

# EGM2511-1579,1580(22515,22516) - Engr Mech-Static



## S

 [Edit](#)

### **EGM2511 - Engineering Mechanics: Statics**

**Location:** Online - Asynchronous Delivery

**Academic Term:** Spring 2021

#### ***Instructor:***

John K. Schueller ([schuejk@ufl.edu](mailto:schuejk@ufl.edu) (<mailto:schuejk@ufl.edu>))

Office Hours: TBA

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

Please contact through the Canvas website first:

Miao Huang

Chen Li

Katelynn McKeel

(hours and contact method TBA)

#### ***Course Description***

Reduction of force systems. Equilibrium of particles and rigid bodies. Vector methods. Application to structures and mechanisms. Credits: 3

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

**Prerequisite:** [PHY 2048 \(https://catalog.ufl.edu/search/?P=PHY%202048\)](https://catalog.ufl.edu/search/?P=PHY%202048)

**Corequisite:** [MAC 2313 \(https://catalog.ufl.edu/search/?P=MAC%202313\)](https://catalog.ufl.edu/search/?P=MAC%202313)



## **Course Objectives**

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. 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 force and bending moment diagrams), friction concepts, moment of inertia, parallel axis theorem, mass moment of inertia, and potential energy methods. 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 subsequent courses.

## **Materials and Supply Fees**

n/a

## **Professional Component (ABET):**

EGM 2511 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: VECTOR MECHANICS FOR ENGINEERS: STATICS, 11TH EDITION

ISBN: 0077687302

Author: Beer and Johnston.



### ***Course Schedule***

See E-Learning Canvas Calendar (link and the bottom of this document) for live updates regarding due dates and exam information

### ***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 (not passing or performing poorly in this course). Not doing homework problems usually has a similar detrimental effect.

---

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

Homework - 8% (completion-based)

Quizzes - 12% (lowest individual quiz dropped)

Exam 1 - 24%

Exam 2 - 26%

Exam 3 - 30%

Note: all exams are a combination of numerical answers (correct/incorrect) and work-based partial credit. To get an "A" you must demonstrate proficiency in the concepts (show your work) as well as successfully execute the analysis (get the answer). UF policy for assignments/evaluations exceeding 15% of the total grade must use Honorlock to proctor online exams.

### ***Grading Policy***



A score of **92** will be sufficient for a grade of **A**

A score of **82** will be sufficient for a grade of **B**

A score of **72** will be sufficient for a grade of **C**

A score of 62 will be sufficient for a grade of D

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

As the assignment deadlines will be clearly posted on the course websites, late submissions past the deadline will not be accepted **for any reason**.


#### 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.

---

#### ***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/policies/student-honor-code-student-conduct-code/> (<https://sccr.dso.ufl.edu/policies/student-honor-code-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.

---

### ***Students Requiring Accommodations***

Students with disabilities requesting accommodations should first register with the Disability Resource Center (352-392-8565, <https://www.dso.ufl.edu/drc>) 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/>).

### ***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
- Robin Bielling, Director of Human Resources, 352-392-0903, [rbielling@eng.ufl.edu](mailto:rbielling@eng.ufl.edu)  
(<mailto:rbielling@eng.ufl.edu>)
- Curtis Taylor, Associate Dean of Student Affairs, 352-392-2177, [taylor@eng.ufl.edu](mailto: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)  
(<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>  
(<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) (<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 Services 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:** <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** (<https://titleix.ufl.edu/>), located at Yon Hall Room 427, 1908 Stadium Road, (352) 273-1094, [title-ix@ufl.edu](mailto: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/> (<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>). 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 Campus:** [https://www.dso.ufl.edu/documents/UF\\_Complaints\\_policy.pdf](https://www.dso.ufl.edu/documents/UF_Complaints_policy.pdf)

([https://www.dso.ufl.edu/documents/UF\\_Complaints\\_policy.pdf](https://www.dso.ufl.edu/documents/UF_Complaints_policy.pdf)).

**On-Line Students Complaints:** <http://www.distance.ufl.edu/student-complaint-process>

(<http://www.distance.ufl.edu/student-complaint-process>).

## Course Summary:

Date	Details	
Sun Jan 17, 2021	 <a href="https://ufl.instructure.com/courses/417481/assignments/4532184">HW1 (https://ufl.instructure.com/courses/417481/assignments/4532184)</a>	due by 11:59pm
Sun Jan 24, 2021	 <a href="https://ufl.instructure.com/courses/417481/assignments/4532188">HW2 (https://ufl.instructure.com/courses/417481/assignments/4532188)</a>	due by 11:59pm
Sun Jan 31, 2021	 <a href="https://ufl.instructure.com/courses/417481/assignments/4532189">HW3 (https://ufl.instructure.com/courses/417481/assignments/4532189)</a>	due by 11:59pm
Sun Feb 7, 2021	 <a href="https://ufl.instructure.com/courses/417481/assignments/4532190">HW4 (https://ufl.instructure.com/courses/417481/assignments/4532190)</a>	due by 11:59pm
	 <a href="https://ufl.instructure.com/courses/417481/assignments/4532176">E1.1 (https://ufl.instructure.com/courses/417481/assignments/4532176)</a>	
	 <a href="https://ufl.instructure.com/courses/417481/assignments/4532181">E1.2 (https://ufl.instructure.com/courses/417481/assignments/4532181)</a>	
	 <a href="https://ufl.instructure.com/courses/417481/assignments/4532177">E2.1 (https://ufl.instructure.com/courses/417481/assignments/4532177)</a>	



## Date

## Details



 [E2.2 \(https://ufl.instructure.com/courses/417481/assignments/4532182\)](https://ufl.instructure.com/courses/417481/assignments/4532182)

---

 [E3.1 \(https://ufl.instructure.com/courses/417481/assignments/4532179\)](https://ufl.instructure.com/courses/417481/assignments/4532179)

---

 [E3.2 \(https://ufl.instructure.com/courses/417481/assignments/4532183\)](https://ufl.instructure.com/courses/417481/assignments/4532183)

---

 [HW10 \(https://ufl.instructure.com/courses/417481/assignments/4532185\)](https://ufl.instructure.com/courses/417481/assignments/4532185)

---

 [HW11 \(https://ufl.instructure.com/courses/417481/assignments/4532186\)](https://ufl.instructure.com/courses/417481/assignments/4532186)

---

 [HW12 \(https://ufl.instructure.com/courses/417481/assignments/4532187\)](https://ufl.instructure.com/courses/417481/assignments/4532187)

---

 [HW5 \(https://ufl.instructure.com/courses/417481/assignments/4532191\)](https://ufl.instructure.com/courses/417481/assignments/4532191)

---

 [HW6 \(https://ufl.instructure.com/courses/417481/assignments/4532192\)](https://ufl.instructure.com/courses/417481/assignments/4532192)

---

 [HW7 \(https://ufl.instructure.com/courses/417481/assignments/4532193\)](https://ufl.instructure.com/courses/417481/assignments/4532193)

---

 [HW8 \(https://ufl.instructure.com/courses/417481/assignments/4532194\)](https://ufl.instructure.com/courses/417481/assignments/4532194)

---

 [HW9 \(https://ufl.instructure.com/courses/417481/assignments/4532195\)](https://ufl.instructure.com/courses/417481/assignments/4532195)






---

 [Q1 \(https://ufl.instructure.com/courses/417481/assignments/4532175\)](https://ufl.instructure.com/courses/417481/assignments/4532175)

---

 [Q2 \(https://ufl.instructure.com/courses/417481/assignments/4532180\)](https://ufl.instructure.com/courses/417481/assignments/4532180)

---

Date	Details
	  <a href="https://ufl.instructure.com/courses/417481/assignments/4532172">Q3 (https://ufl.instructure.com/courses/417481/assignments/4532172)</a>
	 <a href="https://ufl.instructure.com/courses/417481/assignments/4532178">Q4 (https://ufl.instructure.com/courses/417481/assignments/4532178)</a>
	 <a href="https://ufl.instructure.com/courses/417481/assignments/4532174">Q5 (https://ufl.instructure.com/courses/417481/assignments/4532174)</a>
	 <a href="https://ufl.instructure.com/courses/417481/assignments/4532173">Q6 (https://ufl.instructure.com/courses/417481/assignments/4532173)</a>