

## **Engineering Mechanics: Statics**

EGM2511

**Class Periods:** T 5-6, R6 (Section 1) and T 7, R 7-8 (Section 2), Online Section

**Location:** Weil 270 (Section 1), Weimer 1094 (Section 2)

**Academic Term:** Fall 2023

### ***Instructor:***

Dr. Daniel Dickrell III

[djd3@ufl.edu](mailto:djd3@ufl.edu)

352-392-1996

Office Hours: Wednesday 1:30-3:30 PM

Location: MAE-C 130

### ***Teaching Assistant/Peer Mentor/Supervised Teaching Student:***

Please contact through the Canvas website

- TBA

### ***Course Description***

EGM2511 Engineering Mechanics: Statics, 3 Credits

Grading Scheme: Letter Grade

Topics: reduction of force systems, equilibrium of particles and rigid bodies, vector methods and their application to structures and mechanisms.

### ***Course Pre-Requisites / Co-Requisites***

Prerequisite: PHY 2048 ; Corequisite: MAC 2313

### ***Course Objectives***

In this course the student will develop engineering problem solving methods through fundamental introductory topics in mechanics including: particle and rigid body equilibrium in 2D and 3D force systems, appropriate support reactions, moments of forces, equivalent systems, distributed forces, center of gravity, composite body and integration analysis methods, trusses, frames, machines, internal forces (including shear and bending moment diagrams), friction concepts, moment of inertia, parallel axis theorem, and mass moment of inertia.

This is a core course in the engineering curriculum. It stresses fundamental engineering science and mathematical principles required for a proper understanding of mechanics. Students will learn to use vector methods and free body diagram development as tools to logically approach and solve engineering mechanics problems in both the SI and U.S. customary systems.

Upon completion of this course students are expected to understand how to analyze practical engineering structures under force and moment systems and have a strong foundation of the engineering mechanics principles and methods needed for both use as qualified engineers and for secondary courses in mechanics.

### ***Materials and Supply Fees***

n/a

### ***Relation to Program Outcomes (ABET):***

EGM2511 supports program outcomes enumerated in the mission statements of various degree programs and engineering departments. The successful completion of this course will support desired student outcomes, including the design and realization of engineering systems. The course might be categorized as approximately Mathematics (10%), Physical Sciences (20%), Engineering Sciences (60%), and Engineering Design (10%).

This course achieves the following engineering accreditation outcomes:

- Ability to identify, formulate, and solve complex engineering problems
- Ability to apply engineering design to produce solutions that meet specified needs

### ***Required Textbooks and Software***

Title: Engineering Mechanics: Statics 14th Edition Author: Hibbeler, Russel

ISBN: 0133918920

Publisher:

Pearson

### ***Course Schedule***

See Canvas Calendar for real-time updates to weekly subject matter.

### ***Attendance Policy, Class Expectations, and Make-Up Policy***

Regular attendance is highly suggested, even with an online class. Binge watching of lectures is directly related to negative outcomes (failing EGM2511).

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/Links to an external site.>

Requests deviating from the above policies will not be granted unless verified by the Dean of Student's Office for validity and reason.

### ***Evaluation of Grades***

<b>Assignment</b>	<b>Percentage of Final Grade</b>
<b>Non-Exam Assignments</b>	<b>25%</b>
<b>Exam 1</b>	<b>20%</b>
<b>Exam 2</b>	<b>25%</b>
<b>Exam 3</b>	<b>30%</b>

***Note: The lowest three assignment grades dropped at the end of the semester.***

### ***Grading Policy***

<b>Percent</b>	<b>Grade</b>	<b>Grade Points</b>
92 - 100	A	4.00
90.0 - 91.9	A-	3.67
88 - 89.9	B+	3.33
82- 87.9	B	3.00
80.0 - 81.9	B-	2.67
78 - 79.9	C+	2.33
72 - 77.9	C	2.00
70.0 - 71.9	C-	1.67
68 - 69.9	D+	1.33
62 - 67.9	D	1.00

0 - 61.9	E	0.00
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As the assignment deadlines will be clearly posted on the course websites, **late submissions past the deadline will not be accepted.** There is no excuse for missed assignments, **this is your responsibility to act like a professional student. Don't ask/beg for special treatment.**

### **GRADE DISPUTES:**

If a student feels that an exam or homework was graded unfairly, or if there is an error in the grading, it should be brought to the attention of the primary instructor within *two weeks* after the grades are posted for that assignment. Scores will not be reconsidered beyond the two-week period.

TA's and graders don't have authority to change grades unilaterally, so please don't ask them.

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 Graduate Program Coordinator
- HWCOE Human Resources, 352-392-0904, [student-support-hr@eng.ufl.edu](mailto:student-support-hr@eng.ufl.edu)
- Curtis Taylor, Associate Dean of Student Affairs, 352-392-2177, [taylor@eng.ufl.edu](mailto:taylor@eng.ufl.edu)
- Toshikazu Nishida, Associate Dean of Academic Affairs, 352-392-0943, [nishida@eng.ufl.edu](mailto: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](mailto: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](mailto: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](mailto:Learning-support@ufl.edu).  
<https://lss.at.ufl.edu/help.shtml>.

**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>.