Course Syllabus

Edit

EMA 4913 Research in Materials Science and Engineering

Class #: 13783
Section: 8665
Course periods: M 8:30 - 9:20
Location: ***Synchronous ZOOM meeting (https://ufl.zoom.us/j/97888815389?pwd=aS9KR1dHSjJaZUZBUUJmZlBSc25XZz09)***
Academic term: Fall 2020

Instructor:
Michael Tonks
michael.tonks@ufl.edu
158 Rhines Hall
(352) 846-3779

Office hours: TBD on ZOOM:
(https://ufl.zoom.us/j/813598087)

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. Laboratory 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	Cove
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.	Low
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.	High
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

Course Schedule

Days marked in red are when we will not have class

Week	Date	Topic
1	8/31	Introduction
2	9/7	*Holiday*
3	9/14	Career opportunities and goals
4	9/21	Working in real jobs and working in teams

5	9/28	Oral communication
6	10/5	Written communication
7	10/12	Ethics
8	10/19	Mentoring
9	10/26	*No class*
10	11/2	*No class*
11	11/9	*No class*
12	11/16	*No class*
13	11/23	*No class*
14	11/30	*No class*
15	12/7	*No class*
17	12/14	FINALS WEEK

Course Policies

Course format

The lecture portion of this class will be taught via synchronous ZOOM meetings at the assigned class time. No campus access will be required. 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. **If you do not feel comfortable coming on campus, you need to select a research adviser that has remote projects available.**

Our class sessions may be audio visually recorded for students in the class to refer back and for enrolled students who are unable to attend live. Students who participate with their camera engaged or utilize a profile image are agreeing to have their video or image recorded. If you are unwilling to consent to have your profile or video image recorded, be sure to keep your camera off and do not use a profile image. Likewise, students who un-mute during class and participate orally are agreeing to have their voices recorded. If you are not willing to consent to have your voice recorded during class, you will need to keep your mute button activated and communicate exclusively using the "chat" feature, which allows students to type questions and comments live. The chat will not be recorded or shared. As in all courses, unauthorized recording and unauthorized sharing of recorded materials is prohibited.

Attendance Policy

Attendance is required in this course and will be a primary part of your grade from the lecture portion of the course. Attendance will be taken automatically using ZOOM through E-Learning.

Class Demeanor

Students are expected to join class on time to participate in discussions. They must interact with Dr. Tonks 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. The class sessions will go for 50% of 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:

- 8/31 - 10/19: 3 to 4 hours per week
- 10/19 - 12/9: 4 to 5 hours per week

Assignments

There will be three primary assignments for this course:

1. Adviser selection
2. Project plan
3. Research progress report

Quizzes

A quiz will be given each class period relating to the topic of discussion. The quizzes will not be graded for correctness, so if you complete a question you will get full credit for it. However, the Quizzes will only be available during class. If you took a quiz but did not attend the ZOOM class that day, you will not get credit for the quiz.

Exams

There are no exams in this course

Final Exam

There is no final exam for this course

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. Tonks before 10/26. To appeal your research grade, contact Dr. Tonks before the end of finals week.

Grading Scheme

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.

Students Requiring Accommodations

Students with disabilities requesting accommodations should first register with the **Disability Resource Center (http://www.dso.ufl.edu/drc/)** (352-392-8565) 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 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/. (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/ (https://ufl.bluera.com/ufl/)**. Summaries of course evaluation results are available to students at **https://gatorevals.aa.ufl.edu/public-results/ (https://gatorevals.aa.ufl.edu/public-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 TA 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 Undergraduate Program Coordinator
• Robin Bielling, Director of Human Resources, 352-392-0903, rbielling@eng.ufl.edu
• Curtis Taylor, Associate Dean of Student Affairs, 352-392-2177, taylor@eng.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: **http://registrar.ufl.edu/catalog0910/policies/regulationferpa.html (http://registrar.ufl.edu/catalog0910/policies/regulationferpa.html)**

Campus Resources:

Health and Wellness

U Matter, We Care:

If you or a friend is in distress, please contact umatter@ufl.edu or 352 392-1575 so that a team member can reach out to the student.

Counseling and Wellness Center:

http://www.counseling.ufl.edu/cwc (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

Sexual Assault Recovery Services (SARS):

Student Health Care Center, 392-1161.

University Police Department:

392-1111 (or 9-1-1 for emergencies), or **http://www.police.ufl.edu/ (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://lss.at.ufl.edu/help.shtml (https://lss.at.ufl.edu/help.shtml)** .

Career Resource Center

Reitz Union, 392-1601. Career assistance and counseling. **https://www.crc.ufl.edu/ (https://www.crc.ufl.edu/)** .

Library Support

http://cms.uflib.ufl.edu/ask (http://cms.uflib.ufl.edu/ask) . There are 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/ (https://teachingcenter.ufl.edu/)** .

Writing Studio

302 Tigert Hall, 846-1138. Help brainstorming, formatting, and writing papers. **https://writing.ufl.edu/writing-studio/ (https://writing.ufl.edu/writing-studio/)** .

Student Complaints

https://www.dso.ufl.edu/documents/UF_Complaints_policy.pdf (https://www.dso.ufl.edu/documents/UF_Complaints_policy.pdf)

Course Summary:

Date	Details

Date	Details	
Mon Aug 31, 2020	EMA4913 Class (https://ufl.instructure.com/calendar?event_id=1495806&include_contexts=course_406784)	12:30pm to 1:45pm
Mon Sep 7, 2020	EMA4913 Class (https://ufl.instructure.com/calendar?event_id=1495807&include_contexts=course_406784)	12:30pm to 1:45pm
Mon Sep 14, 2020	EMA4913 Class (https://ufl.instructure.com/calendar?event_id=1495808&include_contexts=course_406784)	12:30pm to 1:45pm
Mon Sep 21, 2020	EMA4913 Class (https://ufl.instructure.com/calendar?event_id=1495809&include_contexts=course_406784)	12:30pm to 1:45pm
Mon Sep 28, 2020	EMA4913 Class (https://ufl.instructure.com/calendar?event_id=1495810&include_contexts=course_406784)	12:30pm to 1:45pm
Mon Oct 5, 2020	EMA4913 Class (https://ufl.instructure.com/calendar?event_id=1495811&include_contexts=course_406784)	12:30pm to 1:45pm
Mon Oct 12, 2020	EMA4913 Class (https://ufl.instructure.com/calendar?event_id=1495812&include_contexts=course_406784)	12:30pm to 1:45pm
Mon Oct 19, 2020	EMA4913 Class (https://ufl.instructure.com/calendar?event_id=1495813&include_contexts=course_406784)	12:30pm to 1:45pm
Mon Oct 26, 2020	EMA4913 Class (https://ufl.instructure.com/calendar?event_id=1495814&include_contexts=course_406784)	12:30pm to 1:45pm