Manufacturing Systems Laboratory

MECH 337 - Spring 2020
0 Credits

Instructor Info —

👤 Masoud Masoumi

🕑 Office Hrs: Mon & Thurs: 3pm-4pm

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Course Info ——

⚡ Prereq: MECH 314

📅 Every other Wednesday

🕑 Sec 1: 8-9:50am

🕑 Sec 2: 10-11:50am

📍 RLC, Room 304

Overview

This lab gives hands-on practice in various computer aided manufacturing processes including CNC machinery, controls, and robotics. Three-hour laboratory every second week.

ABET Outcomes

- (b) An ability to develop and conduct appropriate experimentation, analyze and interpret data, and use engineering judgment to draw conclusions.
- (g) An ability to communicate effectively with a range of audiences
- (k) An ability to use the techniques, skills, and modern engineering tools necessary for engineering practice.

Experiments

Manufacturing 1 (M1)	CNC Turning Lab & Milling Lab
Manufacturing 2 (M2)	SQC Lab
Manufacturing 3 (M3)	Vision Lab
Systems 1 (S1)	Vibrations Lab
Systems 2 (S2)	Robot Lab
Systems 3 (S3)	Control Lab

Timetable

	DATE					
	Jan 15th	Jan 29th	Feb 12th	Feb 26th	Mar 11th	Mar 25th
Group I	Introduction	S1, S3	S2	M2	M3	M1
Group II	Introduction	S2	M2	M3	S1, S3	M1
Group III	Introduction	M2	M3	S1, S3	S2	M1
Group IV	Introduction	M3	S1, S3	S2	M2	M1

Groups (Sec 01: 8-9:50am)

GROUP I	GROUP II	Group III	GROUP IV
Student 1	Student 2	Student 3	Student 4
Student 5	Student 6	Student 7	Student 8
Student 9	Student 10	Student 11	Student 12

Groups (Sec 02: 10-11:50am)

GROUP I	GROUP II	Group III	GROUP IV
Student 1	Student 4	Student 7	Student 10
Student 2	Student 5	Student 8	Student 11
Student 3	Student 6	Student 9	Student 12

Reports

When writing your report, please consider the followings:

- Reports should have a title page with the name of the group members, title of the experiment, and date of the experiment, and date of the submission.

- All the graphs should have labels for axis and titles. If there is more than one variable plotted in a graph, make sure that the graph has a legend identifying each variable. Also, graphs and figures should have captions explaining them.

- Variables and numbers should have units. This includes labels in the graphs.

- Explain your calculations and show your work in a clear and organized way.

- Numbers one through ten are expressed as words; other numbers are expressed as numbers.

- Use no more that four significant figures, unless a really good reason exists otherwise.

- Use the past passive tense for the most part and only the present and future where absolutely required.

- Write the report as a professional report (not a school exercise); pretend that the work was done to examine a specific phenomenon for a customer and write it accordingly.

- Never use the format 46E-4; this should be 46×10^{-4}.

- Never use the format x∧2; this should be x^2.

- Create all equations using the equation editor.

- Number the equations with a number in parenthesis to the right of the equation.

- All numbers have to be associated with appropriated units (unless the number is dimensionless, e.g. Reynolds Number).

- Do not mix units in a report select either SI or empiric units, or provide the secondary unit type in parentheses (e.g. 1 in (25.4 mm)).

- Write units in short hand (i.e. ft NOT feet).

- Do not have a graph caption at the top of a graph the caption is the figure title.

- All figures need figure titles.

- Tables are not figure they are tables (e.g. Table 1: Raw Data)

- Number all pages, except the title page.