

TECHNICAL DRAFTING (TED)

Courses

TED 108 Introduction to Drafting (3)

Introduces the application of fundamental drawing types which includes geometric construction, ortho-graphic views, sections, auxiliary views, and development. Students are instructed in the care and use of the tools and equipment.

TED 115 Technical Math (3)

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. Additionally, Part II of this course students will 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.

TED 128 Computer Aided Drafting I (3)

First course in a three course 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 Computer Aided Drafting II (3)

Second course in a three course sequence covering intermediate AutoCAD commands including attribute blocks, dimensioning, external references, object linking/embedding, and advanced drawing set-up, and user coordinate systems. Work will be completed with AutoCAD. Prerequisites: TED 128 Computer Aided Drafting I

TED 138 Machine Design (4)

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 for the machine industries are taught. Prerequisites: TED 108 Intro to Drafting; TED 128 Computer Aided Drafting I; TED 135 Computer Aided Drafting II; TED 145 Computer Aided Drafting III

TED 145 Computer Aided Drafting III (3)

Third course in a three-term sequence designed to reinforce and apply basic and advanced AutoCAD commands and techniques learned in CAD I and CAD II. This course focuses on providing in-depth practice to prepare students for AutoCAD certification. Work will be completed with AutoCAD, with an emphasis on mastery and certification readiness. Prerequisites: TED 135 Computer Aided Drafting II

TED 148 Industrial Design (4)

This course will be using the acquired knowledge from the Machine Design and CAD III courses to produce industrial design projects. Additionally, students will be learning the methods and standards used in various areas including: precision sheet metal design, part design, weldments, assemblies, & mechanisms. Prerequisites: TED 138 Machine Design

TED 208 Architectural Design I (3)

Students will learn tools and techniques used in industry to create a 3-story commercial building with Revit (3D parametric, BIM software). Featuring tools to make sections, elevations, schedules, design layouts, and details, students will wrap up their project by creating a set of construction documents. The modeling of Mechanical, Electrical, and Plumbing systems will also be introduced

TED 215 Architectural Design II (3)

This course provides students with an introduction to architectural engineering, emphasizing the integration of mechanical, electrical, and plumbing (MEP) systems within building design. Students will gain hands-on experience with industry-standard software tools, learning to design and analyze key MEP components such as HVAC systems, electrical layouts, and plumbing systems. The course will cover essential techniques for linking architectural models, coordinating interdisciplinary designs, and creating accurate construction documents.

TED 216 Architectural Design III (3)

Introducing the fundamental aspects of architectural drafting and focusing on residential house design, students will plan, design and model a residential house plan. Projects will include making a construction set of documents including: sections and elevations, schedules, design lay-outs, and details.

TED 217 Architectural Design IV (3)

This course focuses on advanced file management techniques for Building Information Modeling (BIM) using industry-standard software and cloud-based tools. Building on skills developed in Architectural Design I and II, students will enhance their proficiency in BIM workflows while preparing for the Revit Certification Exam.

TED 228 Civil Design I (3)

First course in a sequence introducing 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 utilizing AutoCAD.

TED 235 Civil Design II (3)

Second course in a sequence introducing students to the different types of software used in industry. Students will use software such as Civil 3D, ArcGIS, and others to create the same type of projects featured in the TED Civil I course.

TED 236 Civil Design III (3)

Building on the skills developed in Civil Drafting II, this course focuses on advanced techniques using industry-standard software. Students will learn to efficiently organize project data, work with survey points, create and analyze terrain surfaces, model road corridors, perform grading and volume calculations, and design pipe networks.

TED 238 Structural Design (3)

Introducing the fundamental aspects of structural design, students will learn the methods and standards used in industry. Students will be utilizing Tekla Structures (3D parametric, BIM software) for their projects. Students will also be able to apply this course to the Architectural and Civil design courses.

TED 245 Workplace Skills (3)

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.

TED 248 Manufacturing Design (4)

Focusing on manufacturing materials and processes, CAD and CAM software, students will create projects using industry methods and standards. Utilizing 3D printing to simulate the design process, students will be able to make prototypes of their projects and fix any design flaws before the completion of their projects. Prerequisites: TED 145 Computer Aided Drafting III

TED 255 Presentation&Special Projects (3)

During this course students will focus on creating advanced presentations, videos and simulations utilizing previously introduced software such as Inventor, Tekla structures, Revit, etc. Hololens and other technologies related to the industry will be introduced and implemented. Students will have the opportunity to fine tune their skills by working on special projects with a chosen area of focus within the industry.

TED 260 OJT/Internship (3)

Students that have completed all course objectives and criteria plus having an opportunity for employment related to the drafting field may utilize this internship course with instructor and administrative permission.