In this course students will master isometric exploded view technical illustration, including such topics as applications, pictorial selections, and illustration techniques. In addition students will learn Level: Lower

practical geometry and trigonometry as a continuation of Technical Calculations I. The scope of this course includes solutions of geometric shapes and solids, right and oblique transfers using orthographic and isometric spool drawings, plan & elevation piping arrangements, selection of valves, pipe racks and supports. Students will generate a variety of accurate CAD piping assignments and drawings, and complete industrial assembly drawings and detail drawings for assemblies, using appropriate dimensioning and ANSI tolerances, complete bill of materials including threads and fasterener information and identification. Course will involve, also, aspects of tolerance stack up their calculations. Addresses the family of drawings and assembly.

Prerequisite(s): DCAD 1305 with D or better

Applied Learning-Practicum

Develop and complete industrial drafting drawings using proper dimensioning practices and applications of conventional section views. Introduction of various manufacturing processes, shop terminology, machine operations, and materials used in industrial applications.

Prerequisite(s): DCAD 1305 with D or better

Applied Learning-Practicum

The use of traditional drafting equipment, lettering, sketching, geometric construction, and orthographic projection, along with similar application on computer programs will also be addressed. In this course, 3 dimensional solid modeling sketching, and software orientation shall occur. Student will be instructed in the creation, use and manipulation of 3 dimensional solids using industrially accepted CAD software.

This course will facilitate the concepts and principals employed by drafters in the Industrial Process Piping industry. Using practical laboratory application with topics including flow diagrams, orthographic and isometric spool drawings, plan & elevation piping arrangements, selection of valves, pipe racks and supports. Students will generate a variety of accurate CAD piping assignments similar to the ones currently used in industry today.

This course will allow the student to demonstrate their understanding and design capabilities applied to residential structures. Each student will perform appropriate calculations and prepare all drawings applicable to modern residential construction.

Mathematics review, basic algebra, industrial applications applying the decimal and metric systems, use of reference books and electronic calculators. Successful completion of this course requires a grade of "C" or better.

In this course the student will model, using a current version of Unigraphics, industrial projects giving careful consideration to their interrelated features. The student will use both sketches and Boolean operations to complete their models. The importance of parametric controls within and between part files will be stressed.

Develop and complete industrial piping drawings using various piping processes and types of joints used to draw weldment assemblies using related symbols, appropriate materials and dimensioning practices. This will include raw stock materials, piping and structural members. Converting castings to fabrication parts will also be addressed. Successful completion of this course requires a grade of 70% or better on a comprehensive II exam.

The use and application of auxiliary view drawings. Also the use and application of development drawings. Students will develop, through projection and solid modeling processes, developed sheet metal developments and intersections. This course will address aspects of freeform modeling and HVAC applications.

In this course students will prepare layouts of single and double line drawings for hydraulic and pneumatic systems, and will also study and apply mathematic calculations as they pertain to their assignments. The use of vendor catalogs and live components are used in the preparation of the above-mentioned drawings. The student will also prepare a sequence of operations explaining how each schematic operates.

Applied Learning-Creative Work

Boolean operations to complete their models. The importance of parametric controls within and between part files will be stressed.

The application of basic methods, symbols and conventions to prepare working drawings for the construction of residential buildings. This course is designed to permit the drafting student to develop, design and create drawings typical to the residential industry. These drawings will allow the student to demonstrate their understanding and design capabilities applied to residential structures. Each student will perform appropriate calculations and prepare all drawings applicable to modern residential construction.

Level: Lower

Correctly specify geometric form controls and positional tolerances to engineering drawings with the use of ANSI geometric symbols.

Preparation of mechanical design layouts, details and assembly drawings, using mechanisms such as linkages, pneumatics, hydraulics, gear trains, belt and chain drives and control systems. Application of geometric dimensioning and tolerances to appropriate detail drawings. This is a five (5) week course.

Develop and complete industrial welding drawings using various welding processes and types of joints used to draw weldment assemblies using related symbols, appropriate materials and dimensioning practices. This will include raw stock materials, piping and structural members. Converting castings to fabrication parts will also be addressed. Successful completion of this course requires a grade of 70% or better on a comprehensive II exam.

Applied Learning-Practicum

Prerequisite(s): DCAD 1305 with D or better

Applied Learning-Practicum

The importance of parametric controls within and between part files will be stressed.

Preparation of casting and machine detail drawings using proper dimensioning practices and applications of conventional section views. Introduction of various manufacturing processes, shop terminology, machine operations, and materials used in industrial applications.

Prerequisite(s): DCAD 1305 with D or better

Applied Learning-Practicum

The use and application of auxiliary view drawings. Also the use and application of development drawings. Students will develop, through projection and solid modeling processes, developed sheet metal developments and intersections. This course will address aspects of freeform modeling and HVAC applications.

Preparation of casting and machine detail drawings using proper dimensioning practices and applications of conventional section views. Introduction of various manufacturing processes, shop terminology, machine operations, and materials used in industrial applications.

Prerequisite(s): DCAD 1305 with D or better

Applied Learning-Practicum

The use and application of auxiliary view drawings. Also the use and application of development drawings. Students will develop, through projection and solid modeling processes, developed sheet metal developments and intersections. This course will address aspects of freeform modeling and HVAC applications.

Prerequisite(s): DCAD 1305 with D or better

Applied Learning-Practicum

The use and application of auxiliary view drawings. Also the use and application of development drawings. Students will develop, through projection and solid modeling processes, developed sheet metal developments and intersections. This course will address aspects of freeform modeling and HVAC applications.

Prerequisite(s): DCAD 1305 with D or better

Applied Learning-Practicum

The use and application of auxiliary view drawings. Also the use and application of development drawings. Students will develop, through projection and solid modeling processes, developed sheet metal developments and intersections. This course will address aspects of freeform modeling and HVAC applications.

Prerequisite(s): DCAD 1305 with D or better

Applied Learning-Practicum

The use and application of auxiliary view drawings. Also the use and application of development drawings. Students will develop, through projection and solid modeling processes, developed sheet metal developments and intersections. This course will address aspects of freeform modeling and HVAC applications.

Prerequisite(s): DCAD 1305 with D or better

Applied Learning-Practicum

The use and application of auxiliary view drawings. Also the use and application of development drawings. Students will develop, through projection and solid modeling processes, developed sheet metal developments and intersections. This course will address aspects of freeform modeling and HVAC applications.
DCAD - 4225 Process Piping II, 5.00 Credits
  Level: Lower
  Applied Learning-Practicum
  This course will include the necessary theory and laboratory application in the design of chemical processing plant layout. Calling upon skills developed in prerequisite coursework, in addition to Industrial Process Piping Plant Layout standards, students will create an actual CAD model of a plant that they have designed for a comprehensive understanding of piping plant design.

DCAD - 4335 CNC Machine Programming, 5.00 Credits
  Level: Lower
  Applied Learning-Practicum
  Through the use of standard industrial codes and formulas to write computer programs that will enable CNC machining centers and CNC turning centers to produce parts, within quality standards. To be able to write these CNC programs both from scratch and with the use of commercially available CNC programming software.

DCAD - 4900 Directed Study, 1.00 TO 9.00 Credits
  Level: Lower
  By arrangement with advisor. Directed study is to provide an opportunity for the student to continue study in a subject area of special interest or special concern, related directly to an actual job opportunity within the drafting curriculum.