

**Fundamentals of Production Engineering**

EML 6324 Section 214A, 4005, 7061, 7064

**Class Periods:** MWF, 4th period, 10:40 am – 11:30 am**Location:** NEB 201**Academic Term:** Fall 2019**Instructor:**

Hitomi Greenslet

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352-392-0812

Office: 226 MAE-B

Office Hours: MWF, 11:45 am – 12:35 pm

**Teaching Assistants:**

Please contact through the Canvas website

Yifan Zhang

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Office: 109 NEB

Office Hours: T, 3:00 pm – 5:00 pm

**Course Description**

Fundamentals of metal cutting, metal forming, and welding. Accuracy and rigidity of machine tools. Automation, numerical control, adaptive control

**Course Pre-Requisites / Co-Requisites**

Graduate standing

**Course Objectives**

The course introduces fundamental manufacturing technologies, explains how products are made, and describes how manufacturing problems are solved. Topics include engineering materials, manufacturing processes, machine tools, and automation.

Upon completion of this course, students will be able to demonstrate the following:

- an understanding of traditional and advanced manufacturing processes
- the ability to use engineering tools such as advanced mathematics and the theories of stress and strain and vibrations to analyze manufacturing processes and machines
- the ability to rapidly and accurately perform manufacturing engineering evaluations and analyses

**Materials and Supply Fees**

N/A

**Required Textbooks and Software**

- *Manufacturing Processes and Equipment*  
George Tlusty  
Prentice-Hall, 2000  
ISBN 0-201-49865-0

**Recommended Materials**

- *Manufacturing Processes for Engineering Materials* (6th Edition)  
Serope Kalpakjian and Steven Schmid  
Pearson Education, Inc., 2017  
ISBN number 978-0-13-429055-3
- *Fundamentals of Modern Manufacturing* (6th Edition)  
Mikell P. Groover

### ***Course Schedule***

Week 1:	Introduction, Additive Manufacturing
Week 2:	Engineering Materials and Their Properties
Week 3:	Primary Metalworking
Week 4:	Primary Metalworking, Metal Forming
Week 5:	Course review, Exam 1
Week 6:	Metal-forming Mechanics
Week 7:	Metal-forming Mechanics
Week 8:	Metal-forming Mechanics
Week 9:	Processing of Polymers, Cutting Technology
Week 10:	Course review, Exam 2
Week 11:	Cutting Technology, Cutting Mechanics
Week 12:	Cutting Mechanics
Week 13:	Cutting Mechanics, Design of Machine Tools, Nontraditional Machining
Week 14:	Advanced Technologies
Week 15:	Course review

Note: See the attached course schedule for more detail. (Dates are subject to change—this is to serve as a guideline only.)

### ***Exam schedule***

[On-campus students]

Exam 1: September 23, 2019 (10:40 am – 11:30 am)

Exam 2: October 25, 2019 (10:40 am – 11:30 am)

Final exam: December 11, 2019 (7:30 am – 9:30 am)

[Off-campus students]

Exam 1: September 20 – September 25, 2019

Exam 2: October 25 – October 30, 2019

Final exam: December 5 – December 11, 2019

### ***Attendance Policy, Class Expectations, and Make-Up Policy***

#### ***Class policies***

- Attendance is expected and encouraged for all students, but it will not be recorded. If you need to miss a class, please make appropriate arrangements with a classmate for class notes.
- Cheating or any other form of academic dishonesty will result in failure and prosecution according to University policies.
- Students are expected to conduct themselves in a manner that does not interfere with other students' learning. Disruptive or distracting behavior is prohibited, and Prof. Greenslet reserves the right to temporarily or permanently dismiss distracting students from the classroom.
- Students are responsible for all announcements, assignments, etc., given during lectures, including changes in the scheduling of lecture topics, homework assignments, and exams. Class absence is not a valid excuse for being unprepared.
- Any changes in the schedule or assignments will be communicated to the class via e-mail using your Gatorlink (@ufl.edu) e-mail address and the course website. You are responsible for monitoring your mailbox and the website regularly for any class notices.
- Excused absences must be in compliance with university policies in the Graduate Catalog (<http://gradcatalog.ufl.edu/content.php?catoid=10&navoid=2020#attendance>) and require appropriate documentation.

#### ***Homework policies***

- Homework must be neat and legible and show all major steps.

- Homework must be on 8.5" x 11" paper. Multiple sheets must be stapled in the proper order. Homework must have the assignment number, your name, and the date of submission in the upper right-hand corner of the first sheet.
- Homework must have the page number in the bottom right corner of every page.
- Failure to adhere to the formatting requirements could result in loss of points.
- You may discuss the homework with your classmates; however, all students must provide the solutions themselves. Copying of homework will be treated as academic dishonesty. Use of a solution manual or any online answer source is also considered dishonest.
- Excused absences must be in compliance with university policies in the Graduate Catalog (<http://gradcatalog.ufl.edu/content.php?catoid=10&navoid=2020#attendance>) and require appropriate documentation.

[On-campus students]

Homework must be turned in at the **start** of class on the due date. Do NOT slip it under Prof. Greenslet's door. In general, late homework will not be accepted.

[Off-campus students]

Homework must be turned in through the UF e-learning system **by 10:40 am** on the due date. In general, late homework will not be accepted.

### Exam policies

- It is the students' responsibility to demonstrate their knowledge on exams. In order to be able to grade your work, it must be neat, be legible, and follow logical steps with all work shown. Partial credit may be given for work that can be followed and where the nature and magnitude of the mistake can be identified. No credit will be given for correct answers with insufficient indication of how they were obtained.
- Students should be aware that their work is submitted under the honor code pledge taken by UF students. The pledge is *On my honor, I have neither given nor received unauthorized aid in doing this assignment.* Students can learn more about the UF honor code at the UF Student Government website. (<https://sccr.dso.ufl.edu/>)
- Excused absences must be in compliance with university policies in the Graduate Catalog (<http://gradcatalog.ufl.edu/content.php?catoid=10&navoid=2020#attendance>) and require appropriate documentation.

[On-campus students]

Exams 1 and 2 will be held during the regular class period on date that will be announced later. The final exam will be held at the time assigned by the Registrar. All exams will be held in the regular classroom. You must be present for all exams when they are given.

[Off-campus students]

All exams will follow UF EDGE regulations.

### **Evaluation of Grades**

Assignment	Total Points	Percentage of Final Grade
Homework Sets (6)	5 each	15%
Exam 1	100	25%
Exam 2	100	25%
Final exam	100	35%
Total		100%

### **Grading Policy**

The following is given as an example only.

Percent	Grade	Grade Points
90.0 - 100.0	A	4.00
87.0 - 89.9	A-	3.67
84.0 - 86.9	B+	3.33
81.0 - 83.9	B	3.00
78.0 - 80.9	B-	2.67

75.0 - 79.9	C+	2.33
72.0 - 74.9	C	2.00
69.0 - 71.9	C-	1.67
66.0 - 68.9	D+	1.33
63.0 - 65.9	D	1.00
60.0 - 62.9	D-	0.67
0 - 59.9	E	0.00

More information on UF grading policy may be found at:

<http://gradcatalog.ufl.edu/content.php?catoid=10&navoid=2020#grades>

### ***Students Requiring Accommodations***

Students with disabilities requesting accommodations should first register with the Disability Resource Center (352-392-8565, <https://www.dso.ufl.edu/drc>) by providing appropriate documentation. Once registered, students will receive an accommodation letter which must be presented to the instructor when requesting accommodation. Students with disabilities should follow this procedure as early as possible in the semester.

### ***Course Evaluation***

Students are expected to provide feedback on the quality of instruction in this course by completing online evaluations at <https://evaluations.ufl.edu/evals>. Evaluations are typically open during the last two or three weeks of the semester, but students will be given specific times when they are open. Summary results of these assessments are available to students at <https://evaluations.ufl.edu/results/>.

### ***University Honesty Policy***

UF students are bound by The Honor Pledge which states, “We, the members of the University of Florida community, pledge to hold ourselves and our peers to the highest standards of honor and integrity by abiding by the Honor Code. On all work submitted for credit by students at the University of Florida, the following pledge is either required or implied: “On my honor, I have neither given nor received unauthorized aid in doing this assignment.” The Honor Code (<https://www.dso.ufl.edu/sccr/process/student-conduct-honor-code/>) specifies a number of behaviors that are in violation of this code and the possible sanctions. Furthermore, you are obligated to report any condition that facilitates academic misconduct to appropriate personnel. If you have any questions or concerns, please consult with the instructor or TAs in this class.

### ***Commitment to a Safe and Inclusive Learning Environment***

The Herbert Wertheim College of Engineering values broad diversity within our community and is committed to individual and group empowerment, inclusion, and the elimination of discrimination. It is expected that every person in this class will treat one another with dignity and respect regardless of gender, sexuality, disability, age, socioeconomic status, ethnicity, race, and culture.

If you feel like your performance in class is being impacted by discrimination or harassment of any kind, please contact your instructor or any of the following:

- Your academic advisor or Graduate Program Coordinator
- Robin Bielling, Director of Human Resources, 352-392-0903, [rbielling@eng.ufl.edu](mailto:rbielling@eng.ufl.edu)
- Curtis Taylor, Associate Dean of Student Affairs, 352-392-2177, [taylor@eng.ufl.edu](mailto:taylor@eng.ufl.edu)
- Toshikazu Nishida, Associate Dean of Academic Affairs, 352-392-0943, [nishida@eng.ufl.edu](mailto:nishida@eng.ufl.edu)

### ***Software Use***

All faculty, staff, and students of the University are required and expected to obey the laws and legal agreements governing software use. Failure to do so can lead to monetary damages and/or criminal penalties for the individual violator. Because such violations are also against University policies and rules, disciplinary action will be taken as appropriate. We, the members of the University of Florida community, pledge to uphold ourselves and our peers to the highest standards of honesty and integrity.

## ***Student Privacy***

There are federal laws protecting your privacy with regards to grades earned in courses and on individual assignments. For more information, please see: <https://registrar.ufl.edu/ferpa.html>

## ***Campus Resources:***

### ***Health and Wellness***

#### **U Matter, We Care:**

Your well-being is important to the University of Florida. The U Matter, We Care initiative is committed to creating a culture of care on our campus by encouraging members of our community to look out for one another and to reach out for help if a member of our community is in need. If you or a friend is in distress, please contact [umatter@ufl.edu](mailto:umatter@ufl.edu) so that the U Matter, We Care Team can reach out to the student in distress. A nighttime and weekend crisis counselor is available by phone at 352-392-1575. The U Matter, We Care Team can help connect students to the many other helping resources available including, but not limited to, Victim Advocates, Housing staff, and the Counseling and Wellness Center. Please remember that asking for help is a sign of strength. In case of emergency, call 9-1-1.

**Counseling and Wellness Center:** <http://www.counseling.ufl.edu/cwc>, and 392-1575; and the University Police Department: 392-1111 or 9-1-1 for emergencies.

#### **Sexual Discrimination, Harassment, Assault, or Violence**

If you or a friend has been subjected to sexual discrimination, sexual harassment, sexual assault, or violence contact the [Office of Title IX Compliance](#), located at Yon Hall Room 427, 1908 Stadium Road, (352) 273-1094, [title-ix@ufl.edu](mailto:title-ix@ufl.edu)

#### **Sexual Assault Recovery Services (SARS)**

Student Health Care Center, 392-1161.

**University Police Department** at 392-1111 (or 9-1-1 for emergencies), or <http://www.police.ufl.edu/>.

### ***Academic Resources***

**E-learning technical support**, 352-392-4357 (select option 2) or e-mail to [Learning-support@ufl.edu](mailto:Learning-support@ufl.edu).  
<https://lss.at.ufl.edu/help.shtml>.

**Career Resource Center**, Reitz Union, 392-1601. Career assistance and counseling. <https://www.crc.ufl.edu/>.

**Library Support**, <http://cms.uflib.ufl.edu/ask>. Various ways to receive assistance with respect to using the libraries or finding resources.

**Teaching Center**, Broward Hall, 392-2010 or 392-6420. General study skills and tutoring.  
<https://teachingcenter.ufl.edu/>.

**Writing Studio, 302 Tigert Hall**, 846-1138. Help brainstorming, formatting, and writing papers.  
<https://writing.ufl.edu/writing-studio/>.

**Student Complaints Campus:** [https://www.dso.ufl.edu/documents/UF\\_Complaints\\_policy.pdf](https://www.dso.ufl.edu/documents/UF_Complaints_policy.pdf).

**On-Line Students Complaints:** <http://www.distance.ufl.edu/student-complaint-process>.