

## DESIGN DRAFTER TECHNOLOGY (DDT)

**113. Architectural Drafting.** Credit 3 hours. Prerequisite: Industrial Technology 111. Principles and practices of architectural drawing, terminology, and construction through residential planning and design, including floor plans, elevations, sectional details and plat plans. Two hours of lecture and two hours of laboratory per week. A Laboratory fee is required for this course. (Fall, Spring)

**114. Technical Illustration.** Credit 3 hours. Prerequisite: Industrial Technology 111 and Industrial Technology 215. The transmission of engineering drawings into three-dimensional drawings using principles and techniques of axonometric, perspective, and schematic drawing. Includes lettering, reproduction methods, color rendering, air brush techniques and various mechanical aids. Two hours of lecture and two hours of laboratory per week. A Laboratory fee is required for this course. (As Needed)

**211. Piping Drafting.** Credit 3 hours. Prerequisite: Industrial Technology 215-Computer Aided Drafting and Industrial Technology 264-Industrial Fluid Power. Piping design and drafting fundamentals as used in process industries such as refineries and petrochemical plants. The study, use and drafting of pipes, fittings, flanges, valves, equipment and structural systems using the latest industry-standard software. Students will use industry standards to create schematic, plan, elevation, isometric, spool, and 3-D drawings of various process piping components/systems. Two hours of lecture and two hours of laboratory per week. A Laboratory fee is required for this course. (Fall)

**212. Machine Design Drafting.** Credit 3 hours. Prerequisite: Industrial Technology 111 - Engineering Drafting. Advanced study and applications of detailed and assembly drawings of machines, including precision dimensioning and tolerancing; specifications and symbols; notes, call-outs, material lists, treatments and finishes according to industry-based standards. Two hours of lecture and two hours of laboratory per week. A Laboratory fee is required for this course.. (Spring)

**215. Light Commercial Building Drafting.** Credit 3 hours. Prerequisites: Industrial Technology 111 and Design Drafter Technology 113 [IT 113]. Analysis and solution of basic problems in the design and construction of small commercial properties using a variety of materials and methods of construction. Two hours of lecture and two hours of laboratory per week. A Laboratory fee is required for this course. (As Needed)

**216. Civil Drafting Technology.** Credit 3 hours. Prerequisite: Industrial Technology 215. Basic concepts and techniques of civil technology, including leveling; longitude and latitude; map scales; symbols, directions; legal descriptions; plot plans, contours; profiles and highway cut and fill. Students will use Computer-Aided Design (CAD) software to complete projects relating to interpretation of survey data, profiles and cross sections, land subdivision, site and grading plans, and basic earthwork calculations. Two hours of lecture and two hours of laboratory per week. Laboratory fee: \$25.00. (Fall)

**218. Special Topics in Drafting.** Credit 3 hours. Prerequisites: A 2.000 adjusted major average, Sophomore standing and 15 semester hours of drafting or permission of the Department Head. A course designed to provide the student with an opportunity to gain greater specialization in a specific area or to develop skills in areas otherwise not covered in the curriculum. May be repeated for a maximum of six credit hours. (Fall, Spring, Summer)

**311. Process Piping/Plant Design.** Credit 3 hours. Prerequisite: Design Drafting Technology 211. The general concepts and principles of process plant layout and design, including plant layout specifications, equipment and component arrangement, and basic stress analysis using 3-D parametric plant design software. Two hours of lecture and two hours of laboratory per week. Laboratory fee \$25.00. (Spring)

**316. Advanced Computer-Aided Drafting and Design.** Credit 3 hours. Prerequisite: Industrial Technology 215. An advanced study of the terminology, concept and theory of solid model development and subsequent rapid prototyping. Includes an in-depth coverage of 3d modeling, the production of these models through rapid prototyping technologies, and their relationship to traditional manufacturing techniques. Two hours of lecture and two hours of laboratory per week. Credit cannot be given for both IT 216 or DDT 316. Laboratory Fee: \$25.00. (Fall, Summer)

**411. Industrial Design.** Credit 3 hours. Prerequisites: Industrial Technology 112, 242, and Design Drafter Technology 316. A study of design principals as applied to product design, machine tool design and rapid prototyping. The use of graphic techniques for the interpretation and solution of design problems. Design for manufacturability with the use of concurrent engineering tools, CAD. Two hours of lecture and two hours of laboratory per week. Credit cannot be given for both IT 311 and DDT 411. Laboratory Fee: \$25.00. (Spring)

**415. Fundamentals of MicroStation and GIS.** Credit 3 hours. Prerequisite: Design Drafting Technology 216. A study of the concepts, tools, and features found in the MicroStation drafting environment and the evolution and basic operation of GIS. Two hours of lecture and two hours of laboratory per week. Laboratory fee: \$25.00 (As Needed)