EMA 4913 Research in Materials Science and Engineering 1

Class #: 12783

Section: 8665 and Internship
Course periods: M 12:50 PM - 1:40 PM
Location: Weil 0273 (Links to an external site.)
Academic term: Fall 2024

Instructor:
Kevin Jones

352 846 3301
352 219 6641 cell

160 Rhines Hall
Office hours:
M 2:00 - 2:40 PM
W 10:45 - 11:4AM

Course Description

This 1-credit course provides important knowledge and experience to help students become successful materials scientists and engineers. There are two parts to the course:

1. Class lectures and discussions
2. Mentored research

Course Pre-Requisites

Senior-level standing

Course Objectives

Students completing this course should have the basic skills and knowledge to be a valuable employee. These skills and knowledge will be gained through in-class lectures and discussion and through the first semester of laboratory research. The laboratory research will continue in EMA 4914.

Relation to Program Outcomes (ABET):

Outcome	Coverage
1. An ability to identify, formulate, and solve engineering problems by applying principles of engineering, science, and mathematics.	Medium
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.	High
3. An ability to communicate effectively with a range of audiences.	High
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.	High
5. An ability to function effectively on a team whose members together provide leadership, create a collaborative and inclusive environment, establish goals, plan tasks, and meet objectives.	Low
6. An ability to develop and conduct appropriate experimentation, analyze and interpret data, and use engineering judgment to draw conclusions.	High
7. An ability to acquire and apply new knowledge as needed, using appropriate learning strategies.	High

Required Textbooks and Software

Required Textbook

None

Recommended Textbooks

None

Required Software

None

Required Computer

UF student computing requirement: https://news.it.ufl.edu/education/student-computing-requirements-for-uf/

Course Schedule

Days marked in red are when we will not have class

Week	Date	Topic

2	8/26	Introduction
3	9/2	*Labor Day Holiday*
4	9/9	Research Discussion
5	9/16	Career opportunities and goals
6	9/23	No Class
7	9/30	Graduate School
8	10/7	No Class
9	10/14	Getting jobs and internships
10	10/21	Working in real jobs and Networking
11	10/28	Professional Credibility
12	11/4	Persuasive communications,
13	11/11	No Class
14	11/18	Writing technical reports and documents
15	11/25	Thanksgiving
16	12/2	Alumni Panel Discussion (**virtual, required**)
17	12/9	FINALS WEEK (No final)

Course Policies

Course format

The lecture portion of this class will be taught during our assigned lecture time in our assigned classroom. The research portion of this course will depend on the project assigned to you by your research adviser. Some projects will be able to be completed remotely, while other projects will require campus access.

Attendance Policy

You are required to attend the course lectures, and your attendance will be a primary part of your grade for the lecture portion of the course. Attendance will be taken using the in-class exercises.

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/

Class Demeanor

Students are expected to join class on time to participate in discussions. They must interact with Dr. Jones and their classmates in a professional manner.

Course Communication

E-Learning will be the primary avenue for communication and course management. All announcements for the course will be made using the announcement system on the E-Learning site. Course lecture slides will be posted on E-Learning before each lecture.

Course Time Commitment

This course is a one-credit class and has both class and research components. There will be 10 lectures given throughout the semester. This course is treated like a lab course and should require four to five hours a week. The class components will not require significant time beyond the normal class periods (about one hour a week). Therefore, on average, your typical research requirement should be 3 to 5 hours per week.

Meetings with Research Advisors and Supervisors

In your work on research in this class, all students will have a faculty research advisor. Some students will also have a graduate student or postdoc acting as their research advisor.

You must meet with either your research advisor or supervisor at least once every other week. You must meet with your research advisor at least monthly.

Assignments

Assignments will be managed through CANVAS. No credit will be given for late assignments, unless they are approved by Dr. Jones.

Exercises

An exercise will be given each class period relating to the topic of discussion. They will not be graded for correctness, so if you complete a question you will get full credit for it. However, the exercises will only be available during class. You are excused from one class period during the semester, so I will drop the lowest exercise grade.

Weekly Research Updates

Starting in Week 3 of the semester, you will fill out a research update at the end of each week.

Exams

There are no exams in this course

Final Exam

There is no final exam for this course

Students Approved to use an Internship to Cover the Research Portion

Some students have approval to use an internship to cover the research portion of this course. For those students, you must attend and participate in the lecture portion of the course. You do not need to do any research. You do need to turn in the assignments, but just indicate that you are using an internship (as described in each assignment). You DO NOT need to complete the weekly research updates.

Grade Appeal

50% of your grade for this course will be based on your participation in the course and your completion of the course assignments. 50% of your grade for this course will be determined by your research adviser. To appeal any course grades, please contact Dr. Jones before 10/26. To appeal your research grade, contact Dr. Jones before the end of finals week.

Grading Policy

Grade	A	A-	B+	B	B-	C+	C	C-	D+	D	D-	F
Score	>93	>90	>87	>83	>80	>77	>73	>70	>67	>63	>60	<60

Note that the score listed on the table for each grade is the lower bound for that grade.

More information on UF grading policy may be found at:
https://catalog.ufl.edu/ugrad/current/regulations/info/grades.aspx

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 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
- Toshikazu Nishida, Associate Dean of Academic Affairs, 352-392-0943, 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 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

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. https://elearning.ufl.edu/.

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*.