**ME 490 Advanced SolidWorks Syllabus**

**Catalog Description:** Use of solid modeling software focused on preparation for certification examinations, introduction to multi-physics numerical simulation, and computer aided manufacturing (CAM). A major final project is required.

***Course Prerequisites:*** *ME 301, CSWA Certified, Instructor Permission*

**Meeting Times:** 9:30-10:20 am MWF

**Instructors/Graduate Student Mentors:**

|  |  |  |
| --- | --- | --- |
|  | Email | Office |
| Dr. Edwin Odom | [eodom@uidaho.edu](mailto:eodom@uidaho.edu) | GJ234D |
| Coleton Bailey | [bail6232@vandals.uidaho.edu](mailto:bail6232@vandals.uidaho.edu) | GJ112 |
| Sarah Willis | [will9753@vandals.uidaho.edu](mailto:will9753@vandals.uidaho.edu) | GJ112 |

**Course Website:** <http://www.webpages.uidaho.edu/mindworks/adv_solidworks.htm>

**Course Learning Outcome:**

1. CSWP Certified SolidWorks user

1. FEA, CFD, and other built in Computational features within SolidWorks
2. Manufacturing
3. Create processes simulations and other useful skills.
4. Understanding the process of taking an idea from CAD to the physical world

***Course Activities***

This is an advanced solid modeling and manufacturing course. The program that we choose to use for these purposes is Dassault Systemes’ SolidWorks. During this course students will learn advanced solid modeling techniques to create complex parts, and then use the machine shop to bring CAD models into the physical world. The first six weeks of the course is focused on honing student’s skill and taking the CSWP (Certified SolidWorks Professional) exam. Passing of the CSWP is a requirement to pass the course. The remainder of the course after the CSWP will be focused on advanced modeling simulation such as CFD and FEA, as well as the design and manufacturing of parts. One of the manufacturing projects includes the machining of a sterling engine under the advisory of the IEW (Idaho Engineering Works) graduate student mentors. At the end of this course students will have experienced the full process product development from idea to physical world.

**Course Grading**:

* 20% CSWP Exam and other Related Exams
* 15% Assignments (In-class assignments, Homework, Manufacturing Plans)
* 30% Sterling Engine Manufacturing Project
* 35% Final Project

## Rubric for Scoring Quizzes/Assignments/Project Elements:

|  |  |
| --- | --- |
| Score | Attributes |
| 4 | Exemplary, insightful, worthy of sharing with entire class |
| 3 | Complete, correct, long-term reference value to self |
| 2 | Complete, minor errors, limited reference value to self |
| 1 | Incomplete, major errors, no supporting documentation |
| 0 | Submitted late, must complete |

Grade of ‘A’ corresponds to average on semester work above 3.20

Grade of ‘B’ corresponds to average on semester work between 2.6 and 3.19

Grade of ‘C’ corresponds to average on semester work between 2.0 and 2.59

Grade of ‘F’ corresponds to average on semester work less than 2.0

***All students are expected and required to adhere to the Student Code of Conduct which for your reference is provided in the link below.***

<http://www.uidaho.edu/student-affairs/dean-of-students/student-conduct/student-code-of-conduct>