

Research in Materials Science and Engineering 1

EMA 4913 Sections 8665, INTR

Class Periods: M, Period 6, 12:50 pm – 1:40 pm

Location: AH 423

Academic Term: Fall 2025

Instructor:

Name: Aroba Saleem

Email Address: aroba.saleem@ufl.edu

Office Phone Number: 352-294-1789

Office Hours: TBA

Teaching Assistant/Peer Mentor/Supervised Teaching Student:

Please contact through the Canvas website

- None

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 / Co-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.

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	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 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

None

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

Week 1: [Introduction](#)
 Week 2: [Research Discussion](#)
 Week 3: [Career opportunities and goals](#)
 Week 4: [Graduate School](#)
 Week 5: [Getting jobs and internships](#)
 Week 6: [Working in real jobs and networking](#)
 Week 7: [Professional credibility](#)
 Week 8: [Persuasive communications](#)
 Week 9: [Writing technical reports and documents](#)
 Week 10: [Discussion](#)

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. Saleem 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.

Course Time Commitment

This course is a one-credit class and has both class and research components. 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 Saleem.

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 your research grade, contact Dr. Saleem before the end of finals week.

Grading Policy

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
- HWC OE Human Resources, 352-392-0904, student-support-hr@eng.ufl.edu
- Pam Dickrell, Associate Dean of Student Affairs, 352-392-2177, pld@ufl.edu