

Course Descriptions all Classes

Computer Aided Drafting is a course in which students learn the basic concepts of scale drawings and orthographic projections by making simple two- and three-dimensional drawings using manual drafting tools and computer-aided drafting (CAD). Course content will enable students to make the transition into the use of CAD software by having them make increasingly sophisticated drawings. Student work in teams will culminate in a class project to create a complete set of construction and assembly drawings for a mechanical product.

Advanced Computer-Aided Drafting is a course in which students will learn to use a CAD program to create engineering drawings including plan drawings, assembly drawings, welding and process drawings, cross sections, 3D representations, and bills of materials. The course consists primarily of individual drawing projects, with some group projects. Emphasis is on drawing projects of increasing complexity.

Principles of Engineering is a course in which students explore the nature of engineering and the skills fundamental to all engineering fields, as well as the role of quality-assurance and quality control procedures in manufacturing. Emphasis is placed on actual projects and presentations and the use of modern tools (e.g., CAD). The course can be enhanced by cooperation with local manufacturing facilities, which can provide real measurement data and opportunities for on-site visits to witness engineering tasks and projects, and quality-control data collection.