

MEC 325 – Manufacturing Processes

The State University of New York, Korea

Fall 2020

Course Title: Manufacturing Processes

Instructor: Prof. Yang, Min Yang

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Lectures: MW @ 10:30-11:50 AM

Office Hours: MW @ 2:00-4:00 PM

Textbook: Mikell P. Groover, "Principles of Modern Manufacturing" 5th Edition in SI Version, Wiley

Course Description:

Understanding the relationship between product design and manufacturing. Knowing the traditional and nontraditional manufacturing processes of engineering materials and their capabilities and limitations. The fundamentals of various manufacturing processes including machining, metal forming, powder processing, casting, welding, polymer processing, additive manufacturing, quality control, manufacturing automation, and manufacturing system will be studied. Manufacturing knowledge will be practiced through 2 term projects

Topics:

Week	Date	Topic (Subject to change)	Reading
1	8/24	Introduction (On-line)	Ch1
	8/26	History of Manufacturing (On-line)	Ch1
2	8/31	Cutting (In person)	Ch17
	9/2	Cutting, Grinding (In person)	Ch21
3	9/7	Powder processing (On-line)	Ch12
	9/9	Additive manufacturing-3D Printing (On-line)	Project#1
4	9/14	Bulk forming (In person)	Ch14
	9/16	Sheet metal forming (In person)	Ch16
5	9/21	Casting (On-line)	Ch7

	9/23	Review (On-line)	
6	9/28	Quiz#1 (In person)	
	9/30	Chuseok	
7	10/5	Polymer processing (On-line)	Ch10
	10/7	Composite (On-line)	Ch11
8	10/12	Project#1 demo (In person)	
	10/14	Project#2 (In person)	
9	10/19	Welding (On-line)	Ch25
	10/21	Assembly (On-line)	Ch28
10	10/26	Review (In person)	
	10/28	Quiz#2 (In person)	
11	11/2	Nontraditional machining (On-line)	Ch22
	11/3	Presentation #1 (On-line)	
12	11/9	Heat treatment, Surface processing (In person)	Ch23
	11/11	IC Fabrication (In person)	Ch30
13	11/16	Manufacturing automation (On-line)	Ch34
	11/18	Computer integrated manufacturing (On-line)	Ch35
14	11/23	Presentation #2 (In person)	
	11/25	Review (In person)	
15	11/30	Correction day, Quiz#3 (In person)	
	12/2	Q&A, Feedback (In person)	
16	12/7		
	12/9	Final Presentation (In person)	Project#2

(Subject to change)

Assignments & Deadlines: Home works are due in class. Home works will not be accepted after the class on the day they are due, and will receive zero in grade.

Examinations: 3 Quizzes.

Grading:

3 Homework	20%
3 Quiz	30%
Term project #1	20%
Term project #2	20%

Attendance	10%
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Grading Scale: The grading distribution will be converted to the point with the given weight percentage, and the total point (sum of each point) is to be normalized to 100. Then, the final grade will be given based the following point range. A: 95-100, A-: 90-95 B+: 85-90, B: 80-85, B-: 75-80 C+: 70-75, C: 65-70, C-: 60-65 D+: 55-60, D: 50-55 F: below 50

Policies:

- Homework assignments will be posted on the Blackboard.
- The Blackboard can be accessed at <http://blackboard.stonybrok.edu/>
- The time and details about exams will be announced in the class (and also posted on the Blackboard).
- It is the responsibility of students to make sure that they can access the Blackboard and they have a working email registered with it. The blackboard should be checked frequently for new materials.
- Quiz will be closed book and note.