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:	MACH1223
Course Title:	Machine Tool Lab III
Prerequisite(s):	MACH1174
Catalog Description:	Practice using Machine Tools. Drill press, lathe, milling machine, surface grinder and cylindrical grinder.
Credit Hours:	2.0
Class Hours:	8
Lab Hours:	68
Total Contact Hours:	76

II. COURSE OBJECTIVES: *Course will:*

A. Develop proficiency on such machine tools as the drill press, lathe, milling machine, surface grinder and cylindrical grinder.

B. Apply the classroom theory to help solve routine problems on daily lab projects.

III. STUDENT LEARNING OUTCOMES AND GENERAL EDUCATION LEARNING OUTCOMES:

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

1. Calculate proper speeds and feeds for all machining operations.
2. Single point thread internal and external UN and Acme threads using lathe.
3. Grind boring and threading tolls to machine assigned projects.
4. Set-up lathes to machine components between centers.
5. Produce angles and tapes using both compound rest and tailstock set over.
6. Set-up and operate the tracer lathe.
7. Indicate a four jaw chuck on a lathe.
8. Drill, ream, bore, tap, counterbore and countersink on a lathe.
9. Precisely bore and position holes using a boring head and digital readout on vertical mill.
10. End mill keyseats on shafts and broach keysteats in a bore.
11. Position drilled holes and counterbore or countersink to proper depths.
12. Operate surface grinder using magnetic checks and magnetic parallels.
13. Set-up and grind straight and tapered diameters on cylindrical grinder.

B. General Education Learning Outcomes (GELOs)

1. GELO 5: Analytical, Quantitative, and Scientific Reasoning
Outcome 1: Apply mathematical and scientific methods to solve problems from an array of contexts and everyday situations.

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

A. See course outline for detailed unit of instruction.

V. INSTRUCTIONAL MATERIALS

A. The course outline lists the current text(s) required for this class. The list is also available in the campus bookstore. The course outline also lists the tools/equipment or other supplies required for this class.

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. Transparencies
5. Demonstrations
6. Project boards
7. Flip charts
8. Handouts
9. Observations
10. Assigned lab projects
11. 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. Notebook (if required)
2. Quizzes
3. Tests
4. Lab grades
5. Attendance/class conduct
6. 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.