

**Curriculum Instructional Council  
Actions Approved – March 24, 2022 Addendum**

**Subject: Engineering (ENGE) Discipline: Engineering**

<p><b>~ 151 Computer-Aided Design</b></p> <p style="text-align: right;"><b>96 - 108 hours lab, 2 units</b> <b>Letter Grade or Pass/No Pass Option</b></p> <p><b>REQUISITES:</b> <i>Prerequisite:</i> Mathematics 96 with a grade of "C" or better, or equivalent or Milestone M50. This course is an introduction to 3D computer-aided mechanical design using SolidWorks software. Emphasis is placed on the creation of basic to intermediate solid parts, the application of parametric 3D feature-based solid modeling, assignments of materials, building assemblies, developing exploded views and production drawings that include orthographic, pictorial, section, auxiliary, and detail views. Students apply software features, such as finite element analysis (FEA) and motion simulation. The course begins by covering basic features of all parts, continues with building simple assemblies with those parts, and culminates with creating both detail part and assembly output-product drawings. Students apply skills to group design projects, which include written reports and mechanical dimensioning using ANSI standards, Geometric Dimensioning and Tolerancing (GD&amp;T), and thread notation per ASME Y14.5M-2009. Laboratory exercises that include industrial applications and practices are designed to strengthen these concepts. This course is intended for students majoring in Engineering or other disciplines including those in the physical sciences, and is designed for those with or without previous 3D CAD modeling application experience.</p> <p><b>FIELD TRIP REQUIREMENTS:</b> May be required</p> <p><b>TRANSFER APPLICABILITY:</b> Associate Degree Credit &amp; transfer to CSU. UC Transfer Course List.</p>	<p><b>Offered At:</b> City, Mesa</p> <p><b>Action(s) Proposed:</b> Course Revision (May Include Activation) <i>Course Description</i> <i>Critical Thinking Assignments</i> <i>Methods of Evaluation</i> <i>Methods of Instruction</i> <i>Outline of Topics</i> <i>Outside Assignments</i> <i>Reading Assignments</i> <i>Texts</i> <i>Title Change</i> <i>Writing Assignments</i> <b>Approved</b></p> <p><b>Proposed for College(s):</b> City, Mesa</p> <p><b>Originating Campus:</b> MESA</p> <p><b>Effective:</b> Fall 2022</p>
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\*Requires Board of Trustees approval prior to implementation  
~Course requires CCCC submission

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***PROGRAM CHANGES***

(Note: To view from *Proposals* screen, click *Program Search* button, scroll down to program name, then option title, if appropriate, and click *PR* icon.)

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