Manufacturing Engineering
EML 4321 Section 25255
Class Periods: MWF 6 (12:50-1:40)
Location: WEIL 270
Academic Term: Spring 2026

Instructor:
Prof. John K. Schueller
schuejk@ufl.edu
Office Hours: TBD (unknown as of December 2025)

Teaching Assistant/Peer Mentor/Supervised Teaching Student:
Dane Ungurait
Please contact through the Canvas website (office hours TBD--unknown as of December 2025)

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

Course Pre-Requisites / Co-Requisites
Prerequisites: EMA 3010, EML 2322L, and EML 3005

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, and materials science to analyze manufacturing processes and machines; and
3. the ability to rapidly and accurately perform manufacturing engineering evaluations and analyses
4. knowledge of some trends in contemporary traditional and nontraditional manufacturing

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

Required Textbooks and Software

- *Manufacturing Processes for Engineering Materials*
- Serope Kalpakjian and Steven R. Schmid
- 2017, 6th edition
- 9780134290553

Note: Textbook required for exams. Computers or other electronic devices will NOT be allowed during exams, so purchase accordingly. Do not buy international versions which do not include traditional (non-metric) units. (For example, inside front cover should have alloy strengths in both MPa and ksi.) Be careful: Do **NOT** buy the book *Manufacturing Engineering and Technology* by the same authors.

Recommended Materials

None

Required Computer

Recommended Computer Specifications: https://it.ufl.edu/get-help/student-computer-recommendations/
HWCOE Computer Requirements: https://www.eng.ufl.edu/students/advising/fall-semester-checklist/computer-requirements/

Course Schedule

Every cohort of students is different. Every semester is different. Sometimes I can go faster (for example, because a topic was covered more extensively in the prerequisites) and sometimes (for example, if I need to go back to reinstruct material which you did not exhibit sufficient knowledge of on an exam) I have to go slower. Sometimes there is new, exciting state-of-the-art material to add. Manufacturing is currently in a state of big and frequent changes. You deserve something better than a fixed schedule. We will cover most of the first eight chapters and chapter 12 in the order they appear in the textbook. Additional, non-textbook material will be added in lecture.

There will be exams after the 1/3 and 2/3 points in the class. I will survey the class for competing exams and will announce the in-class exam dates at least a week in advance. There will be frequent homework assignments, usually about ten. The final exam will be at the Registrar-appointed time and will **not** be given early.

Important Dates

All class meetings are important.
The final exam is scheduled by the Registrar for 30 April from 10:00-noon.

Evaluation of Grades

Assignment	**Total Points**	**Percentage of Final Grade**
Homework Sets (approx.. 10)	10 each	10%
Exam 1	100	30%
Exam 2	100	30%
Final Exam	100	30%

Grading Policy

The following is the minimum course percentage required to get the corresponding grade.

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

For **any** cheating on any exam, I ask for an undroppable E course grade and usually get it from the UF Student Conduct Committee. For cheating on homework, I ask for a reduction in the course grade and usually get it.

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/syllabuspolicies. Instructor-specific guidelines for courses must accommodate these policies.

You are adults. You are responsible for everything covered in lectures, in the assigned readings, in the assignments, messages sent to your @ufl.edu email, and any other communications. You must turn in homework at their due dates and times and take the exams at the required times. If there is a problem for serious and justifiable reasons, please communicate with me as soon as possible and we will see if an arrangement can be made.
Although the four MAE faculty members who teach this course communicate very frequently and have very similar goals and expectations for this course, you are expected to comply with the specific requirements of this instructor and section.

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