

## Computer Aided Design/Drafting Program Level Student Learning Outcomes

Upon completion of this discipline's course of study, the student will be able to utilize CADD software to create 3D CADD models of various manufactured products and their components to create and interpret engineering drawings at an industry entry skill level.

### Course Level Student Learning Outcomes

**CADD 5 Introduction to Mechanical Drafting:** Given sufficient product definition information of a simple machined part, the student will be able to utilize the AutoCad software to produce a dimensioned orthographic drawing of the item.

**CADD 10abcd Wireframe with Surfaces Solid Modeling and Assemblies:** Given sufficient product definition information of a simple machined part, the student will be able to utilize the AutoCad software to produce a 3D solid model of the item.

**CADD 28abcd Parametric Solid Modeling and Assemblies:** Given a fully dimensioned multi-view engineering drawing of a machined part, the student shall be able to utilize the appropriate functions within the Inventor software to construct a 3D solid model of the part.

**CADD 31abcd Orientation to CATIA:** Given a fully dimensioned multi-view engineering drawing of a machined part, utilize the appropriate functions within the CATIA V5 software to construct a 3D solid model of the part.

**CADD 32abcd Product Modeling with CATIA:** Given a fully dimensioned multi-view engineering drawing of a complex machined part, utilize the appropriate functions within the CATIA V5 software to construct a 3D solid model of the part, and engineering drawing of the product containing this component.

**CADD 33abcd Analyses and Simulations with CATIA:** Given sufficient product definition information, the student shall be able to demonstrate the Knowledgeware, Sheet Metal, Kinematics and Stress Analysis functions within the CATIA V5 software.

**CADD 37abcd Advanced CATIA Functions:** Given a fully dimensioned multi-view engineering drawing of a complex molded part, the student shall be able to utilize the appropriate functions within the CATIA V5 software to construct a 3D surface model of the part.

**CADD 43 Design Process and Concepts: SLO** Given sufficient design requirement definition, the student shall be able to plan, sketch and create complete engineering drawing packages of sample products work individually as well as functioning effectively as a member of a design team.

**CADD 45 Geometrical Dimensioning and Tolerancing:** Given an incomplete sample engineering drawing, the student shall be able to revise the drawing to completely specify desired geometry and permissible variation of geometric characteristics utilizing appropriate symbology per the ASME Y14.5 Standard.