SOUTHEAST COMMUNITY COLLEGE
CONSTRUCTION MANUFACTURING AND TECHNOLOGY DIVISION
Precision Machining & Automation Technology Program
Revision Date: August 26, 2019
Syllabus Statements

I. CATALOG DESCRIPTION

Course Number:	MACH2539
Course Title:	Mold and Die Design
Prerequisite(s):	MACH1428, MACH1455, MACH2547
Corequisite(s):	MACH2535
Catalog Description:	The use of CADD software to create a 3D model, and a working set of drawings for one two stage piercing and blanking Die, and one plastic injection mold that will be constructed in MACH2532 and MACH2538.
Credit Hours:	3.0
Class Hours:	30
Lab Hours:	45
Total Contact Hours:	75

II. COURSE OBJECTIVES: *Course will:*

A. Demonstrate how to utilize CADD software to create a 3D model, and working drawings for the above mentioned die and mold.

B. Explain how to design one two stage piercing/blanking die with form grinding and wire EDM machine work as machining methods.

C. Explain how to design one plastic injection mold with CNC and Sinker EDM work as machining methods.

D. Show how to derive an assembly model, and print of both the Die and Mold using CADD Software.

III. STUDENT LEARNING OUTCOMES AND GENERAL EDUCATION LEARNING OUTCOMES:

A. Student Learning Outcomes: *Student will be able to:*

1. Generate a model and complete set of working drawings using CADD software.

2. Design the components needed for a two stage piercing/blanking die.

3. Design the components needed for a plastic injection mold.

4. Create an assembly of the Die, and of the Mold using CADD software.

B. General Education Learning Outcomes (GELOs)

1. GELO 6: Career and Life Skills
Outcome 4: Use digital technology effectively to access, manage, integrate, evaluate, and present information.

IV. CONTENT/TOPICAL OUTLINE (*course outline may provide more detailed information)*

A. Design and draw using CADD software, the model and necessary detail drawings that enable them to build a two stage Stamping Die and a plastic injection Mold that will produce the Piece Part they designed. The student will:

1. Design a Piece Part drawing from which the rest of their drawings will be generated.

2. Produce a model of their design using 3D Modeling.

3. Produce a set of working drawings from which the student will use to build their design in MACH2538 and MACH2532.

4. Create and assembly drawing using CADD software to show how the individual components make up the assembled unit.
5. Create a Bill of Materials from which the student will use to build their design.

V. INSTRUCTIONAL MATERIALS

A. Other Resources: Supplemental handouts supplied by instructor

B. Supplies: Notebook, Calculator

VI. METHODS OF PRESENTATION/INSTRUCTION

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

1. Lecture
2. Small and large group discussion
3. Video presentation
4. Demonstrations
5. Project boards
6. Handouts
7. Observations
8. Assigned lab projects
9. Field trips

VII. METHODS OF EVALUATION (*course outline will provide more detailed information)*

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

1. Tests
2. Lab grades
3. Participation/class conduct
4. SCC Standard Grading Scale Policy

VIII. SPECIFIC COURSE REQUIREMENTS

A. Completion of all tests, projects, assignments, and notebook (if required).

B. Program shop safety rules will be followed. Please see the course outline for any additional safety rules established by the instructor.