

## **Fundamentals of Production Engineering**

EML 6324 Sections 12610, 12611, 12612, 12613

**Class Periods:** MWF Period 6 (12:50-1:40)

**Location:** NEB 100 and online

**Academic Term:** Fall 2023

### **Instructor:**

Prof. John K. Schueller

[schuejk@ufl.edu](mailto:schuejk@ufl.edu) (Preferred contact method. Better to mail directly than through Canvas.)

352-392-0822 (Note that answering machine does not work.)

Office Hours: 10:00-11:00 Mondays and by appointment. MAE-B 322 and Zoom

### **Supervised Teaching Student:**

Please contact through the Canvas website

- Dane Ungurait, [daungurait97@ufl.edu](mailto:daungurait97@ufl.edu), office hours to be announced.

### **Sections:**

Please make sure that you are enrolled in the proper sections. My understanding (not guaranteed) is:

12610 – “Gainesville” (not in the EDGE program) students

12611 – overflow “Gainesville” students (section won’t be opened unless enrollment requires it)

12612 – EDGE students with Florida residency (as determined by U.F.)

12613 – EDGE students without Florida residency

Please note: All students are treated exactly alike. They are provided with the same information, have the same requirements, take the same exams, etc. Historically, the distributions of grades of the “Gainesville” and EDGE students are very similar.

### **Course Description**

Fundamentals of metal cutting, metal forming, and welding. Accuracy and rigidity of machine tools. Automation, numerical control, adaptive control. (3 credit hours)

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

Graduate standing or instructor permission.

### **Course Objectives**

Upon completion of this course, students will demonstrate:

1. a descriptive and qualitative understanding of traditional manufacturing processes;
2. the ability to use engineering science tools such as advanced mathematics, stress analysis, vibrations, control theory, and heat transfer to analyze manufacturing processes and machines, with an emphasis on metal forming and metal cutting;
3. the ability to rapidly and accurately perform manufacturing evaluations and analyses;
4. the ability to create computational simulations of manufacturing processes and machines; and
5. some knowledge of the contemporary state-of-the-art in manufacturing theory and practice.

### **Materials and Supply Fees**

None

## **Required Textbooks and Software**

- Textbook:** *Manufacturing Processes and Equipment*, Tlusty, G., Prentice-Hall, 2000. ISBN 0-201-49865-0 (either a hardcover or softcover printed copy is required)
- Software:** You might need to be able to program some simple computer assignments. Most students use the student version of MATLAB since it works well for these assignments and the examples in the textbook are in that language. But any other programming language (except spreadsheets) can be used.

Please note that you may only use printed materials for the exam and you cannot share materials during the exam. So do NOT buy an ebook copy of the textbook as you will not be allowed computers or phones in the open-book exams. We will tend to follow the textbook closely, but add material to update and explain.

You will have to read or watch some additional materials which will be provided on Canvas or by email.

## **Recommended Materials**

None to purchase.

## **Course Schedule**

I believe it would be a disservice to you to have a fixed schedule. Having taught this course many times (this is the graduate course I most often teach), I know that each cohort of students is different. I will adjust the course to your background and needs. In addition, sometimes there are changes that should be made to correspond to outside events, such as hurricanes. But mainly I can't predict accurately because contemporary manufacturing is in a state of flux. There will be new, or more-newly-important, material which we should study based upon continuing advances in manufacturing or engineering. To preplan too much would be stupid. Just know that we will generally progress through much of the book in an orderly manner. We will mainly completely cover chapters 1, 2, 3, 4, 5, 7, and 8 with some other smaller portions.

The final exam will be at the Registrar-assigned time. The two midterm exams will be shortly after the 1/3<sup>rd</sup> and 2/3<sup>rd</sup> points of the course. The exact dates will be announced at least nine days in advance and will be determined by pedagogical appropriateness.

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

Attendance will not be recorded. You are adults and can make your own decisions about how you want to learn the material. All of you may choose to either attend the lectures in NEB 100 or watch online. However, you are responsible for any material covered in lectures and any announcements made there.

Excused absences must be consistent with university policies in the Graduate Catalog (<https://catalog.ufl.edu/graduate/regulations>) and require appropriate documentation. Additional information can be found here: <https://gradcatalog.ufl.edu/graduate/regulations/>

## **Evaluation of Grades**

<b>Assignment</b>	<b>Total Points</b>	<b>Percentage of Final Grade</b>
Homework Sets (approx.. 10)	10 each	10%
Midterm Exams (2)	100 each	60%
Final Exam <b>14 Dec</b> 7:30-9:30	100	30%
Total		100%

You must also pass Quiz 0 to pass this course. It will be offered during the first month of class. This is a very easy quiz which you may retake multiple times.

Note the Final Exam. It will **not** be offered early. Do NOT make winter break plans which conflict. (One student once had to pay over \$500 <years ago when it was worth more than it is now> to change her ticket because of this.)

## ***Grading Policy***

<b>Percent</b>	<b>Grade</b>	<b>Grade Points</b>
93 - 100	A	4.00
90 - 93	A-	3.67
87 - 90	B+	3.33
83 - 87	B	3.00
80 - 83	B-	2.67
77 - 80	C+	2.33
73 - 77	C	2.00
70 - 73	C-	1.67
67 - 70	D+	1.33
63 - 67	D	1.00
60 - 63	D-	0.67
0 - 60	E	0.00

More information on UF grading policy may be found at:

[UF Graduate Catalog](#)  
[Grades and Grading Policies](#)

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

Students with disabilities who experience learning barriers and would like to request academic accommodations should connect with the disability Resource Center by visiting <https://disability.ufl.edu/students/get-started/>. It is important for students to share their accommodation letter with their instructor and discuss their access needs, as early as possible in the semester.

### ***Course Evaluation***

Students are expected to provide professional and respectful feedback on the quality of instruction in this course by completing course evaluations online via GatorEvals. Guidance on how to give feedback in a professional and respectful manner is available at <https://gatorevals.aa.ufl.edu/students/>. Students will be notified when the evaluation period opens, and can complete evaluations through the email they receive from GatorEvals, in their Canvas course menu under GatorEvals, or via <https://ufl.bluera.com/ufl/>. Summaries of course evaluation results are available to students at <https://gatorevals.aa.ufl.edu/public-results/>.

### ***In-Class Recording***

Students are allowed to record video or audio of class lectures. However, the purposes for which these recordings may be used are strictly controlled. The only allowable purposes are (1) for personal educational use, (2) in connection with a complaint to the university, or (3) as evidence in, or in preparation for, a criminal or civil proceeding. All other purposes are prohibited. Specifically, students may not publish recorded lectures without the written consent of the instructor.

A “class lecture” is an educational presentation intended to inform or teach enrolled students about a particular subject, including any instructor-led discussions that form part of the presentation, and delivered by any instructor hired or appointed by the University, or by a guest instructor, as part of a University of Florida course. A class lecture does not include lab sessions, student presentations, clinical presentations such as patient history, academic exercises involving solely student participation, assessments (quizzes, tests, exams), field trips, private conversations between students in the class or between a student and the faculty or lecturer during a class session.

Publication without permission of the instructor is prohibited. To “publish” means to share, transmit, circulate, distribute, or provide access to a recording, regardless of format or medium, to another person (or persons), including but not limited to another student within the same class section. Additionally, a recording, or transcript of a recording, is considered published if it is posted on or uploaded to, in whole or in part, any media platform, including but not limited to social media, book, magazine, newspaper, leaflet, or third party note/tutoring services. A student who publishes a recording without written consent may be subject to a civil cause of action instituted by a person injured by the publication and/or discipline under UF Regulation 4.040 Student Honor Code and Student Conduct Code.

### ***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://sccr.dso.ufl.edu/process/student-conduct-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 varied perspectives and lived experiences within our community and is committed to supporting the University’s core values, including the elimination of discrimination. It is expected that every person in this class will treat one another with dignity and respect regardless of race, creed, color, religion, age, disability, sex, sexual orientation, gender identity and expression, marital status, national origin, political opinions or affiliations, genetic information, and veteran status.

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
- HWCOE Human Resources, 352-392-0904, [student-support-hr@eng.ufl.edu](mailto:student-support-hr@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:** <https://counseling.ufl.edu>, 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 Connections Center**, Reitz Union, 392-1601. Career assistance and counseling; <https://career.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://sccr.dso.ufl.edu/policies/student-honor-code-student-conduct-code/>; <https://care.dso.ufl.edu>.

**On-Line Students Complaints:** <https://distance.ufl.edu/getting-help/>; <https://distance.ufl.edu/state-authorization-status/#student-complaint>.