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:	MACH1173
Course Title:	Machine Tool Lab I
Prerequisite(s):	None
Corequisite(s):	MACH1121
Catalog Description:	Basic operation of the lathe, milling machine, and grinder. Laboratory experience with hand tools, metrology, metal sawing, drilling and tapping.
Credit Hours:	2.5
Class Hours:	15
Lab Hours:	68
Total Contact Hours:	83

II. COURSE OBJECTIVES: *Course will:*

A. Demonstrate safe operation of the four basic machine tools.
B. Review how to read blueprints and lay out their assigned projects.
C. Familiarize student with the terminology, hand tools, precision tools, and layout tools used in the machining trades.

III. STUDENT LEARNING OUTCOMES AND GENERAL EDUCATION LEARNING OUTCOMES:

A. Student Learning Outcomes: *Student will be able to:*
1. Safely operate the four basic machine tools.
2. Learn and understand terminology used in manufacturing.
3. Accurately read precision measuring tools.
4. Read blueprints and operate layout tools and equipment.
5. Properly select and use hand tools.
6. Calculate proper RPM for machining operations.
7. Cut single point external threads on a manual lathe.
8. Select proper tap drill size and hand tap internal threads.
9. Offhand grind proper clearance and relief angles in HSS tool bits.
10. Sharpen drill bit points manually with automatic drill point grinder.
11. Layout and drill hole locations to specified print tolerances.

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.