

Manufacturing Engineering
EML 4321 Section 12137
Class Periods: M,W,F | Period 7 (1:55 PM – 2:45 PM)
Location: Little Hall Room 0101 (LIT 0101)
Academic Term: Fall 2025

Instructor:

Jack Famiglietti

jackfamiglietti@ufl.edu

Office Phone Number: TBD

Office Hours: Tuesdays & Wednesdays 10:00 – 11:00am; Office location: NEB 429

Note: Email is the preferred method of contact and will ensure the quickest response. Canvas messages are monitored much less frequently.

Teaching Assistant/Peer Mentor/Supervised Teaching Student:

Please contact Teaching Assistants through the Canvas website. Any changes to TA office hours timing or location will be announced in class and on Canvas.

- Sean Muller, s.muller@ufl.edu, Office Hours: Mondays 3:00pm – 4:55pm, NEB 526
- Phillip Lipman, plipman@ufl.edu, Office Hours: Thursdays 12:50pm – 2:45pm, NEB 526

Course Description

Traditional and nontraditional manufacturing processes and equipment. Application of engineering analysis tools to manufacturing.

Modality

This is a live lecture class which you are expected to attend. You are expected to check your ufl.edu email daily (except weekends and holidays) for messages pertaining to this course. Course management and assignment submission will be through Canvas.

Course Pre-Requisites

EML 2322L (Design & Manufacturing Lab), EMA 3010 (Materials), EML 3005 (Mechanical Design)

Course Objectives

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

1. A descriptive and qualitative understanding of traditional manufacturing processes.
2. The ability to use engineering science tools such as advanced mathematics, stress analysis, materials science, and heat transfer to analyze manufacturing processes and machines.
3. The ability to rapidly and accurately perform manufacturing engineering evaluations and analyses.

Materials and Supply Fees

None

Relation to Program Outcomes (ABET):

Outcome	Coverage*
1. An ability to identify, formulate, and solve complex engineering problems by applying principles of engineering, science, and mathematics	High
2. An ability to apply engineering design to produce solutions that meet specified needs with consideration of public health, safety, and welfare, as well as global, cultural, social, environmental, and economic factors	Low

3. An ability to communicate effectively with a range of audiences	Low
4. An ability to recognize ethical and professional responsibilities in engineering situations and make informed judgments, which must consider the impact of engineering solutions in global, economic, environmental, and societal contexts	Low
5. An ability to function effectively on a team whose members together provide leadership, create a collaborative environment, establish goals, plan tasks, and meet objectives	
6. An ability to develop and conduct appropriate experimentation, analyze and interpret data, and use engineering judgment to draw conclusions	
7. An ability to acquire and apply new knowledge as needed, using appropriate learning strategies	High

*Coverage is given as high, medium, or low. An empty box indicates that this outcome is not covered or assessed in the course.

Required Textbooks

The textbook below is required for the course. Please ensure it is the USA 6th Edition.

- **Manufacturing Processes for Engineering Materials (6th Edition)**
- Serope Kalpakijan and Steven Schmid
- Pearson Education, Inc., 2017
- ISBN 978-0-13-4290553

Please check that you have acquired the correct textbook – you should NOT get the book titled *Manufacturing Engineering and Technology*, by the same authors.

Course Schedule – Subject to Change

The following schedule is a guideline for the course, and I may adjust it as needed depending on how quickly we cover certain material. It is intended to have midterm exams (Exam 1 & 2) on the dates indicated below in **Important Dates**, however slight shifts may be required depending on the progression of the course. Exam 3 will be on the last day of class, in class.

Week 1:	Mechanics of Materials Review
Week 2:	Structure of Materials Review
Week 3:	Two-Phase Alloys, Phase-Diagrams, Lever Rule
Week 4:	Heat Treatment, Microstructures in Iron-Carbon system
Week 5:	Casting processes & Design Considerations
Week 6:	Bulk Deformation: Forging, Exam Review & Exam 1
Week 7:	Bulk Deformation: Rolling, Extrusion
Week 8:	Bulk Deformation: Extrusion, Rod, Wire, & Tube Drawing
Week 9:	Sheet Metal Processes
Week 10:	Machining Processes, Exam 2 Review
Week 11:	Exam 2, Machining Processes
Week 12:	Machining Processes
Week 13:	Surface Structure & Tribology
Week 14:	TBD; Special Topics
Week 15:	Exam 3 Review, Exam 3 (in class)

Important Dates

Friday, September 26th, 2025

Exam 1 (50 min, LIT 0101)

Monday, October 27th, 2025

Exam 2 (50 min, LIT 0101)

Wednesday, December 3rd, 2025

Exam 3 (50 min, LIT 0101)

Attendance Policy, Class Expectations, and Make-Up Policy

Attendance Policies

- Attendance is expected and encouraged for all students, but it will not be recorded.
- Excused absences must be consistent with university policies in the undergraduate catalog (<https://catalog.ufl.edu/ugrad/current/regulations/info/attendance.aspx>) and require appropriate documentation.

Class Policies

- If you need to miss a class, please make appropriate arrangements with a classmate for class notes.
- Cheating or any 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. Famiglietti reserves the right to temporarily or permanently dismiss distracting students from the classroom.
- Students are responsible for all announcements, assignments, etc. made 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 Canvas or email using your Gatorlink (@ufl.edu) email address. You are responsible for monitoring your email and notifications on Canvas, regularly.

Reading Policy

- Sections of the textbook will be assigned in class to read, often by the next lecture period. It is expected that you will have read the sections, but not that you have memorized them. The purpose of readings is for exposure to topics that may not get fully covered in class, as well as reinforcement of topics covered in class in detail.
- Exams will include primarily material from lectures, but will include some material from the readings, focusing on understanding of concepts and processes.

Homework Policies

- Homework must be turned in through Canvas **by the start** of class on the due date. Do NOT slip assignments under Prof. Famiglietti's door. **In general, late homework will not be accepted.**
- Homework must be neat and legible and show all major steps.
- Homework must be **hand-written**, scanned, and submitted as a PDF.
- Homework must be on 8.5" x 11" paper. Homework must have 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.
- Multiple sheets must be placed in the proper order for submission.
- 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, or LLM such as ChatGPT, is considered dishonest.

Exam Policies

- There will be three (3) exams, each held in the regular class period. The exams will not be comprehensive, however you must understand concepts previously taught in class. Tentative exam dates are given in the course schedule above. The last exam will be held in the last week of class.
- 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. Students can learn more about the UF honor code at the UF Student Government website.
(<https://sccr.dso.ufl.edu/>)

Requirements for class attendance and make-up exams, assignments, and other work in this course are consistent with university policies. Click here to read the university attendance policies:

<https://catalog.ufl.edu/UGRD/academic-regulations/attendance-policies/>

Evaluation of Grades

Assignment	Total Points	Percentage of Final Grade
Homework Sets (~8)	10 each	25%
Exam 1	100	25%
Exam 2	100	25%
Exam 3	100	25%
Total		100%

Grading Policy

The following is given as an example only.

Percent	Grade	Grade Points
93.4 - 100	A	4.00
90.0 - 93.3	A-	3.67
86.7 - 89.9	B+	3.33
83.4 - 86.6	B	3.00
80.0 - 83.3	B-	2.67
76.7 - 79.9	C+	2.33
73.4 - 76.6	C	2.00
70.0 - 73.3	C-	1.67
66.7 - 69.9	D+	1.33
63.4 - 66.6	D	1.00
60.0 - 63.3	D-	0.67
0 - 59.9	E	0.00

Academic Policies & Resources

To support consistent and accessible communication of university-wide student resources, instructors must include this link to academic policies and campus resources: <https://go.ufl.edu/syllabuspolices>. Instructor-specific guidelines for courses must accommodate these policies.

Commitment to a Positive 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.

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

- Your academic advisor or Undergraduate Coordinator
- HWCOE Human Resources, 352-392-0904, student-support-hr@eng.ufl.edu
- Pam Dickrell, Associate Dean of Student Affairs, 352-392-2177, pld@ufl.edu

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 Conduct Code specifies a number of behaviors that are in violation of this code and the possible sanctions. See the [UF Conduct Code website for more information](#). If you have any questions or concerns, please consult with the instructor or TAs in this class.

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 education 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 deliver by an 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 presentation 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 guest 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.

Course Evaluations

Students are expected to provide professional and respectful feedback on the quality of instruction in this course by completing course evaluations online. Students can complete evaluations in three ways. 1) The email they receive from GatorEvals. 2) Their Canvas course menu under GatorEvals. 3) The central portal at <https://my-ufl.bluer.com/>. Guidance on how to provide constructive feedback is available at <https://gatorevals.aa.ufl.edu/students/>. Students will be notified when the evaluations period opens. Summaries of course evaluation results are available to students at <https://gatorevals.aa.ufl.edu/public-results/>.