

Hagerstown Community College  
OFFICIAL MASTER SYLLABUS DOCUMENT

**COURSE:** CAD 228– Solid Modeling/ Mechanical (3 credits)

**INSTRUCTOR:**

**SEMESTER/ YEAR:** FALL/ 2017

**COURSE DESCRIPTION:**

A hands-on competency based course. Computer Aided Design (CAD) 228 builds on skills and knowledge gained in previous CAD classes. Students receive instruction in use of parametric, solid modeling software (AUTODESK Inventor<sup>TM</sup>) to construct, assemble and animate 3 dimensional models.

**TEXTBOOKS:**

Autodesk Inventor 2018 Essentials Plus, SDC Publications, ISBN-13: 978-1-63057-089-7

- This book is also offered as an E-Book.
- Introduction to CAD/ CAE, Carnegie-Mellon 2012. (Open Source:free)

**SOFTWARE:**

Autodesk Inventor 2018

Below is the link for a **free** student version of inventor.

<http://www.autodesk.com/education/free-software/all>

**STUDENT LEARNING OUTCOMES:**

Upon completion of this class the student will be able to:

- Create solid models using parametric based software.
- Create assemblies using created parts and the content center.
- Create working drawings, exploded drawings and parts lists of assemblies
- Create animations of solid model assemblies.
- Use the software to analyze material properties and perform finite element analysis.
- Work in teams to design mechanical systems that can be used to fabricate a prototype of their choice.

**TOTAL HOURS REQUIRED FOR THIS COURSEWORK:**

To earn one academic credit at HCC, students are required to complete a minimum of 37.5 clock hours (45 fifty-minute “academic” hours) of coursework per semester. Those hours of coursework may be completed through a combination of hours within the classroom and hours outside the classroom. Certain courses may require more than the 37.5 minimum hours of coursework per credit.

*Revised 08/23/2017*

For most classes, students should expect to do at **LEAST** 2 hours of coursework outside of class for each hour of in-class coursework.

	<b>Direct Faculty Instruction (In Class) 37.5 Hrs. Required</b>	<b>Student Work (Out of Class) 90 Hrs. Required</b>
<b>Lecture</b>	<b>52.5 Hours</b>	
<b>3 Exams (2 Tests and Final Exam)</b>		<b>(3 Exams)x(3 Hrs. Prep)= 9 Hrs.</b>
<b>Homework Assignments</b>		<b>(7 HW's) x (4Hrs)= 28 Hrs.</b>
<b>Projects</b>		<b>(3 Projects) x(16Hrs)= 48 Hrs.</b>
<b>Other Instructor Material</b>		<b>5 Hrs.</b>

**SERVICES FOR STUDENTS WITH DISABILITIES:** Students may receive reasonable accommodations if they have a diagnosed disability and present appropriate documentation. Students seeking accommodations are required to contact the Disability Support Services (DSS) office as early as possible. Students may contact a DSS staff member for an appointment at [dss@hagerstowncc.edu](mailto:dss@hagerstowncc.edu) or at 240-500-2530.