REVISED: Fall 2014

SYLLABUS

DIVISION: Business & Engineering Technologies

CURRICULA IN WHICH COURSE IS TAUGHT: MAC Machine Lab 1

COURSE NUMBER/TITLE: MAC 131

CREDIT HOURS: 2 HOURS **WEEK LECTURE:** 1 **HOURS/WEEK LAB:** 3

I. COURSE DESCRIPTION:

bench work, measuring tools, drill press, lathe, and milling machine operations. Emphasizes turning, facing, drilling, boring, reaming, tapering and threading.

II. RELATIONSHIP OF THE COURSE TO CURRICULA OBJECTIVES:

- Choose proper manufacturing processes and materials.
- Possess rudimentary machining skills.
- Interpret mechanical blueprints.
- Demonstrate knowledge of safety practices and consistently execute them.
- Apply math and calculation skills to solve technological problems.

III. REQUIRED BACKGROUND/PREREQUISTIES:

None

IV. COURSE CONTENT:

- Shop Safety – air, oil, electricity, cutters, eye and ear hazards, lifting, and power machinery
- Measurement instruments and layout
- Blueprint reading
- Material and lubricant selection
- Drill press operations
- Taps and dies
- Saws, grinders and sanders
- Introduction to lathes
- Precision measurement
- Press fits
- Milling machines

V. THE FOLLOWING GENERAL EDUCATION OBJECTIVES WILL BE

NOTE:The syllabus and course outline are subject to change at the discretion of the professor.

ADDRESSED IN THIS COURSE (Place X by all that apply)

_____ Communications

___**X**___ Computational and Computer Skills

___**X**____ Learning Skills

_____ Understanding Culture/ Society

_____ Critical Thinking

___**X**___ Understanding Science and Technology

_____ Interpersonal Skills and Human Relations

_____ Wellness

VI. LEARNER OUTCOMES VII. EVALUATION

Learner outcome • Utilize scales, micrometers, calipers, and dial indicators to measure with accuracy to .001 inch.	**Evaluation method** Lab exercises Online test
Learner outcome • Interpret blueprints and drawings of projects to be created in an industrial environment.	**Evaluation method** Lab exercises In class assignments
Learner outcome • Demonstrate an understanding of the terms and procedures used in a machine shop.	**Evaluation method** Lab exercises In class assignments Online test
Learner outcome • Demonstrate an ability to center, turn, face, chamfer, part, knurl, drill, bore, taper, thread and file on an engine lathe. •	**Evaluation method** Lab exercises
Learner outcome • Demonstrate ability to mill, drill, tap, countersink, and counterbore on a vertical mill.	**Evaluation method** Lab exercises
Learner outcome • Understand basic shop techniques while incorporating shop safety practices.	**Evaluation method** Lab exercises In class assignments Online test

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