior standing or permission of the instructor.

WG 395 Independent Study (0-3)
This course allows the student to pursue individualized scholarship with guidance from a professor. The format may vary in terms of the student’s special interests, abilities, imagination, and creativity. May consist of a research paper, a comprehensive written examination on selected reading materials, an oral presentation, or a special performance utilizing one or more art forms or modes of expression. Prerequisite: Consent of Instructor.

WG 399 Special Topics (0-3)
Topics will vary from semester to semester and will be announced in advance. May be taken for more than one semester. Prerequisite: Varies by course and instructor.

WG 400 Women’s/Gender Study Capstone (3)
The capstone is a required course that gives students a forum to synthesize and apply theories, methods and concepts that they have learned throughout their minor in Women and Gender Studies. Individualized advanced projects focused on women, gender and/or sexuality are designed in collaboration between the student and their WaGS adviser and can include a research paper, an internship, service learning or activist project. Prerequisite: Junior standing.
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