

DEPARTMENT OF MECHANICAL ENGINEERING
MANUFACTURING LAB
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SYLLABUS FALL/SPRING Sessions 1-4 (Level-2)

Welcome to Manufacturing Lab. This is a Level-2 lab course, and should be taken only after completing the Level-1 course. The course objective is to give you a deeper understanding of both manual and automated machine usage, in order to help prepare you to use the equipment in the Student Machine Shop for your upcoming Senior Design projects. Safety is taught, practiced, and enforced throughout the course. Please note that a flash-drive, and closed toed shoes will be required for this course.

GRADING

This is a “HANDS ON” course. Grading for this class is broken down as follows:

The FOUR components that make up YOUR total grade are:

- ATTENDANCE 100 pts (4 @ 25 pts each) NOTE: 2 or more labs missed you will be dropped)
- HOMEWORK 50 pts (1 @ 50 pts each)
- PROJECTS 150 pts (3 @ 50 pts each)

TOTAL: 300 points

GRADE SCALE

A = 275-300 pts
B = 225-274 pts
C = 200-224 pts
D = 175-199 pts
F = 174 and below

Attendance: There are only 4 lab meetings, no makeups allowed due to session scheduling.
** If you cannot attend all 4 labs, it is advised you drop the lab and sign up for another session where you can attend all of the labs. **

Homework: Must be 100 % complete and turned in by DUE date, or you will fall behind, and fail the course. Homework is to be done on YOUR time not class time.
****Put YOUR name and Panther ID on your work in order to get credit. ****

Projects: Must be 100 percent completed to get full credit points.

Weekly Lab requirements

LAB WEEK# 1

- INTRODUCTION TO MANUF-2.
- GET EMAIL AND CONTACT INFORMATION
- GO OVER SYLLABUS/ HAND OUTS
- SAFETY BRIEFING
- ASSIGN HOMEWORK #3 (FADAL MOLDS USING CAD/CAM.)
- KNEE MILL SET-UP, PART TOUCH-OFF
- SAW, SCRIBE, LOCATE PART ZERO, DRILL AND TAP PLATE

LAB WEEK# 2

- HOMEWORK #3 DUE FROM ALL STUDENTS
- ½ HALF STUDENTS: CALCULATE, SETUP, DRILL AND TAP 5-HOLE PATTERN
- ½ STUDENTS: CNC MILL MOLD PROJECTS, CUT IN HALF, FACE EDGE OPTIONAL (DRILL RUNNER)
- ½ STUDENTS COMPLETE Project-1: Plate, ½ Students complete Project-2: Mold

LAB WEEK# 3

- ½ HALF STUDENTS: CALCULATE, SETUP, DRILL AND TAP 5-HOLE PATTERN
- ½ STUDENTS: CNC MILL MOLD PROJECTS, CUT IN HALF, FACE EDGE OPTIONAL (DRILL RUNNER)
- ALL STUDENTS MUST HAVE COMPLETED Project-1: Plate, ½ Students complete Project-2: Mold

LAB WEEK# 4

- DEMO CNC LATHE CAPABILITIES
- MAKE PROJECT-3: SPIN SHAFT ON CNC, SAW, FACE ON ENGINE LATHE, ASSEMBLE TO PLATE
- CLEAN-OUT LOCKERS and TAKE HOME PROJECTS

REMEMBER: Your attendance, participation, and effort are key factors in your final grade so please come prepared and ready to work.