Machine Tools (MAC)

MAC 152 Machine Tool Laboratory

2 Hours

Prerequisites: MAC 150, IND 121, or consent of instructor

4 hours weekly (0-4)

This course is designed to provide laboratory experiences emphasizing conventional turning processes. Turning operations using tapering, external and internal threading, four-jaw chucking procedures, indicating, radius turning, and turning between centers will be emphasized.

MAC 153 Machine Tool Laboratory

2 Hours

Prerequisites: MAC 150, IND 121, or consent of instructor

4 hours weekly (0-4)

This course is designed to provide laboratory experiences using conventional vertical and horizontal milling techniques. The student will complete assignments with emphasis on milling set-ups, feeds and speeds, holding jigs and fixtures, flycutting, end milling, and indicating and alignment procedures necessary to develop skills in milling. Introductory CNC milling concepts will also be emphasized.

MAC 154 Introduction to CNC

2 Hours

Prerequisites: None

2 hours weekly (2-0)

An introductory course in the study of numerical control (NC) and computer numerical control (CNC) machine processes. Emphasis will be placed on NC fundamentals, punched tape controls, computer-controlled operations, basic machine codes, and manual part programming.

MAC 159 CAM Operations

2 Hours

Prerequisites: None

2 hours weekly (2-0)

A continuation of the study of CNC programming with emphasis on advanced milling and turning machine techniques, program set-up, carbide tooling, program editing, ISO/EIA program input, and introductory 3D machining techniques. Students will develop programs through the EZ-CAM 3D software and the EZ-TURN software. CNC machine applications will be applied in the development of projects through laboratory experiences.

MAC 180 Blueprint Reading

3 Hours

Prerequisites: None

3 hours weekly (3-0)

This course is designed for technical students, apprentices in the machine trades, and other personnel who must develop the basic skills required for visualizing and interpreting industrial prints in their jobs. Emphasis will be placed on industrial practice, types of drawings, geometric dimensioning, and the impact of computer drafting as related to the machine trades.

MAC 200 Machine Tool Laboratory

4 Hours

Prerequisites: None

8 hours weekly (0-8)

This course is designed to provide laboratory experiences in machine tool processes and

procedures, and skills necessary for the industrial maintenance students. Emphasis will be placed on precision measuring, drilling processes, turning, milling, grinding, and beginning CNC processes as well as other maintenance and repair procedures.