

DEPARTMENT OF MECHANICAL ENGINEERING
SUNY KOREA
MANUFACTURING PROCESS

Course Title:	MEC325 Manufacturing Processes, Fall 2017 (3 credits)
Instructor:	Prof. Changwoon Han, email: changwoon.han@sunykorea.ac.kr
Lecture:	MW 15:30-16:50 in A116
Office:	B604, Phone (032) 626-1817
Office Hours:	MW 10:00-11:30 or other time by appointment
Course Objective:	Understanding the relationship between product design and manufacturing. Knowing the traditional and nontraditional manufacturing process and their capabilities and limitations. Hands-on experience in the fundamentals of machining including sheet metal working, drilling, tapping, turning, boring, milling, welding, and additive manufacturing. Production system analysis, random process, basics of inventory control and quality control.
Textbook:	M. P. Groover, " <u>Groover's Principles of Modern Manufacturing; Materials, Processes, and Systems</u> ," Global ed. SI ver., Wiley, 2016 (ISBN: 978-1-119-24912-2) W. J. Hopp & M. L. Spearman, " <u>Factory Physics</u> ," Waveland Press, 3 rd ed.
Assignments & Deadlines:	Lab reports are due in class. Late reports will not be accepted after the class on the day they are due, and will receive zero in grade. Written reports should follow the "Format of Lab Reports" handout.
Examinations:	3 Midterm Exams, 4 Quizzes, 1 Final Exam <ul style="list-style-type: none">• All exams are scheduled in class (Final exam follow the schedule)• NO make-up exams unless in extreme scenarios with Doctor's notes, police reports.
Grading:	Semester letter grade is based upon your performance in the following categories. <ul style="list-style-type: none">Midterm exams (10% each) 30%Final exam 20%Term project 10%Lab and reports 20%Quizzes & Homework 20%

Course Outline:

Week	Date	Class	Notes
1	28-Aug	Introduction - syllabus, grading, lab, term project, exam, lab tour	
	30-Aug	Mfc Ch.1 Ch.3	
2	4-Sep	Mfc Ch.4 Ch.6	
	6-Sep	Additive Manufacturing, term project assigning	
3	11-Sep	Mfc Ch.17 - Cutting Theory (SME Video: Milling&Machine Center)	
	13-Sep	Mfc Ch.18 - Machine Tools (SME Video: Lathe Operation)	Quiz 1
4	18-Sep	Mfc Ch.19 - Tool Technology (SME Video: Cutting Tool Geometry)	
	20-Sep	CNC (SME Video: Basic Hole Making)	
5	25-Sep	CNC (SME Video: Cutting Tool Material, Work holding)	Quiz 2
	27-Sep	Mfc Ch.21 - Grinding (SME Video: Basics of Grinding)	Lab1 due
6	2-Oct	Adjustment	No class
	4-Oct	National Holiday	No class
7	9-Oct	National Holiday	No class
	11-Oct	Exam 1	Exam 1
8	16-Oct	CNC: G-code / M-code	
	18-Oct	Mfc Ch.21, Ch.14 - Metal Forming	
9	23-Oct	Mfc Ch.15 - Bulk Deformation (SME Video: Forging)	Quiz 3
	25-Oct	Mfc Ch.16 - Sheet Metal (SME Video: Stamping)	
10	30-Oct	Mfc Ch.16, Ch.7 - Casting (SME Video: Casting)	
	1-Nov	Mfc Ch.7 (SME Video: Die Casting)	
11	6-Nov	Mfc Ch.25 - Welding	Quiz 4, Lab2 due
	8-Nov	Exam 2	Exam 2
12	13-Nov	Factory Physics - Ch.7	
	15-Nov	Factory Physics - Ch.7	
13	20-Nov	Factory Physics - Ch.8	
	22-Nov	Factory Physics - Ch.8	
14	27-Nov	Factory Physics - Inventory	
	29-Nov	Factory Physics - Inventory	
15	4-Dec	Exam 3	Exam 3
	6-Dec	Quality Control, SPC	
16	11-Dec	Non-traditional Manufacturing	Correction Day
	12-Dec	Term Project Presentation	Correction Day
17	18-Dec	Final Exam	Final Exam

Blackboard

It is required that you use the Blackboard for this course (<https://blackboard.stonybrook.edu/>).

Blackboard is used for facilitation of communications between faculty and students, submission of assignments, posting of the course materials, important announcements, and grades.

Course Website

Supplementary materials will be posted on [the course website](#);

<https://sites.google.com/sunykorea.ac.kr/cwhan/mec-325?authuser=0>

SUNY Korea Attendance Policy

- (1) All SUNY Korea students are required to attend every class.
- (2) Unexcused absences will significantly affect seriously the student's final course grade.
- (3) Students who are absent without a valid excuse (see below) from more than 20% of scheduled class meetings will receive a grade of "F" for the course as follows:
 - i) For 150-minute classes meeting once a week, the 4th unexcused absence
 - ii) For 75-minute classes meeting twice a week, the 7th unexcused absence
 - iii) For 50-minute classes meeting three times a week, the 10th unexcused absence
 - iv) For Intensive English (IEC) Courses, students who miss more than 40 hours during a semester will receive a grade of "F" for the course.
- (4) Students should report the reason for absences to the instructor in advance, or immediately after the absence.
- (5) Absences may be classified as "excused" at the instructor's discretion.
- (6) For an absence to be "excused," the student must provide the instructor with acceptable documentation for the reason for the absence.
- (7) The course instructor may excuse the absence if the submitted documentation fulfills the conditions below:
 - i) Extreme emergencies (e.g., death in the family)
 - ii) Major medical reasons with doctor's note (not minor ailments)
 - iii) Very important events (e.g., national conferences, official school events)
- (8) At the end of semester, the course instructor will submit the class attendance record to the Academic Affairs Office.

Disability Support Services (DSS) Statement:

If you have a physical, psychological, medical or learning disability that may impact your course work, please contact One-Stop Service Center, Academic Building A201, (82) 32-626-1117. They will determine with you what accommodations, if any, are necessary and appropriate. All information and documentation is confidential.

In addition, this statement on emergency evacuation is often included, but not required: Students who require assistance during emergency evacuation are encouraged to discuss their needs with their professors and One-Stop Service Center.

Academic Integrity Statement:

Each student must pursue his or her academic goals honestly and be personally accountable for all submitted work. Representing another person's work as your own is always wrong. Faculty are required to report any suspected instances of academic dishonesty to the Academic Judiciary. For more comprehensive information on academic integrity, including categories of academic dishonesty, please refer to the [academic judiciary website](#).

Critical Incident Management Statement:

The State University of New York, Korea expects students to respect the rights, privileges, and property of other people. Faculty are required to report to the Office of Judicial Affairs any disruptive behavior that interrupts their ability to teach, compromises the safety of the learning environment, or inhibits students' ability to learn.

Subject to Change Notice

All material, assignments, and deadlines are subject to change with prior notice. It is your responsibility to stay in touch with your instructor, review the course site regularly, or communicate with other students, to adjust as needed if assignments or due dates change.

Syllabus Disclaimer

The instructor views the course syllabus as an educational understanding between the instructor and students. Every effort will be made to avoid changing the course schedule but the possibility exists that unforeseen events will make syllabus changes necessary. The instructor reserves the right to make changes to the syllabus as deemed necessary. Students will be notified in a timely manner of any syllabus changes via email or in the course site Announcements. Please remember to check your email and the course site Announcements often.