ME 338 Manufacturing Processes - II

Course Instructor	:	**Prof. Ramesh Singh**
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Office Hours	:	Fridays 3:00 pm - 4:00 pm
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Teaching Assistant	:	**Mr. Vivek Bajpai**
Office	:	Machine Tools Lab, PhD section
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Grader	:	**Mr. Ganesh Soni**
Office	:	Machine Tools Lab, PhD section
	:	Thursdays 3:00 pm – 4:00 pm

Course Objectives:

- Learn the fundamentals of machining, optimization, non conventional machining, fixturing and metrology
- Develop first order mathematical descriptions for select processes
- Understand the advantages and limitations of various processes in terms of quality productivity
- Apply this knowledge to manufacturing process selection, design and part quality

Scheme of assessment

Group Assignments (7)	15%
Surprise Quiz (5)	10%
Midterm	25%
Project	10%
End semester examination	40 %
Total	100 %

Please note:

1. Lecture notes and home works will be posted on the course website
2. Homeworks will be submitted in self selected group of four and are **due in class on the day of submission**. **No late homeworks accepted**.
3. Any form of uncanny similarity or copying on the homework **will be severely penalized**.
4. Students could opt for an **analysis project** either using Deform/commercial finite element code or analytical techniques. **Hands on projects** which involve experimental analysis will also be considered. Alternatively, a **research paper** on recent work in manufacturing could also be considered under certain conditions.
5. Surprise quizes will be an in-class test for 15-20 minutes.

Text Book:
Manufacturing Processes for Engineering Materials, S. Kalpakjian and S. R. Schmid, 5th edition; Prentice Hall, 2003.

References:
I*ntroduction to Manufacturing Processes, J.A. Schey, 3nd edition. McGraw Hill Co., 2000.*

Fundamentals of Machining and Machine Tools, G. Boothroyd and W.A. Knight. 2nd edition, Marcel Dekker, Inc., 1989.

Advanced Fisture Design for FMS, A.Y.C. Nee, K. Whybrew, and N. Senthil Kumar, Springer Verlag

Metrology for Engineers, J. F. W.Galyer, and C. R. Shotbolt, ELBS

Schedule of Lectures, Assignments and quizzes

Lecture No.	Date	Schedule of Assignments & quizzes	Lecture No.	Date	Schedule of Assignments & quizzes
1.	21.07.11 Th	Introduction	21.	19.09.11 Mo	
2.	25.07.11 Mo	MC- start	22.	20.09.11 Tu	
3.	26.07.11 Tu		23.	22.09.11 Th	HW 4 as.
4.	28.07.11 Th		24.	26.09.11 Mo	Fixt - end
5.	01.08.11 Mo	HW 1 as.	25.	27.09.11 Tu	HW 5 due MET-start
6.	02.08.11 Tu		26.	28.09.11 Th	
7.	04.08.11 Th		27.	03.10.11 Mo	
8.	08.08.11 Mo	H W 1 due	28.	04.10.11 Tu	
9.	09.08.11 Tu		29.	10.10.11 Mo	HW 6 as.
10.	11.08.11 Th		30.	11.10.11 Tu	
11.	16.08.11 Tu	HW 2 as.	31.	13.10.11 Th	
12.	18.08.11 Th		32.	17.10.11 Mo	HW 6 due
13.	23.08.11 Tu	MC- end	33.	18.10.11 Tu	
14.	25.08.11 Th	HW 2 due NC- st	34.	20.10.11 Th	
15.	29.08.11 Mo		35.	24.10.11 Mo	
16.	30.08.11 Tu		36.	25.10.11 Tu	
17.	05.09.11 Mo	HW 3 as.	37.	31.10.11 Mo	HW 7 as.
18.	06.09.11 Tu		38.	01.11.11 Tu	
--	08.09.11 Th	NC -end	39.	03.11.11 Th	MET -end
			40.	08.11.11 Tu	H W 7 due; Project Presentation
19.	(12-17).09.11	Mid-Sem Exam Break HW 3 due Tu.	41.	14.11.09 Mo	Project due
20.	19.09.11 Mo				