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:	MACH1456
Course Title:	Manufacturing Processes II
Prerequisite(s):	None
Corequisite(s):	MFGT1421
Catalog Description:	The basic operation of the lathe, milling machine, and grinder are explored as they relate to manufacturing engineers. The laboratory experience will include metrology, use of basic hand tools, metal sawing, drilling and tapping, milling, turning, thread turning, and grinding.
Credit Hours:	2.5
Class Hours:	15
Lab Hours:	68
Total Contact Hours:	

II. COURSE OBJECTIVES: *Course will:*

A. Demonstrate basic operation of the lathe, milling machine, and grinder as they relate to manufacturing engineers. The laboratory experience will include metrology, use of basic hand tools, metal sawing, drilling and tapping, milling, turning, thread turning, and grinding.

III. STUDENT LEARNING OUTCOMES AND GENERAL EDUCATION LEARNING OUTCOMES:

A. Student Learning Outcomes: *Student will be able to:*
- **1.** Become familiar with the five basic machine tools; lathe, milling machine, grinders, drill press, and saws.
- **2.** Read blueprints and use the information from the blueprints to lay out their work pieces.
- **3.** Operate the tolls in the machine shop in a safe manner.
- **4.** Become familiar with the terminology of the precision measurement tools, layout tools, hand tools, and machine tools used in the machining trades.

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 (*course outline may provide more detailed information)*

A. Safety
B. Precision measuring tools
C. Layout tools
D. Hand tools
E. Tool grinding
F. Drilling operations
G. Lathe operations
H. Milling operations
I. Grinding operations

V. INSTRUCTIONAL MATERIALS

A. Required Text(s):
- **1.** Machinery's Handbook (current edition – see instructor)
- **2.** Ready Reference Book (optional)

B. Other Resources:
- **1.** Supplemental handouts supplied by instructor
- **2.** Items below to be provided by the student:
  - **a.** Pencils and pens
  - **b.** Digital or dial calipers
  - **c.** 6" steel rule
  - **d.** Safety glasses
  - **e.** Three-ring binder

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.** 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.** Notebook (if required)
- **2.** Quizzes
- **3.** Tests
- **4.** Lab grades

VIII. SPECIFIC COURSE REQUIREMENTS

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

B. Must earn a final grade of 60% (1.0) or higher.

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