University of Arkansas - Fort Smith
5210 Grand Avenue
P. O. Box 3649
Fort Smith, AR 72913-3649
479-788-7000

General Syllabus

MACH 1334 Machine Technology II

Credit Hours: 4 **Lecture Hours:** 2 **Laboratory or other types of Hours:** 4

Prerequisite(s): MACH 1234 Machine Technology I

Effective Catalog: 2021-2022

I. Course Information

A. Catalog Description

Includes information regarding the set-up and operation of industrial milling and drilling machines. Topics include precision part layout and inspection of, drilling, tapping, reaming, boring, and surface finishes.

II. Student Learning Outcomes

A. Subject Matter

Upon successful completion of this course, the student will be able to:

1. Operate tools in a machining environment in compliance with required safety rules including the use of personal safety protection.
2. Read and interpret machine blue prints.
3. Use Vernier measuring tools and dial indicators and make necessary adjustments.
4. Perform setups on vertical and horizontal milling machines.
5. Recognize and determine the proper use of the different milling machining attachments.
6. Interpret blueprints and make the necessary machine adjustment.
7. Use DRO's (Digital Read Outs) to produce piece parts to within .0001" tolerance.
8. Use hand tapping dies.
9. Operate the five most common industrial drilling machines with a basic level of proficiency.
10. Distinguish between the cutting properties and explain the proper use for each of the numerous types of reamers.

B. University Learning Outcomes

This course enhances student abilities in the following areas:

Analytical Skills
Critical Thinking Skills: Students will read and interpret blue prints and make necessary machine adjustments.

Communication Skills (written and oral)
Students will proficiently and accurately interpret blue prints and mechanical data sheets and will effectively communicate to resolve issues or concerns.

III. Major Course Topics

A. Safety
B. Measurement, layout, inspection and setup tools
C. External and internal threads, threading, tapping and dies
D. Industrial drills, drilling operations and reamers
E. Milling machine operations and digital readouts