COMPUTER ASSISTED DESIGN (CAD)

CAD 101. Introduction to CAD. 3 Credits.
This course is an introduction to computer assisted design (CAD) and learning to navigate both 2D and 3D design environments, using the application tools and features. The 2D basics will include menus, tabs, toolbars, drop-down lists, the command line, drawing space, layers, line types, and hatching; as well as creating, saving and opening files. Students will draw multiple views, isometrics, sections and auxiliary views of objects, including dimensions. The 3D basics will include menus, toolbars, drop-down menus, features, command manager, feature manager and drawing space. Students will create parts by drawing sketches and adding features. The parts will be combined to form an assembly and 2D drawings will be generated from the parts. Students will also learn to edit sketches and features, as well as add relations to their designs. The 2D CAD application introduced will be AutoCAD or DraftSight (an AutoCAD clone). The 3D CAD application introduced will be Solid Works, Inventor, Creo Parametric or NX. Since all of the 3D CAD applications function in similar ways, the knowledge of one can be extended the others. Similarly, the knowledge of a 2D CAD application can be extended to another. This course is a fundamentals approach and requires no experience with other CAD programs.
Prerequisites: ENG 098, FYE 101, MAT 092 or MAT 096, RDG 098, or placement.

CAD 203. Design CAD. 3 Credits.
This course will build upon the student's knowledge of CAD to produce advanced designs. Several design projects may include conceptual design of commercial products with supporting manufacturing fixtures or residential-commercial structures with supporting architectural plans. The course will require projects as a means of overall assessment. Emphasis will then be placed on the steps of the design process while utilizing AutoCAD, Solid Works, Siemens NX, Works or other computer aided design software. The goal is for students to become independent users of information, computer technology, and library resources. Students will be expected to communicate and collaborate throughout the course as they present their projects and assignments. 3D printing will be explored. Formerly offered as CAD 110.
Prerequisites: CAD 101.