**I. COURSE TITLE:** Introduction to SolidWorks

 **COURSE NUMBER:**  2232 **CATALOG PREFIX:** ENDS

**II. PREREQUISITE(S):** ENDS 1140

**III. CREDIT HOURS:** 3 **LECTURE HOURS:** 3

 **LABORATORY HOURS:** 0 **OBSERVATION HOURS:** 0

**IV. COURSE DESCRIPTION:**

An introduction course which dives into the 3D and solid modeling design concepts in computer assisted design techniques. The student will learn how to make the software work for them while gaining experience in solving drafting problems utilizing an interactive CAD system. Students will extend their CAD competency by solving sophisticated drafting problems utilizing an interactive CAD system, applications, course description and lecture with an opportunity to test for third party credentials via SolidWorks.

**V. ADOPTED TEXT(S):**

Beginner’s Guide to SolidWorks 2018

 Level 1

Reyes, Alejandro

SDC Publications

 ISBN 978-1-63057-148-1

**VI. COURSE OBJECTIVES:**

1. The student will learn to work on CAD projects in a group and individual setting utilizing drafting standards and templates common to industry standards.
2. The student will learn top down design techniques.
3. The student will learn parts editing, equations and error associated with parts modeling.
4. The student will learn multi body part techniques.
5. The student will learn how to utilize 3D sketches.
6. The student will develop an understanding of surface modeling.
7. The student will learn the concepts of sheet metal parts.
8. The student will learn how to develop and use libraries.
9. The student will acquire skills in mold design and welded structures.
10. The student will learn how to develop 2D drawings views and isometric views from the 3D models.

**VII. COURSE METHODOLOGY:**

A mixture of lecture, demonstration, and hands-on experience completing independent and group assignments and projects, with in-class and home assignments, quizzes, tests. Attendance is highly recommended.

**VIII. GRADING**

Grading will follow the policy in the catalog. Typically, grading will be based on

 the following point system:

 1000 – 900 = A

 899 – 800 = B

 799 – 700 = C

 699 – 600 = D

 599 – 0 = F

**IX. COURSE OUTLINE:**

|  |  |  |
| --- | --- | --- |
| Week # | Topic | Learning objective |
| 1 | Introduction to the SolidWorks interface | 1 |
| 2 | Parts Modeling | 1,2,3,5 |
| 3 | Parts Modeling | 1,2,3,5 |
| 4 | Parts Modeling | 1,2,3,5 |
| 5 | Parts Modeling | 1,2,3,5 |
| 6 | TEST 1Sweep, loft. and wrap | 1,2,3,5,7 |
| 7 | Sweep, loft. and wrap | 1,2,3,5,7 |
| 8 | Sweep, loft. and wrap | 1,2,3,5,7 |
| 9 | TEST 2Detailed Drawings | 1,2,3,4,5,6,7,8,9,10 |
| 10 | Detailed Drawings | 1,2,3,4,5,6,7,8,9,10 |
| 11 | Assembly ModelingGroup project work-2 | 1,2,3,4,5,6,7,8,9,10 |
| 12 | Assembly ModelingGroup project work-2 | 1,2,3,4,5,6,7,8,9,10 |
| 13 | TEST 3Assembly and design tablesGroup project work-2 | 1,2,3,4,5,6,7,8,9,10 |
| 14 | Animation and RenderingFinal project work | 1,2,3,4,5,6,7,8,9,10 |
| 15 | Final project work | 1,2,3,4,5,6,7,8,9,10 |
| 16 | Final Exam, first regular meeting day of weekMonday for M-W, Tuesday for T-TH | 1,2,3,4,5,6,7,8,9,10 |

**X. OTHER REQUIRED TEXTS, SOFTWARE, AND MATERIALS:**

Students on their personal computer (laptop as required by program), are required to download the “Educational” version of SolidWorks from the SolidWorks website, using the information provided via Canvas prior to the start of class. Other materials may be furnished for group project work by the instructor.

**XI. EVALUATION:**

Students that have passed the SolidWorks Certified Professional

Exam and received certification can request Prior Learning Credit for this class.

Assignments will be evaluated according to instructor directives and project instructions. The grade will be determined by periodic examination, comprehensive final examination, homework, and quizzes.

Typical weight assigned:

|  |  |  |  |
| --- | --- | --- | --- |
| Assessment method | % of Final Grade | Total Points | Grade scale based on points earned |
| Assignments/Projects | 40 | 400 | A= 900+ |
| Quizzes | 10 | 100 | B= 800-899 |
| Tests | 30 | 300 | C= 700-799 |
| Comp. Final Exam | 20 | 200 | D= 600-699 |
|  | 100% | 1000 points | F= 0-599 |

**XII. SPECIFIC MANAGEMENT REQUIREMENTS:**

All assignments and tests must be turned in on time (no late work will be accepted). Students must work on their own time to complete the assignments. Exercises are assigned for the student to complete during SolidWorks course hours but may require outside work. Examinations will include written and drawing components.

**XIII. OTHER INFORMATION:**

**FERPA:** Students need to understand that your work will be seen by others. Others

 will see your work when being distributed, during group project work, and if it is

chosen for demonstration purposes. Students also need to know that there is a strong possibility that your work may be submitted to other entities for the purpose of plagiarism checks.

**DISABILITIES:** Students with disabilities may contact the Disabilities Service Office,

 Central Campus, at 800-628-7722 or 937-393-3431.