

Drafting Technology (DRT)

DRT 181 Technical Drafting I

4 Hours

Prerequisites: None
6 hours weekly (2-4)

This is a lecture-laboratory course designed to promote the basic technical skills involved in mechanical drafting. Geometric construction, orthographic projection, sections, auxiliary views, dimensioning, and tolerancing will be studied with the major emphasis on the fundamentals of orthographic projection.

DRT 182 Technical Drafting II

4 Hours

Prerequisites: None
6 hours weekly (2-4)

A continuation of Technical Drafting 181, with emphasis on precision dimensioning, tolerancing, cams, gears, threads and fasteners, and assembly drawing. Specific problems are undertaken in the drawing and dimensioning of mechanical elements.

DRT 183 Detail and Assembly

2 Hours

Prerequisites: DRT 181
4 hours weekly (0-4)

A laboratory class involved in the study of detail and assembly drawing with emphasis on production drawings and practices. Specific problems are undertaken in detail and assembly drawing, title block construction and production dimensioning. Also, students will learn how to measure parts using calipers and micrometers.

DRT 185 Computer Graphics I

2 Hours

Prerequisites: None
3 hours weekly (1-2)

This course is designed to provide the student with an introduction to the practical uses of computer graphics. The student will become familiar with using a CAD system. The lab will provide hands-on experience.

DRT 186 Geometric Dimensioning & Tolerancing

2 Hours

Prerequisites: None
2 hours weekly (2-0)

Geometric dimensioning and tolerancing (GD&T) is the accepted language industry uses to communicate with engineering drawings. This course is designed to provide the student with a practical understanding of GD&T. Specific engineering problems are undertaken in the control of manufacturing design and production. Some areas of study include how GD&T is used, datums, flatness, parallelism, perpendicularity, profile, and position.

DRT 187 Product Design

3 Hours

Prerequisites: None
3 hours weekly (3-0)

The course will allow the student to design a functioning product. Used are materials, injection molding, pneumatics, hydraulics, motors, and coatings. Students will design systems based on given requirements.

DRT 190 Computer Graphics II

2 Hours

Prerequisites: DRT 185
3 hours weekly (1-2)

This course is a continuation of DRT 185, Computer Graphics I. The student will further his/her knowledge of AutoCAD. The student will learn how to use the following commands and functions: model space, paper space, more on layers, blocks, plotting, and advanced dimensioning, and will write simple LISP programs. The student will gain hands-on experience by creating drawings in lab.

DRT 192 Blueprint Reading

3 Hours

Prerequisites: None
3 hours weekly (3-0)

Fundamentals of blueprint reading as applied to the welding industry. Basic drafting principles are studied and applied to specific problems.

DRT 281 Computer Graphics III

3 Hours

Prerequisites: DRT 185
3 hours weekly (2-2)

Continuation of Technical Drafting DRT 182 with emphasis on weldments, piping drawings, electrical drawings, and machine elements. The use of handbooks, catalogs, and other reference materials is emphasized in the design and drawing of various required-drawing assignments. All drawings will be done with computer-aided drafting.

DRT 282 Tool Design

3 Hours

Prerequisites: DRT 281
4 hours weekly (2-2)

A theory-practice course in design related to production tooling devices for tool guiding and work holding. Laboratory assignments include jig and fixture design problems. Current industrial designs and vendors' catalogs provide reference and guidance for practical individual design solutions.

DRT 283 Advanced Technical Drawing II

3 Hours

Prerequisites: DRT 181
5 hours weekly (1-4)

The course will consist of the student selecting a simple part and taking it through the entire industrial process. This includes designing the part, drawing the casting, processing the part, selecting an automatic machine and drawing the tool layout, designing the necessary tooling components, and designing the necessary gauges to check the part.

DRT 286 Computer Graphics IV

3 Hours

Prerequisites: DRT 185
4 hours weekly (2-2)

The student will study solids modeling, the text editor, developing libraries, script files and attributes. Theory is supplemented by practical hands-on lab experience in actual industrial problems.