

MACHINE TOOL OPERATION/MACHINE SHOP TECHNOLOGY (MST)

- 1113 Introduction to Machine Shop Technology. (3)**
This course introduces students to band saws, drill presses, metal cutting lathes, and milling machines. The course is designed to give the student a basic knowledge of manual metal working machines. Two lecture and two lab hours per week.
- 1115 Power Machinery I. (5)**
A course in the operation of power machinery. Includes instruction and practice in the operation of lathes, drill presses and vertical mills. Two lecture and six lab hours per week.
- 1125 Power Machinery II. (5) Prerequisite: MST 1115**
A continuation of Power Machinery I with emphasis on more advanced applications of lathes, mills and precision grinders. Two lecture and six lab hours per week.
- 1313 Machine Tool Mathematics. (3)**
An applied mathematics course designed for machinists. Includes instruction and practice in algebraic and trigonometric operations essential for successful machining. Two hours lecture and two hours per week.
- 1413 Blueprint Reading. (3)**
A course in blueprint reading designed for machinists. Includes instruction and practice in reading and applying industrial blueprints. Two hours lecture and two hours lab per week.
- 1423 Advanced Blueprint Reading. (3) Prerequisite: MST 1413**
A continuation of Blueprint Reading with emphasis on advanced feature of technical prints. Includes instruction on the identification of various projections and views and on different assembly components. Two lecture and two lab hours per week.
- 1613 Precision Layout. (3)**
An introduction to the concepts and practice of precision layout for machining operations. Includes instruction and practice in the use of layout instruments. Two lecture and two lab hours per week.
- 2135 Power Machinery III. (5) Prerequisite: MST 1125**
A continuation of the Power Machinery II course with emphasis on advanced applications of the engine lathe, milling and grinding machine. Two lecture and six lab hours per week.
- 2144 Power Machinery IV. (4) Prerequisite: MST 2135**
A continuation of Power Machinery III with emphasis on highly advanced operations on the radial arm drill, milling machine, engine lathe and precision grinder. Two lecture and four lab hours per week.
- 2714 Computer Numerical Control Operations I. (4)**
An introduction to the application of computer numerical control (CNC) and computer assisted manufacturing (CAM) techniques and practices. Includes instruction and practice related to the use of the Cartesian coordinate system, programming codes and command and tooling requirements for CNC/CAM machines. Three lecture and two lab hours per week.
- 2725 Computer Numerical Control Operations II. (5) Prerequisite: MST 2714**
A continuation of Computer Numerical Control Operations I. Includes instruction in writing and editing CNC programs, machine setup and operation and use of CAM equipment to program and operate CNC machines (CNC lathes, CNC mills, CNC machine centers and wire EDM). Two lecture and six lab hours per week.
- 2813 Metallurgy. (3)**
An introduction to the concepts of metallurgy. Includes instruction and practice in metal identification, heat treatment and hardness testing. One lecture and four lab hours per week.
- 291(1-3) Special Problem in Machine Tool Technology. (1-3) Prerequisite: Minimum of twelve scheduled Machine Tool related courses**
A course designed to provide the student with practical application of skills and knowledge gained in other Machine Tool Operation/Machine Shop courses. The instructor works closely with the

student to insure that the selection of a project will enhance the student's learning experience. Two to six lab hours per week.

292(1-6) Supervised Work Experience in Machine Tool Technology. (1-6) Prerequisites: Consent of instructor and completion of at least one semester of advanced course work in Machine Tool Technology

This course is a cooperative program between industry and education and is designed to integrate the student's technical studies with industrial experience. Variable credit is awarded on the basis of one semester hour per 45 industrial contact hours. Three to eighteen hours internship.