

# INDUSTRIAL DESIGN ENGINEERING CERTIFICATE

**Note:** Pathway is a recommended sequence and selection of courses. Full-time students should contact the department chair to discuss a full-time pathway as well as course prerequisites and recommendations.

15 Semester Credit Hours; Curriculum: 0278

The Industrial Design Engineering Certificate prepares students for CAD drafting positions using Computer Aided Design modeling software, such as SolidWorks and AutoCAD, to design and 3D print computer models. Students will be proficient in 3D Computer modeling and 2D drafting and annotation of part drawings. Students will have access to special equipment for digital manufacturing and prototyping including 3D Printers, Laser Cutters and Computer machines.

Possible job positions include: 3D CAD Modeler and Prototype Designer, Industrial Designer, Product Designer, Research Engineer, Industrial Draftsperson, 3D Printing Technician, and Mechanical Designer.

Code	Title	Hours
<b>Courses for a Certificate</b>		
CAD 107	Introduction to 3D Printing	4
CAD 210	Industrial Design Engineering Techniques	4
Select at least seven credit hours from the following:		7
CAD 230 & CAD 232	Introduction to SolidWorks and Intermediate SolidWorks	
or		
CAD 116 & CAD 117	Basic AutoCAD and Intermediate AutoCAD	
<b>Total Hours</b>		<b>15</b>

## Program Learning Outcomes

1. Create computer models using CAD.
2. Describe common tools and materials used in prototyping.
3. Apply rapid prototyping for product design.

## Industrial Design Engineering Certificate Pathway

The following pathway is recommended for students pursuing the Industrial Design Engineering Certificate.

Course	Title	Hours
<b>First Year</b>		
<b>Semester One</b>		
CAD 116 or CAD 230	Basic AutoCAD or Introduction to SolidWorks	3-4
<b>Hours</b>		<b>3-4</b>
<b>Semester Two</b>		
CAD 107	Introduction to 3D Printing	4
CAD 117 or CAD 232	Intermediate AutoCAD or Intermediate SolidWorks	4
<b>Hours</b>		<b>8</b>
<b>Second Year</b>		
<b>Semester One</b>		
CAD 210	Industrial Design Engineering Techniques	4
<b>Hours</b>		<b>4</b>
<b>Total Hours</b>		<b>15-16</b>