



MTT 1350

Division: Career and Technical Education

Department: Machine Tool Technology

Course: MTT 1350

Title: Related Machine Shop Practice

Catalog Description:

This course is for students with majors other than Machine Tool Technology. It presents general information and covers only basic machine tool operation, principally on the engine lathe. The course includes turning, boring, drill bit sharpening, tool bit grinding, taper cutting, facing, hole formation, threading (both internal and external), and simple tool design.

General Education Requirements: N/A

Semesters Offered: TBA

Credit/Time Requirement: Credit: 2; Lecture: 0; Lab: 6

Clock/Hour Requirements: 90

Offered for Non-Credit: No

Prerequisites: None

Corequisites: None

Justification:

This course teaches students the fundamentals approved by our program advisory committee and is comparable to UVSC MTT 1350.

Student Learning Outcomes:

Upon successful completion of this course, students should be able to:

- duplicate or manufacture a new part from the original part or print
- explain how their major or trade area is or will be affected by machining.

Content:

Course objectives will be accomplished by providing students with learning experiences in the following subject areas:

- shop safety
- lathe tool performance
- related theory
- straight turning
- shoulder turning
- taper turning
- threading (external)

- threading (internal)
- thread chasing
- drill grinding
- tapping (power and hand)
- steady rest principles.

General Education Outcomes:

- 4) Retrieve, evaluate, interpret, and deliver information through a variety of traditional and electronic media. Students will research projects through the *Machinery Handbook*, Internet, and company-specific websites. Specifications on material structure, machineability, and other details for a given job will need to be identified, evaluated, and interpreted before being applied to production.
- 6) Apply computational skills to a variety of contexts. Previously acquired mathematical skills will be applied in a lab setting. Students will be required to compute details of layout, reverse engineering, and programming as they prepare and complete a given project.
- 7) Apply scientific reasoning to a variety of contexts. Through the machining process, students are required to assess problems for possible solutions. Students will be involved in planning, design, and application of concepts they have learned in order to arrive at a quality-controlled product. Students will need to apply these skills to specific projects in order to arrive at the most efficient solution.

Key Performance Indicators:

In class:

- Students demonstrate safety practices while working in the shop.
- The student s knowledge and skills are tested by the ability to complete assignments with a required 70% minimum accumulated score.
- Written tests and quizzes are given on major subject areas with a required 70% minimum accumulated score.

Following class:

- Upon completion of the course, competency will be demonstrated in their major field of study in future assignments and projects.

Representative Text and/or Supplies:

- Walker, John R., *Machining Fundamentals*, current edition, Goodhart/Willcox Company Inc.

Optimum Class Size: 10

Maximum Class Size: 20

Signatures:

I hereby submit this course syllabus:

Alan Hart, AAS, Instructor

I hereby find this course consistent with the goals and resources of the Machine Tool Technology Department:

Alan Hart, AAS, Instructor, Chair

I hereby find this course consistent with the goals and resources of the Career and Technical Education Division:

Michael P. Medley, MBA, Assistant Professor, Dean

I have discussed the need for library resources related to this class with the person submitting the syllabus:

Lynn Anderson, MLIS, Technical Services Librarian (Main Campus)

Michelle Olsen, MLS, Campus Librarian (Richfield Campus)