Mechanic of Materials Laboratory
EML 3301C All Sections
Lecture Class Periods: Synchronous In person, Tuesday/Thursday, 2nd period, 8:30 am-9:20 am
Lecture Location: Pugh 170
Laboratory Class Periods: Tu/W/Th according to your assigned section
Lab Location: NEB 112
Academic Term: Fall 2024

It may become necessary to modify this syllabus during the semester.
In this event, students will be notified, and the revised syllabus will be posted on the course web site.

Instructor:

Shannon Ridgeway
scer@ufl.edu
Office Hours: Tu/W/Th Various, during lab times NEB 112

Teaching Assistants:
Please contact through the Canvas website, under pages. Teaching assistants are a critical resource for this class, please use them.

Course Description
Experimental characterization of the mechanical properties of engineering materials, precision instruments, computer-based data acquisition, statistical uncertainty analysis, preparation of engineering reports. Credits: 3

Course Pre-Requisites / Co-Requisites
EMA 3010 and EGM 3520 with a minimum grade of C and COP 2271 and ENC 3246.

Course Objectives

In this course you will develop a working knowledge of experimental techniques and equipment commonly used in engineering practice. You will become familiar with the design and implementation of various sensors, statistical data analysis, experimental planning, and computer-based data acquisition. You will develop and refine your report writing skills.

Materials and Supply Fees
See course catalog/UF registrar

Professional Component (ABET):
This course prepares graduates to apply knowledge of mathematics, science, and engineering, with a focus on experimental design, uncertainty, data acquisition, and technical reporting of results.

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	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	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	

*Coverage is given as high, medium, or low. An empty box indicates that this outcome is not significantly addressed by this course.

Required Textbooks and Software

- Mechanics of Materials Laboratory Course, Subhash and Ridgeway. ISBN: 9781681733333 Not that this textbook is the foundation of many of the labs performed, but the canvas assignment takes precedence.

- We will use LabVIEW extensively. We will provide a LabVIEW license key to you that is paid for through the course lab fee. You will be required to install a current 32 bit version on your personal Windows laptop.

Additional Recommended Materials
Statics textbook, Mechanics of Materials textbook

Required Computer:
This is discussed on both the department and college websites:
- https://eng.ufl.edu/students/resources/computer-requirements/

Bottomline: if you don't have a Windows laptop, you need one. If you have one that works, feel free to discuss with the instructor whether it will suffice.

Note that we are using the 32 bit version of LabVIEW on Windows (runs on Windows 10, 11). If you have an apple computer, it will need to boot into Windows, and will need to be able to run 32 bit LabVIEW for Windows. It is currently clear that the M1,2 does not support this.

Course Schedule Outline
A tentative course schedule will be linked on the main page of the course web site on Canvas. Any changes to the dates/times/locations of course-related events will also be communicated via Canvas.

Class Implementation: Attendance Policy, Class Expectations, and Make-Up Policy
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/

Excused absences must be consistent with university policies in the undergraduate catalog (https://catalog.ufl.edu/ugrad/current/regulations/info/attendance.aspx) and require appropriate documentation.

Labs:
You are responsible for participating in lab, staying up-to-date on all announcements, in-class lectures, posted video lectures, reading assignments, and homework, to facilitate proper preparation for lab. Course notes may not always be supplied on the Canvas webpage. A late policy concerning missed Canvas submission deadlines may be imposed (see later).

Makeup labs are sometimes possible, but not likely and at the discretion of the instructor, irrespective of the cause.

Group participation is required for the project. Individual grades for project assignments are subject to change (+/-) based on peer feedback.

Lectures:

As in all courses, unauthorized sharing of recorded materials is prohibited.

Office hour access to instructors and TA's will sometimes be held in place of conventional lab sections, with duration based on utilization.

It is the student's responsibility to utilize the provided lectures and attend lab sessions.   Exercises will be assigned that require the utilization of the background and knowledge presented.

The course web site, accessible through Canvas (elearning.ufl.edu) via your Gatorlink login, will be the primary point of contact and support for the students. Course announcements, class discussions, laboratory assignments, and grades will be posted on the course website.

Lab Work:

The course will utilize a lab kit to be distributed as needed to perform several experiments. Instructor generated experimental results will sometimes be utilized for experiments. It is the student's responsibility to ensure the lab kit functions in a timely manner, to allow sufficient time to address deficiencies.

Each lab will require at least one in person lab session to complete (most will require more). Makeups are not generally provided for.

Evaluation

Assignment	Total Points	Percentage of Final Grade
Homework, Prelabs, Lab 1 and in-class quizzes	Varies By Assignment	20%
Lab Reports (Lab 2-5)	Varies By Assignment	55%
Final Project Report	100	25%
		100%

Grading Policy

Percent	Grade	Grade Points
90 - 100	A	4.00
87 - 89.99	B+	3.33
80. - 86.99	B	3.00
77 - 79.99	C+	2.33
70.0 – 76.9	C	2.00
67 – 69.99	D+	1.33
60.0 – 66.99	D	1.00
0 – 59.99	E	0.00

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

Homework/Quiz/Pre-lab: The Homework/Quiz/Pre-lab grade will be used to address issues as they arise. Any pre-labs assigned must be completed before lab work starts (you may not be allowed to enter the lab if the work is not finished). Some pacing quizzes may be used to ensure students are keeping up with lectures. Lab 1 will be graded as a typical lab report, but the score will count in this line.

Laboratory Reports: A laboratory report is associated with most laboratory class meetings. Each assignment will be posted on the Canvas course website before the laboratory class dealing with the material topic occurs. Assignments will also be submitted via the course website and will be due according to the date shown on the website. Assignment format will be covered in class and a template will be provided. Work submitted that is not readable will receive a zero. Work submitted that cannot be read by Turn-It-In will receive a zero. This may include instances where tables or equations are images and cannot be checked. The format is to follow published formatting rules available on the class website.   A maximum word length may be set in the lab report assignment. Discussion items detailed in the lab assignment are to

be covered in the report. An overall grade will be assigned to the report work, and the average of the overall lab report grade makes up 55% of the course grade. Any lab report will not be graded (grade of 0 assigned) if it is not reviewed by "Turn It In".

Final design report: A report will be submitted detailing the work done for the final project. The report is to follow published formatting rules available on the class website, and cover instructions provided in the final project assignment posted on the class website. Failure to submit a final design report will result in failure of the class.

It is the student's responsibility to honor and respect the given deadlines and meeting times.

Canvas submission late policy (does not apply to quizzes), Unless otherwise noted in the assignment:

If you do not submit your assignment when it is due, you can still submit it via Canvas for two more days (unless the assignment restricts/modifies this policy). Unless you have prior written (email is appropriate) permission to submit a late assignment, the penalties for late submission will be as follows:
- Late submissions within one hour of the deadline: 5% of your earned grade.
- Late submissions past one hour but within 24 hours of the deadline: 20% of your earned grade.
- Late submissions past 24 hours but within 48 hours of the deadline: 40% of your earned grade.
- Past 48 hours, your assignment will not be graded.

Writing Requirement:

The writing assignments/student products for this course are designed to meet the minimum requirements of the University Writing Requirement credit of **6,000 words**. **The writing requirement ensures students both maintain their fluency in writing and use writing as a tool to facilitate learning. Course grades have two components: a letter grade and a S/U writing requirement.   To receive writing credit, a student must receive an average grade of 70% or higher on 3 lab reports and they must receive a "C" or better in the class.**

The instructor will evaluate and provide feedback on the student's written assignment in accordance with both the UF writing rubric and the course content rubric for that particular assignment, including, but not limited to, grammar, punctuation, usage of standard written English, clarity, coherence, and organization.

Writing Resources, Style, and Format:

- Reports for this course will follow the format posted on the class website.

- The writing style manual by Alley is recommended for student use:

  The Craft of Scientific Writing by Michael Alley, 3rd Edition, Springer, 1998.
  This writing reference may also be accessed online at http://www.writing.engr.psu.edu/csw.html.

- Students are also encouraged to utilize the university's Writing Studio for assistance as needed. More information on the Writing Studio is available at this link: www.writing.ufl.edu.

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.

Not that the accommodation "Out-of-Class Assignment Time Extension" is interpreted to mean a waiver of the late penalty for those students. It must be explicitly requested by the student after the receipt of an accommodation letter allowing it.

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 Conduct 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. If you have any questions or concerns, please consult with the instructor or TAs in this class.

Note that plagiarism is considered a violation of the honor policy.

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 Graduate Program Coordinator: advising@mae.ufl.edu
• 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

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://lss.at.ufl.edu/help.shtml.

Career Resource 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*.