SOUTHEAST COMMUNITY COLLEGE
CONSTRUCTION MANUFACTURING AND TECHNOLOGY DIVISION
Design & Drafting Technology Program
Revision Date: August 23, 2021

I. CATALOG DESCRIPTION

Course Number:	DDRT1330
Course Title:	Solid Works
Prerequisite(s):	None
Catalog Description:	Using Solid Works software students create solid models to produce parts, assemblies, and drawings of 3D products and 2D documentation.
Credit Hours:	3
Class Hours:	30
Lab Hours:	45
Total Contact Hours:	75

II. COURSE OBJECTIVES: *Course will:*

A. Utilize Solid Works to create 3D models and documentation per industry standards.

III. STUDENT LEARNING OUTCOMES AND GENERAL EDUCATION LEARNING OUTCOMES:

A. Student Learning Outcomes: *Student will be able to:*
- **1.** Create, build, and detail electronic files drafting files of mechanical components using 3-D solid models
- **2.** Apply advanced computer aided drafting operations
- **3.** Build mechanical and consumer products with 3-D solid models
- **4.** Practice orthographic projection
- **5.** Apply procedures typical of Engineering offices

B. General Education Learning Outcomes (GELOs)
- **1.** GELO #3: Critical Thinking & Problem Solving
  Outcome 1: Collect, identify, interpret and analyze data.

IV. CONTENT/TOPICAL OUTLINE

A. Introduction
- **1.** Computer-aided Design
- **2.** A Solid Works Overview
- **3.** Sketching Basics
- **4.** Castings
- **5.** Molded Parts

B. Views and Part Configuration
- **1.** Design Drawings
- **2.** Sheet Metal
- **3.** Part Configuration

C. Fundamentals of Assembly Modeling
- 1. Assemblies
- 2. Welded Assemblies
- 3. Assembly configurations

D. Editing of a Part
- **1.** Turned parts
- **2.** Springs, threads and Curves Patterns

V. INSTRUCTIONAL MATERIALS

A. Required Text(s):

1. Howarr, William E., *Solid Modeling Using Solidworks,* (Refer to CID and/or instructor for current edition)

2. Madsen and Madsen, Jensen, *Engineering Drawing and Design,* (Refer to CID and/or instructor for current edition)

VI. METHODS OF PRESENTATION/INSTRUCTION

A. Methods of presentation typically include a combination of the following:

1. Lectures
2. Classroom demonstrations
3. Classroom discussions
4. Hands-on lab projects
5. Lab demonstrations
6. Lab assistance
7. Instructional handouts
8. Video presentations
9. Power Point presentations
10. Speaker(s)
11. Field Trip(s)

VII. METHODS OF EVALUATION

A. Methods of evaluation, although determined by the individual instructor, traditionally includes a combination of the following:

1. Assignments (60% of final grade)
- **a.** Complete projects on time
- **b.** Points are deducted if a project is late

2. Grading Criteria:
- **a.** Completeness
- **b.** Neatness
- **c.** Accuracy
- **d.** According to instructions provided
- **e.** Quality of work done in accordance with industry standards

3. Tests (40%)
- **a.** All tests missed need to be made up before the *next* class period
- **b.** It is the student's responsibility to make arrangements with the instructor and reschedule a test.

4. Evaluation will be based on the number of points earned from the total points possible

VIII. SPECIFIC COURSE REQUIREMENTS

A. Student must meet all of the following to receive a passing grade:

1. Achieve a passing grade of "D" (60%) or higher, based on SCC grading scale.
2. Submit own work. Students turning in homework, reports, field notes, or calculations by someone other than themselves will receive 0% and be referred to the Division Dean and Dean of Students for further disciplinary action. Consequences can include failing the course.
3. Demonstrate attitude, skills, and character commensurate with industry standards.

4. All program policies of the Computer Aided Design Drafting program will be strictly enforced.
5. Intentional damage to college property will not be tolerated and may result in punitive action, such as being removed from the program.
6. All cell phones will be turned off during class/lab time. If this becomes a problem, the instructor may consider the delinquent student absent.

B. Attendance: Students are required to attend all classes. Any student absent more than 12 class hours for a lab or 6 hours for lecture class will have their final course grade reduced one grade point. (Example: A reduced to a B)