

Course Syllabus

EMA 4914 Research in Materials Science and Engineering II

Class #: 13560

Section: 8593

Course periods: N/A

Location: N/A

Academic term: Spring 2021

Instructor:

Michael Tonks

michael.tonks@ufl.edu

158 Rhines Hall

(352) 846-3779

Office hours: _

[https://ufl.zoom.us/j/91352557850?](https://ufl.zoom.us/j/91352557850?pwd=RTdOMk5CbndEZVFBeCtSSFpDWG9ldz09)

[a](https://ufl.zoom.us/j/813598087)

TBD

Course Description

Continuation of EMA 4913: short research problems in materials science and engineering, usually including a final thesis.

Course Pre-Requisites

Senior-level standing

Course Objectives

Students completing this course should have the basic skills and experience to be a valuable employee. These skills and knowledge will be gained through laboratory research continuing from what was done previously in EMA 4913.

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	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.	Los
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

You must meet with your research advisor in the first week of class to establish a regular research and meeting schedule. You need to keep to that schedule throughout the semester.

Course Policies

Course format

The format 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.

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 three-credit class. It is treated like a lab course and therefore you should be working on your research for **an average of 12 to 15 a week.**

Assignments

There will be various assignments during the semester. They will focus on various aspects of your research this semester, including planning at the beginning of the semester and reporting your results at the end of the semester. These assignments will be worth 20% of your grade.

Final Report and Research Summary Presentation: Near the end of the semester, you will submit a final report summarizing your research findings. You will also record a 3 to 5 minute video summarizing your primary research findings.

Research Updates

You will submit a weekly update on your work, starting the week of January 25. You will report if you met with your research advisor/supervisor and how many hours you worked on research that week. You will be given full credit for filling out these updates, and they will be worth 5% of your grade.

Research Grade

75% of your grade will be determined by your research advisor. They will grade you on your research quality, your final report, and your research summary presentation.

Grade Appeal

100% 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 \(http://www.dso.ufl.edu/drc/\)](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 \(https://www.dso.ufl.edu/sccr/process/student-conduct-honor-code/\)](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	
Wed Jan 13, 2021	 Email to your research advisor https://ufl.instructure.com/courses/416185/assignments/4519358	due by 11:59pm

Date	Details	
Mon Jan 18, 2021	 <u>Response from your research advisor</u> (https://ufl.instructure.com/courses/416185/assignments/4519305)	due by 11:59pm
Mon Jan 25, 2021	 <u>Spring 2021 Research Plan</u> (https://ufl.instructure.com/courses/416185/assignments/4519392)	due by 11:59pm
Fri Jan 29, 2021	 <u>Research Update 1</u> (https://ufl.instructure.com/courses/416185/assignments/4519652)	due by 11:59pm
Fri Feb 5, 2021	 <u>Research Update 2</u> (https://ufl.instructure.com/courses/416185/assignments/4519665)	due by 11:59pm
Fri Feb 12, 2021	 <u>Research Update 3</u> (https://ufl.instructure.com/courses/416185/assignments/4519704)	due by 11:59pm
Fri Feb 19, 2021	 <u>Research Update 4</u> (https://ufl.instructure.com/courses/416185/assignments/4519708)	due by 11:59pm
Fri Feb 26, 2021	 <u>Research Update 5</u> (https://ufl.instructure.com/courses/416185/assignments/4520200)	due by 11:59pm
Fri Mar 5, 2021	 <u>Research Update 6</u> (https://ufl.instructure.com/courses/416185/assignments/4520198)	due by 11:59pm
Fri Mar 12, 2021	 <u>Research Update 7</u> (https://ufl.instructure.com/courses/416185/assignments/4520205)	due by 11:59pm
Fri Mar 19, 2021	 <u>Research Update 8</u> (https://ufl.instructure.com/courses/416185/assignments/4520211)	due by 11:59pm
Fri Mar 26, 2021	 <u>Research Update 9</u> (https://ufl.instructure.com/courses/416185/assignments/4520212)	due by 11:59pm
Fri Apr 2, 2021	 <u>Research Update 10</u> (https://ufl.instructure.com/courses/416185/assignments/4520213)	due by 11:59pm
Fri Apr 9, 2021	 <u>Research Update 11</u> (https://ufl.instructure.com/courses/416185/assignments/4520215)	due by 11:59pm

Date	Details
Fri Apr 16, 2021	 <u>Research Update 12</u> https://ufl.instructure.com/courses/416185/assignments/4520216 due by 11:59pm
	 <u>Final Research Report</u> https://ufl.instructure.com/courses/416185/assignments/4520462 due by 11:59pm
	 <u>Research Summary Presentation</u> https://ufl.instructure.com/courses/416185/assignments/4520463 due by 11:59pm