



# Engineering Mechanics - Static-20126

## ENGR-2301

RT 2022 Section 1 3 Credits 08/23/2021 to 12/12/2021 Modified 08/21/2021

### Course Meetings

---

#### Course Modality

In-Person (P), (Online on a Schedule -1st 4 weeks)

#### Meeting Days

Monday | Wednesday

#### Meeting Times

6:00 PM - 7:50 PM

#### Meeting Location

Fraga Rm 348 (Online on a Schedule -1st 4 weeks)

### Welcome and Instructor Information

---

#### Instructor: Edmund Morris

Email: [edmund.morris@hccs.edu](mailto:edmund.morris@hccs.edu)

Office: Alief Hayes - Rm A414

Phone: (713) 718-6425

Website: <https://learning.hccs.edu/faculty/edmund.morris> (<https://learning.hccs.edu/faculty/edmund.morris>)

Please feel free to contact me concerning any problems that you are experiencing in this course. Your performance in my class is very important to me. I am available to hear the concerns and just to discuss course topics.

#### Instructor's Preferred Method of Contact

The preferred method of contact is via CANVAS. Another option is to use my HCC email with your name, course number, course CRN included in the Subject Line. I will respond to emails within 24 hours Monday through Friday; I will reply to weekend messages on Monday mornings.

#### What's Exciting About This Course

This course is part of a sequence of Engineering courses needed for the Associate of Science in Engineering Science [ASES] degree. It is designed to cover the principals of Statics in two and three dimensions.

#### My Personal Welcome

Welcome to ENGR Statics –I'm delighted that you have chosen this course! One of my passions is to share as much as I can with my students and set you up for success. I will present the information in the most exciting way I know, so that you can grasp the concepts and apply them now and hopefully throughout your life.

As you read and wrestle with new ideas and facts that may challenge you, I am available to support you. The fastest way to reach me is by my HCC email. The best way to really discuss issues is in person and I'm available during posted office hours to tackle the questions. My goal is for you to walk out of the course with improved technical communication skills and an appreciation of the value of team problem solving. So please visit me or contact me by email whenever you have a question.

## Office Hours

By Appointment

## Course Overview

---

### Course Description

Basic theory of engineering mechanics, using calculus, involving the description of forces, moments, and couples acting on stationary engineering structures; equilibrium in two and three dimensions; free-body diagrams/ friction; centroids; centers of gravity; and moments of inertia.

### Requisites

The pre-requisites are PHYS 2325 [or PHYS 2425] University Physics I and MATH 2414 Calculus II with a grade of C or higher. If students have not completed MATH 2414, then it is a co-requisite.

### Department Website

<https://www.hccs.edu/programs/areas-of-study/science-technology-engineering--math/engineering/>  
(<https://www.hccs.edu/programs/areas-of-study/science-technology-engineering--math/engineering/>)

## Core Curriculum Objectives (CCOs)

---

Engineering ENGR courses are not HCC core curriculum courses and thus do not have any CCOs.

HCC offers specified courses that satisfy the following core objectives:

- Critical Thinking:
- Communication Skills:
- Quantitative and Empirical Literacy
- Teamwork
- Social Responsibility
- Personal Responsibility

To learn more go to: <https://www.hccs.edu/programs/catalog/academic-information/>

This course integrates the following workplace competencies and foundation skills:

- Managing Resources: Time, Materials, Space
- Exhibiting Interpersonal Skills: Work in team, Lead work teams, Negotiate with others
- Working with Information: Acquire and evaluate data, Organize and Maintain information,
- Interpret and communicate data, Process information
- Applying Systems Knowledge: Understand systems
- Using Technology: Apply technology to specific tasks
- Demonstrating Basic Skills: Reading, Writing, Listening
- Demonstrating Thinking Skills: Creative thinking, Problem solving, Seeing with the mind's eye
- Exhibiting Personal Qualities: Individual responsibility Sociability, Self-management, Integrity

## Student Learning Outcomes and Objectives

---

## Course Overview

ENGR 2301 is intended for those students who are entering the engineering or physical science disciplines. The principles of Statics in two and three dimensions are covered. Other topics include analysis of structures, forces in trusses, frames, beams, volumes, centroids and submerged surfaces. Additionally, laws of friction, moment of inertia of area, energy and virtual work, distributed forces are also covered.

## Program Student Learning Outcomes (PSLOs) relevant to ENGR 2301

PSLO2: The ability to apply knowledge of mathematics, science and engineering.

PSLO3: The ability to function on multi-disciplinary team.

## Course Student Learning Outcomes (CSLOs)

1. State the fundamental principles used in the study of mechanics
2. Define magnitude and directions of forces and moments and identify associated scalar and vector products.
3. Draw free body diagrams for two- and three-dimensional force systems
4. Solve problems using the equation of static equilibrium
5. Compute the moment of force about a specified point or line
6. Replace a system of forces by an equivalent simplified system
7. Analyze the forces and couples acting on a variety of objects
8. Determine unknown forces and couples acting on objects in equilibrium
9. Analyze simple trusses using the method of joint or the method of sections
10. Determine the location of the centroid and center of mass for a system of discrete particles and for objects of arbitrary shape
11. Analyze structures with a distributed load
12. Calculate moments of inertia for lines, areas, and volumes
13. Apply the parallel axis theorem to compute moments of inertia for composite regions
14. Solve problems involving equilibrium of rigid bodies subjected to a system of forces and moments that include friction
15. Solve problems involving dry sliding friction, including problems with wedges and belts

## Student Learning Objectives:

1. Analyze forces and find out the resultant forces and moments in two and three dimensions.
2. Demonstrate qualitative and quantitative understanding of equilibrium of a particle and rigid bodies.
3. Differentiate between various type of supports, load and draw free-body diagrams.
4. Obtain center of mass and centroid for different engineering shapes and calculate moment of inertia.
5. Analyze internal forces and moments and friction on various structures.

## Departmental Practices and Procedures

---

### Department Specific Instructor and Student Responsibilities

#### ENGINEERING Department Information and Policies

In this course it is expected that the student has access to the necessary technology and has a back up plan in place.

Technology includes:

\*\* a computer or laptop that you can download programs to

\*\* a reliable high-speed internet connection

\*\* working web camera [webcam]

\*\* working microphone

Students should have a backup plan if their primary technology fails.

If your technology fails during an exam/quiz/timed assignment, you are expected to take screenshots including the address bar and immediately contact the professor. You can download the CANVAS app to your cellphone to do this.

ENGR courses cannot be completed using a tablet or cell-phone.

All Engineering courses utilize CANVAS and utilize proctored exams which require a webcam. This will require students to install a copy of the Respondus software known as Lockdown Browser on their personal computers. **Lockdown Browser** is not available for download on Chromebooks or other non-Windows/Mac devices - the specialized software used and nature of ENGR courses is incompatible with using iPad or other tablet devices or your cell phone.

Some ENGR courses utilize Proctorio in the CONNECT system and this also requires a webcam.

If you cannot start your exam or assignment that requires use of Respondus or Connect/Proctorio with a webcam, then you will be required to come into the HCC Alief Hayes Campus and take the exam in-person, on an HCC computer in either A411 or A410 between 8 am - 6 pm, Monday-Friday. You must arrange this with your professor before coming to campus.

Active participation in the classroom will be consistent with HCC policy [<https://www.hccs.edu/online/student-support/>]. In ENGR active participation includes responding verbally when requested, responding in the Chat when requested, briefly turning on your webcam when requested, participating in breakout sessions, responding to polls, and additional requirements that may be defined at the discretion of your professor.

Some HCC ENGR courses require you to purchase or download programs in order to complete your assignments. A large percentage of engineering applications used in industry and in your engineering education require the Windows operating system. These applications will not run natively on macOS. In addition, some programs are not even available in a Mac version.

All HCC ENGR course software is Windows-based. The classes are taught using Windows-based versions of the program. No support is provided to students using Mac versions or to students running Windows and macOS in parallel.

You will also need access to some sort of word processor [like Word], spreadsheet program [like Excel] and presentation program [like Powerpoint]. Microsoft Office360 is available for free to all students at HCC and instructions are available in CANVAS for downloading.

For online classes, all students are required to complete an online orientation. *WS, HY and HL courses require an online orientation.* Students are expected to log in several times a week, check announcements and emails and complete assigned work.

This section of ENGR 2301 will use Canvas (<https://eagleonline.hccs.edu>) to supplement in-class assignments, exams, and activities.

For *Fall 2021*, this course will be conducted as either **hybrid [HY]**, **online on a schedule [WS]**, or **in-person [F]**. All versions will use CANVAS. Certain assignments will be conducted only in Canvas. Certain assignments will only be conducted during scheduled class meeting times with no make-ups available.

Students should check their HCC student email regularly or have an email that is linked to the college email system. Students are also responsible for checking CANVAS on a regular basis for updates, new assignments, changes, etc. The professor will not send both an email and post in CANVAS. All assessments will have a grade posted in CANVAS even if you did not submit anything to CANVAS.

HCCS Open Lab locations may be used to access the Internet and Canvas. The libraries also have computers available for student use and you can check Chromebooks out from the library with your Student ID. <https://library.hccs.edu/chromebooks>

USE **FIREFOX** OR **CHROME** AS THE INTERNET BROWSER.

As of July 23, 2021 it is planned that the Open labs and Libraries will have full access for students who are enrolled in Fall 2021 courses. However; this can change at any time before or during the semester.

## Program-Specific Student Success Information : Program-Specific Student Success Information : Student Success in ENGR and E2301

Expect to spend at least twice as many hours per week outside of class as you do in class studying the course content. *For this Fall 2021 16-week, 3-credit, 64 contact hour course, this equates to 12 hours per week total.* Additional time will be required for written assignments and perhaps a team project. The assignments provided will help you use your study hours wisely. Successful completion of this course requires a combination of the following:

- Reading the textbook
- Attending class in person and/or online
- Completing assignments
- Participating in class activities

There is no short cut for success in this course; it requires reading (and probably re-reading) and studying the material using the course objectives as a guide.

As an instructor, I want my students to be successful. I feel that it is my responsibility to provide you with knowledge concerning the field of engineering, modeling good teaching and learning strategies, and organizing and monitoring the design project that allows you to connect the information that you learn in this course to the real world of engineering.

As a student wanting to learn about the field of engineering, it is your responsibility to read the textbook, submit assignments on the due dates, study for the exams, participate in classroom activities, attend class, and enjoy yourself while experiencing the real world of a college education. The skills learned in this class are important keys to success. **The keys to success are EFFORT, APPROACH and ATTITUDE.**

As I believe that engaging the students in the learning is essential for teaching to be effective, you will spend the majority of class time involved in collaborative activities. You will be involved in discussions with your classmates and your instructor. As you will want to contribute to these discussions, you will need to come to class prepared to discuss, analyze and evaluate information from your text and other assigned readings.

# Instructional Materials and Resources

---

## Instructional Materials

The [HCC Online Bookstore \(https://hccs.bncollege.com/shop/hccs-central/page/find-textbooks\)](https://hccs.bncollege.com/shop/hccs-central/page/find-textbooks) provides searchable information on textbooks for all courses. Check with your instructor before purchasing textbooks because the book might be included in your course fees.

Add Instructional Materials Here

## Temporary Free Access to E-Book

Here is the link to get temporary free access to a digital version of the text for fourteen days:

<< [add link] >>

## E2301 Courseware

This course requires the use of McGraw Hill CONNECT. You already purchased the access and it will be available to you the first day of class.

Copy/paste then delete this section.

## Other Instructional Resources

### Courseware

Content here...

## Vector Mechanics for Engineers –Statics | Dynamics

**Author:** Ferdinand P. Beer, E. Russell Johnston, and David Mazurek

**Publisher:** McGraw Hill

**Edition:** 12th

**ISBN:** 978-1-25-963809-1

**Availability:** First Day / Inclusive Access

You **MUST** be using the CONNECT system for this class.

**YOU HAVE ALREADY PURCHASED THE TEXTBOOK and COURSE MATERIALS WHEN YOU REGISTERED AND PAID FOR THE COURSE!**

*To enhance your learning experience and provide affordable access to the right course materials, this course is part of the HCC Textbook Savings program that provides inclusive access to course materials. You can easily access the required materials for this course at a discounted price, and you will benefit from single sign-on access with no codes required in Canvas.*

*Your Houston Community College student account was billed for these materials at the time of registration and the price is guaranteed to be the lowest cost available for your required materials.*

*It is NOT recommended that you opt-out of these materials, as they are required to complete the course. You may choose to opt-out prior to Census Date [September 7,2021], but you will then be responsible for purchasing your course materials at the full retail price and access to your materials may be suspended. The opt-out process would be for students who already have an access code because they are repeating the course.*

*Students who opt out will receive a credit to their student account within two weeks of the official day of record from the Bursars Office. The Official Day of Record for this Fall 2021 16-week term is September 7, 2021 . If you desire discounted loose-leaf printed course materials, you can do so from the bookstore after the official day of record for approximately \$25-35.*

## ✓ Course Requirements

### Assignments, Exams, and Activities

Type	Weight	Topic	Notes
Grading Scheme ENGR 2000 level courses	This is information about grading weights		
Homework			Weekly homework assignments
E2301 Homework Assignments	15%	Written Assignments	Written assignments are designed to measure the students' ability to meet Program Student Learning Objectives PSLO#4, "The ability to communicate effectively".
Exams			Three semester Exams
E2301 Exams	40%	Exams	Exams are designed to measure how well the students meet the Course Student Learning Objectives and are a mixture of multiple choice, true/false, short answer, matching, essay, demonstration, application problems and programs, sketches/drawings, model generation, diagrams/schematics, data acquisition and analysis, etc. Some instructors may require a Scantron and HCC does not provide students with Scantron forms. They are sold in campus bookstores.
Quiz			Quiz
E2301 Quiz	15%	Quizzes	Activities are designed to meet all the Course Student Learning Objectives and are a mixture of individual and team activities in order to meet PSLO#3, "The ability to function on multi-disciplinary team".
Final Exam			Final Exam - Comprehensive
E2301 Final Exam	25%	Final Exam - Comprehensive	<p>All students will be required to take a comprehensive written final exam. Students must provide their own Scantron forms (FORM NUMBER 882-E-LOVAS) if the instructor gives a final exam requiring a Scantron.</p> <p>Students who are absent from the final exam without discussing their absence with the instructor in advance will receive a final exam grade of zero and a course grade of F.</p> <p>Final Exams must be taken in accordance with the Schedule posted at the following link: <a href="https://www.hccs.edu/student-experience/events-calendar/">https://www.hccs.edu/student-experience/events-calendar/</a></p>
E2301 Attendance/Professionalism	5%	Attendance/Professionalism	Attendance is directly correlated with student success. Attendance is required for all students in this course and each undocumented absence is penalized proportionally. Students who are present for all classes will receive the full credit for this assignment.
E2301 Grading Formula			

### Grading Formula

Grade	Range	Notes
E2301 Grading Formula	varies	<p><b>ENGR follows the HCC Grading Scale.</b></p> <p><b>HCC Grading Scale can be found on this site under Academic Information:</b></p> <p><a href="http://www.hccs.edu/resources-for/current-students/student-handbook/">http://www.hccs.edu/resources-for/current-students/student-handbook/</a></p>
A	90 - 100	
B	80 - 89	
C	70 - 79	
D	60 - 69	
F	0 - 59	

## \* Instructor's Practices and Procedures

---

### Incomplete Policy

See the student handbook on the policy for an Incomplete Grade. In all cases, the instructor reserves the right to decline a student's request to receive a grade of Incomplete.

### Missed Assignments/Make-Up Policy

Make-up assignments of any form including quizzes and exams will not normally be given, so make every effort to take the exams on the scheduled dates. Inform me ahead of time if you have a serious excuse to miss an exam. Notify me immediately if you are faced with circumstances that might prevent timely submission and I will work with you if/when they occur.

There will be three exams. The lowest exam score will be dropped. Make-up exams will not normally be given, so make every effort to take the exams on the scheduled dates.

Note: After the withdrawal date, no "W" can be given, and you must receive a regular Grade (A-F) in the course.

### Academic Integrity

Here's the link to the HCC information about academic integrity (Scholastic Dishonesty and Violation of Academic Scholastic Dishonesty and Grievance):

<https://www.hccs.edu/about-hcc/procedures/student-rights-policies--procedures/student-procedures/>  
[\(https://www.hccs.edu/about-hcc/procedures/student-rights-policies--procedures/student-procedures/\)](https://www.hccs.edu/about-hcc/procedures/student-rights-policies--procedures/student-procedures/)

### E2301 Academic Integrity

A student who is academically dishonest is, by definition, not showing that the coursework has been learned, and that student is claiming an advantage not available to other students. The instructor is responsible for measuring each student's individual achievements and also for ensuring that all students compete on a level playing field. Thus, in our system, the instructor has teaching, grading, and enforcement roles. You are expected to be familiar with the University's Policy on Academic Honesty, found in the catalog. What that means is: If you are charged with an offense, pleading ignorance of the rules will not help you. Students are responsible for conducting themselves with honor and integrity in fulfilling course requirements. Penalties and/or disciplinary proceedings may be initiated by College System officials against a student accused of scholastic dishonesty. "Scholastic dishonesty": includes, but is not limited to, cheating on a test, plagiarism, and collusion.



Cheating on a test includes:

- Copying from another students' test paper;
- Using materials not authorized by the person giving the test;
- Collaborating with another student during a test without authorization;
- Knowingly using, buying, selling, stealing, transporting, or soliciting in whole or part the contents of a test that has not been administered;
- Bribing another person to obtain a test that is to be

Plagiarism means the appropriation of another's work and the unacknowledged incorporation of that work in one's own written work offered for credit.

Collusion mean the unauthorized collaboration with another person in preparing written work offered for credit. Possible punishments for academic dishonesty may include a grade of 0 or F in the particular assignment, failure in the course, and/or recommendation for probation or dismissal from the College System. (See the Student Handbook)

In simplified terms, cheating is: (1) taking unchanged passages (or slightly edited) from another person's work and editing and portraying them as one's own; (2) submitting a paper that includes paraphrases of another person's writing without giving credit; (3) having someone else write your paper for you; (4) copying or using another person's work during in-class writing or testing; and (5) the unauthorized use of electronic devices during in-class writing or testing.

Keep in mind also that whether you are cheating or not, not following testing or writing rules properly, such as communicating with your neighbor or using a cell phone during a test will be construed as cheating. This is not an exhaustive list of the forms of scholastic dishonesty. If you are in doubt, consult your instructor.

**Penalties for Scholastic Dishonesty range from a zero (0) on the assignment to failure of the course to suspension and/or expulsion from HCC.**

Academic dishonesty is not acceptable and will incur serious consequences. A student caught cheating on a regular homework or classwork assignment could be given a grade of -100% for that item in the grade book. Students caught cheating will not be eligible for any extra credit opportunities or exam curves that may be instituted for the remainder of the semester. Students caught cheating may be required to do ALL of their work on HCC computers. ***If a student is caught cheating on any assignment or assessment, a grade of F may be issued for the entire course grade. What constitutes cheating is determined by the instructor, not the student.***

Scholastic Dishonesty will result in a referral to the Dean of Student Services. See the link below for details.

Here's the link to the HCC information about academic integrity (Scholastic Dishonesty and Violation of Academic Scholastic Dishonesty and Grievance):

<http://www.hccs.edu/about-hcc/procedures/student-rights-policies--procedures/student-procedures/>

## Attendance Procedures

All ENGR courses are scheduled whether they are HYBRID [HY or HL], ONLINE ON A SCHEDULE [WS] or IN PERSON [P] modality.

Faculty will hold class as per the assigned schedule, and students will attend each class period whether online [WS, HY and HL] or in-person [HY, HL and P]. Canvas Eagle Online will be utilized for all modalities of class. Attendance will be taken each class period. Students are expected to turn on their cameras for attendance purposes. You are also required to sign in and out of the chat to assist in attendance.

*Class Attendance - It is important that you come to class!* Attending class regularly is the best way to succeed in this class. Research has shown that the single most important factor in student success is attendance. Simply put, going to class greatly increases your ability to succeed. You are expected to attend all lecture and labs regularly. You are expected to participate in outside class activities. You are responsible for materials covered during your absences. Class attendance is checked daily. Although it is your responsibility to drop a course for nonattendance, the instructor has the authority to drop you for excessive absences.

If you are not attending class, you are not learning the information. As the information that is discussed in class is important for your career, students may be dropped from a course after accumulating absences in excess of 12.5% hours of instruction. The 12.5% hours of class time would include any total classes missed or for excessive tardiness or leaving class early. If you are more than 15 minutes late to class, the instructor reserves the right to mark you absent for the entire class period.

Although it is the responsibility of the student to withdraw officially from a course, the professor also has the authority to block a student from accessing CANVAS, and/or to withdraw a student for excessive absences or failure to participate regularly. Online students who do not log into their CANVAS class before the Official day of Record will be automatically dropped for non-attendance. Completing the DE online orientation does not count as attendance.

Attendance sign-in. Students are responsible for signing in at each class period.

## **STUDENTS WHO MISS MORE THAN 8 HOURS CUMULATIVE SHOULD EXPECT TO RECEIVE A COURSE GRADE OF "F." TARDIES COUNT TOWARDS THE TOTAL ABSENCES.**

This reflects the 12.5% attendance policy addressed in the student handbook for this 3-credit, 64-hour course.

If some unavoidable situation arises which causes you to miss class, then please keep me advised. Please be on time for class. Leaving class during the lecture is inconsiderate to others and will not be tolerated. Class starts promptly.

You may decide NOT to come to class for whatever reason. As an adult making the decision not to attend, you do not have to notify the instructor prior to missing a class. However, if this happens too many times, you may suddenly find that you have "lost" the class.

Poor attendance records tend to correlate with poor grades. If you miss any class, including the first week, you are responsible for all material missed. It is a good idea to find a friend or a buddy in class who would be willing to share class notes or discussion or be able to hand in paper if you unavoidably miss a class.

Class attendance equals class success. Certain assignments will be done ONLY in class during the regularly class period and cannot be made up.

If you feel that you cannot complete this course, you will need to withdraw from the course prior to the final date of withdrawal. Before, you withdraw from your course; please take the time to meet with the instructor to discuss why you feel it is necessary to do so. The instructor may be able to provide you with suggestions that would enable you to complete the course. Your success is very important. Beginning in fall 2007, the Texas Legislature passed a law limiting first time entering freshmen to no more than SIX total course withdrawals throughout their educational career in obtaining a certificate and/or degree.

To help students avoid having to drop/withdraw from any class, HCC has instituted an Early Alert process by which your professor may "alert" you and HCC counselors that you might fail a class because of excessive absences and/or poor academic performance. It is your responsibility to visit with your professor or a counselor to learn about what, if any, HCC interventions might be available to assist you – online tutoring, child care, financial aid, job placement, etc. – to stay in class and improve your academic performance.

If you plan on withdrawing from your class, you **MUST** contact a HCC counselor or your professor prior to withdrawing (dropping) the class for approval and this must be done **PRIOR** to the withdrawal deadline to receive a "W" on your transcript. \*\*Final withdrawal deadlines vary each semester and/or depending on class length, please visit the online registration calendars, HCC schedule of classes and catalog, any HCC Registration Office, or any HCC counselor to determine class withdrawal deadlines.

<https://www.hccs.edu/student-experience/events-calendar/> (<https://www.hccs.edu/student-experience/events-calendar/>)

*Remember to allow a 24-hour response time when communicating via email and/or telephone with a professor and/or counselor. Do not submit a request to discuss withdrawal options less than a day before the deadline.* If you do not withdraw before the deadline, you will receive the grade that you are making in the class as your final grade. The professor CANNOT withdraw you after the deadline.

## **Student Conduct**

As your instructor and as a student in this class, it is our shared responsibility to develop and maintain a positive learning environment for everyone. Your instructor takes this responsibility very seriously and will inform members of the class if their behavior makes it difficult for him/her to carry out this task. As a fellow learner, you are asked to respect the learning needs of your classmates and assist your instructor achieve this critical goal.

Attendance is strongly recommended. It is the rare student who can learn material on their own and do well in a class they do not attend. For the benefit of your fellow classmates and me, please refrain from regularly arriving late to class or leaving early. In addition, please do not disturb the class with pagers, phones, or conversation with your fellow students during class. Needless to say, this is extremely distracting and rude to others and the instructor.

In addition, it is *common courtesy* if you need to leave a "meeting" early, you notify the "manager" who is conducting the meeting and you sit close to the exit door. You also will be expected to go to the restroom, get a drink, return phone messages, etc. before you enter the "meeting", so please begin practicing these behaviors now before you enter the "real life classroom", ie. the workplace.

For an online class, you need to notify the Professor in the Chat. If you need to step away for a minute, notify the Professor in the Chat when you leave and when you return.

Regularly violating these common courtesy rules will detract from your final grade in the class.

### Virtual Classroom Conduct

As with on-campus classes, all students in HCC Online courses are required to follow all HCC Policies & Procedures, the Student Code of Conduct, the Student Handbook, and relevant sections of the Texas Education Code when interacting and communicating in a virtual classroom with your professor and fellow students. Students who violate the policies and guidelines will be subject to disciplinary action that could include denial of access to course-related email, discussion groups, and chat room or even removal from the class.

<https://www.hccs.edu/about-hcc/procedures/student-rights-policies--procedures/student-procedures/>

Specific guidance related to Virtual Classroom Conduct is given in CANVAS.

In short:

Dress appropriately.

Be present, remove distractions such as pets, roommates, cell phones, sidebar chats, other tabs, etc.

Video on whenever requested.

Mute your microphone.

Be mindful of your background.

Test your technology before class each and every time.

Be on time.

Be prepared to engage.

Have necessary materials ready [files opened, CANVAS open, textbook open, courseware open, etc]

## Instructor's Course-Specific Information

The College will be closed on Monday, September 6, in observance of Labor Day. The College will be closed on Thursday - Sunday, November 25-28 in observance of Thanksgiving.

### Homework Policy

Homework is due at the beginning of class on the due date. Students are encouraged to do homework before beginning of next class. Homework is to be done OUTSIDE of class. Class time is reserved for lecture and for class activities. Late homework completion may affect student's understanding and progress in consequent classes. All homework is to be turned in as

*instructed in Eagle Online.*

## **Grading**

The professor will conduct quizzes, exams, and assessments that you can use to determine how successful you are at achieving the course learning outcomes (mastery of course content and skills) outlined in the syllabus. If you find you are not mastering the material and skills, you are encouraged to reflect on how you study and prepare for each class. I welcome a dialogue on what you discover and may be able to assist you in finding resources on campus that will improve your performance.

The final course average will be computed using the following scale.

AVERAGE	GRADE
90% <=Final Average <=100%	A
80% <=Final Average <90%	B
70% <= Final Average <80%	C
60% <= Final Average <70%	D
Final Average < 60%	F

The "Total" column of the gradebook available in CANVAS may not represent an accurate calculation of your final grade in the course as the Total is calculated based only on the work that has been completed, always refer to the grading formula in the syllabus for maximum accuracy.

**PLEASE NOTE THAT THE LAST DAY OF INSTRUCTION IS NO LATER than December 5th, 2021. No work may be submitted after this date. The last day of instruction is the last class period prior to Final Exams. The specific date is in the syllabus.**

### **FINAL EXAM:**

Final exam will be given during the period December 6-12. The final exam schedule must be strictly adhered to and can be found at <https://www.hccs.edu/student-experience/events-calendar/> and clicking on Final Exam Schedule. The exact date, time and location will be given in the Syllabus. All ENGR Final Exams will be in-person for HL, HY and P classes and will be online for WS classes.

**EXTRA CREDIT:** Will be determined during the semester.

Please see the following link: <http://www.math.uh.edu/~tomforde/NoExtraCredit.html>. Change the words "Your Math" in the title to "Any". Extra credit will be available throughout the class and will not be accepted late.

## **Additional Materials:**

You need something to keep your papers, notes, study papers, etc. organized. Any method is fine, just be able to get at the materials quickly.

**Calculator:** Any type of calculator allowable on the Fundamentals of Engineering exam may be used in class.

- Casio: All fx-115 and fx-991 models (Any Casio calculator must have "fx-115" or "fx-991" in its model name.)
- Hewlett Packard: The HP 33s and HP 35s models, but no others
- Texas Instruments: All TI-30X and TI-36X models (Any Texas Instruments calculator must have "TI-30X" or "TI-36X" in its model name.)

Cell phones may NOT be used as calculators. Programmable calculators may only be used with prior approval of the instructor and the memory must be cleared prior to use on any in-class activity.

**Supplemental Materials:** Will be provided by the professor at each class period.

Students are expected to have access workable computers of their own to be able to complete assignments, quizzes and exams. A cell phone or tablet is not sufficient to complete any Engineering course.

Please turn phones off or put them on vibrate mode. Listening devices, i.e., ipods, MP3's, etc. are to be stored away during class time. Text messaging is not allowed during class as it can be distracting to other students. **Abusers will be asked to leave class and marked absent.** Absences will effectively lower your course grade.

Students will be expected to download AutoCAD 2021, Fusion360 and Microsoft Office360. Instructions are given in CANVAS.

## Devices

Use of recording devices, including camera phones and tape recorders, is prohibited in classrooms, laboratories, faculty offices, and other locations where instruction, tutoring, or testing occurs. Students with disabilities who need to use a recording device as a reasonable accommodation should contact the Office for Students with Disabilities for information regarding reasonable accommodations.

Please turn phones off or put them on vibrate mode. Listening devices, i.e., ipods, MP3's, etc. are to be stored away during class time. Text messaging is not allowed during class as it can be distracting to other students. **Abusers will be asked to leave class and marked absent.** Absences will effectively lower your course grade.

## Faculty Statement about Student Success

Expect to spend at least twice as many hours per week outside of class as you do in class studying the course content. For this Fall 2021 16-week, 3-credit, 64 contact hours WS course, this equates to 12 hours per week total. Additional time will be required for the Project. The assignments provided will help you use your study hours wisely. Successful completion of this course requires a combination of the following:

- Reading the textbook
- Attending class in person and/or online
- Completing assignments
- Participating in class activities

There is no short cut for success in this course; it requires reading (and probably re-reading) and studying the material using the course objectives as a guide.

As an instructor, I want my students to be successful. I feel that it is my responsibility to provide you with knowledge concerning the field of engineering, modeling good teaching and learning strategies, and organizing and monitoring the design project that allows you to connect the information that you learn in this course to the real world of engineering.

As a student wanting to learn about the field of engineering, it is your responsibility to read the textbook, submit assignments on the due dates, study for the exams, participate in classroom activities, attend class, and enjoy yourself while experiencing the real world of a college education. The skills learned in this class are important keys to success. **The keys to success are EFFORT, APPROACH and ATTITUDE.**

As I believe that engaging the students in the learning is essential for teaching to be effective, you will spend the majority of class time involved in collaborative activities. You will be involved in discussions with your classmates and your instructor. As you will want to contribute to these discussions, you will need to come to class prepared to discuss, analyze and evaluate information from your text and other assigned readings.

## Faculty-Specific Information Regarding Canvas

This course section will use Canvas (<https://eagleonline.hccs.edu> (<https://eagleonline.hccs.edu>)) to supplement in-class assignments, exams, and activities.

HCCS Open Lab locations may be used to access the Internet and Canvas. For best performance, Canvas should be used on the current or first previous major release of Chrome, Firefox, Edge, or Safari. Because it's built using web standards, Canvas runs on Windows, Mac, Linux, iOS, Android, or any other device with a modern web browser.

Canvas only requires an operating system that can run the latest compatible web browsers. Your computer operating system should be kept up to date with the latest recommended security updates and upgrades.

## HCC Policies and Information

---

### HCC Grading System

HCC uses the following standard grading system:

Grade	Grade Interpretation	Grade Points
A	Excellent (90-100)	4
B	Good (80-89)	3
C	Fair (70-79)	2
D	Passing (60-69), except in developmental courses.	1
F	Failing (59 and below)	0
FX	Failing due to non-attendance	0
W	Withdrawn	0
I	Incomplete	0
AUD	Audit	0
IP	In Progress. Given only in certain developmental courses. A student must re-enroll to receive credit.	0
COM	Completed. Given in non-credit and continuing education courses.	0

### Link to Policies in Student Handbook

Here's the link to the HCC Student Handbook <https://www.hccs.edu/resources-for/current-students/student-handbook/> (<https://www.hccs.edu/resources-for/current-students/student-handbook/>) In it you will find information about the following:

- Academic Information
- Academic Support
- Attendance, Repeating Courses, and Withdrawal
- Career Planning and Job Search
- Childcare
- disAbility Support Services
- Electronic Devices
- Equal Educational Opportunity
- Financial Aid TV (FATV)
- General Student Complaints
- Grade of FX

- Incomplete Grades
- International Student Services
- Health Awareness
- Libraries/Bookstore
- Police Services & Campus Safety
- Student Life at HCC
- Student Rights and Responsibilities
- Student Services
- Testing
- Transfer Planning
- Veteran Services

## Link to HCC Academic Integrity Statement

<https://www.hccs.edu/resources-for/faculty/student-conduct-resources-for-faculty/> (<https://www.hccs.edu/resources-for/faculty/student-conduct-resources-for-faculty/>)

## Campus Carry Link

Here's the link to the HCC information about Campus Carry:

<https://www.hccs.edu/departments/police/campus-carry/> (<https://www.hccs.edu/departments/police/campus-carry/>)

## HCC Email Policy

When communicating via email, HCC requires students to communicate only through the HCC email system to protect your privacy. If you have not activated your HCC student email account, you can go to [HCC Eagle ID \(https://www.hccs.edu/resources-for/current-students/student-e-maileagle-id/\)](https://www.hccs.edu/resources-for/current-students/student-e-maileagle-id/) and activate it now. You may also use Canvas Inbox to communicate.

## Office of Institutional Equity

Use the link below to access the HCC Office of Institutional Equity, Inclusion, and Engagement (<https://www.hccs.edu/departments/institutional-equity/> (<https://www.hccs.edu/departments/institutional-equity/>))

## Ability Services

HCC strives to make all learning experiences as accessible as possible. If you anticipate or experience academic barriers based on your disability (including long and short term conditions, mental health, chronic or temporary medical conditions), please meet with a campus Abilities Counselor as soon as possible in order to establish reasonable accommodations. Reasonable accommodations are established through an interactive process between you, your instructor(s) and Ability Services. It is the policy and practice of HCC to create inclusive and accessible learning environments consistent with federal and state law. For more information, please go to <https://www.hccs.edu/support-services/ability-services/> (<https://www.hccs.edu/support-services/ability-services/>)

## Title IX

Houston Community College is committed to cultivating an environment free from inappropriate conduct of a sexual or gender-based nature including sex discrimination, sexual assault, sexual harassment, and sexual violence. Sex discrimination includes all forms of sexual and gender-based misconduct and violates an individual's fundamental rights and personal dignity. Title IX prohibits discrimination on the basis of sex-including pregnancy and parental status in educational programs and activities. If you require an accommodation due to pregnancy please contact an Abilities Services Counselor. The Director of EEO/Compliance is designated as the Title IX Coordinator and Section 504 Coordinator. All inquiries concerning HCC policies, compliance with applicable laws, statutes, and regulations (such as Title VI, Title IX, and Section 504), and complaints may be directed to:

David Cross  
 Director EEO/Compliance  
 Office of Institutional Equity & Diversity  
 3100 Main  
 (713) 718-8271



Houston, TX 77266-7517 or [Institutional.Equity@hccs.edu](mailto:Institutional.Equity@hccs.edu) (<mailto:Institutional.Equity@hccs.edu>)

<http://www.hccs.edu/departments/institutional-equity/title-ix-know-your-rights/> (<http://www.hccs.edu/departments/institutional-equity/title-ix-know-your-rights/>)

## Office of the Dean of Students

Contact the office of the Dean of Students to seek assistance in determining the correct complaint procedure to follow or to identify the appropriate academic dean or supervisor for informal resolution of complaints.

<https://www.hccs.edu/about-hcc/procedures/student-rights-policies--procedures/student-complaints/speak-with-the-dean-of-students/> (<https://www.hccs.edu/about-hcc/procedures/student-rights-policies--procedures/student-complaints/speak-with-the-dean-of-students/>)

## Student Success

Expect to spend at least twice as many hours per week outside of class as you do in class studying the course content. Additional time will be required for written assignments. The assignments provided will help you use your study hours wisely. Successful completion of this course requires a combination of the following:

- Reading the textbook
- Attending class in person and/or online
- Completing assignments
- Participating in class activities

There is no short cut for success in this course; it requires reading (and probably re-reading) and studying the material using the course objectives as a guide.

## Canvas Learning Management System

Canvas is HCC's Learning Management System (LMS), and can be accessed at the following URL:

<https://eagleonline.hccs.edu> (<https://eagleonline.hccs.edu>)

HCCS Open Lab locations may be used to access the Internet and Canvas. For best performance, Canvas should be used on the current or first previous major release of Chrome, Firefox, Edge, or Safari. Because it's built using web standards, Canvas runs on Windows, Mac, Linux, iOS, Android, or any other device with a modern web browser.

Canvas only requires an operating system that can run the latest compatible web browsers. Your computer operating system should be kept up to date with the latest recommended security updates and upgrades.

## HCC Online Information and Policies

Here is the link to information about HCC Online classes, which includes access to the required Online Information Class Preview for all fully online classes: <https://www.hccs.edu/online/> (<https://www.hccs.edu/online/>)

## Scoring Rubrics, Sample Assignments, etc.

Look in Canvas for the scoring rubrics for assignments, samples of class assignments, and other information to assist you in the course. <https://eagleonline.hccs.edu/login/ldap> (<https://eagleonline.hccs.edu/login/ldap>)

## Instructor and Student Responsibilities

As your Instructor, it is my responsibility to:

- Provide the grading scale and detailed grading formula explaining how student grades are to be derived
- Facilitate an effective learning environment through learner-centered instructional techniques
- Provide a description of any special projects or assignments
- Inform students of policies such as attendance, withdrawal, tardiness, and making up assignments
- Provide the course outline and class calendar that will include a description of any special projects or assignments
- Arrange to meet with individual students during office hours, and before and after class as required



As a student, it is your responsibility to:

- Attend class in person and/or online
- Participate actively by reviewing course material, interacting with classmates, and responding promptly in your communication with me
- Read and comprehend the textbook
- Complete the required assignments and exams
- Ask for help when there is a question or problem
- Keep copies of all paperwork, including this syllabus, handouts, and all assignments
- Be aware of and comply with academic honesty policies in the [HCCS Student Handbook \(https://www.hccs.edu/resources-for/current-students/student-handbook/\)](https://www.hccs.edu/resources-for/current-students/student-handbook/)

## Sensitive or Mature Course Content

In this college-level course, we may occasionally discuss sensitive or mature content. All members of the classroom environment, from your instructor to your fellow students, are expected to handle potentially controversial subjects with respect and consideration for one another's varied experiences and values.

## EGLS3

The EGLS<sup>3</sup> ([Evaluation for Greater Learning Student Survey System \(https://www.hccs.edu/resources-for/current-students/egls3-evaluate-your-professors/\)](https://www.hccs.edu/resources-for/current-students/egls3-evaluate-your-professors/)) will be available for most courses near the end of the term until finals start. This brief survey will give invaluable information to your faculty about their teaching. Results are anonymous and will be available to faculty and division chairs after the end of the term. EGLS<sup>3</sup> surveys are only available for the Fall and Spring semesters. -EGLS3 surveys are not offered during the Summer semester due to logistical constraints.

<https://www.hccs.edu/resources-for/current-students/egls3-evaluate-your-professors/> (<https://www.hccs.edu/resources-for/current-students/egls3-evaluate-your-professors/>)

## Housing and Food Assistance for Students

Any student who faces challenges securing their foods or housing and believes this may affect their performance in the course is urged to contact the Dean of Students at their college for support. Furthermore, please notify the professor if you are comfortable in doing so.

This will enable HCC to provide any resources that HCC may possess.

## Student Resources

### Tutoring

HCC provides free, confidential, and convenient academic support, including writing critiques, to HCC students in an online environment and on campus. Tutoring is provided by HCC personnel in order to ensure that it is contextual and appropriate. Visit the [HCC Tutoring Services \(https://www.hccs.edu/resources-for/current-students/tutoring/\)](https://www.hccs.edu/resources-for/current-students/tutoring/) website for services provided.

### Libraries

The HCC Library System consists of 9 libraries and 6 Electronic Resource Centers (ERCs) that are inviting places to study and collaborate on projects. Librarians are available both at the libraries and online to show you how to locate and use the resources you need. The libraries maintain a large selection of electronic resources as well as collections of books, magazines, newspapers, and audiovisual materials. The portal to all libraries' resources and services is the HCCS library web page at <https://library.hccs.edu> (<https://library.hccs.edu>).

### Supplementary Instruction

Supplemental Instruction is an academic enrichment and support program that uses peer-assisted study sessions to improve student retention and success in historically difficult courses. Peer Support is provided by students who have already succeeded in completion of the specified course, and who earned a grade of A or B. Find details at <https://www.hccs.edu/resources-for/current-students/supplemental-instruction/> (<https://www.hccs.edu/resources-for/current-students/supplemental-instruction/>).

## Resources for Students:

<https://www.hccs.edu/resources-for/current-students/communicable-diseases/resources-for-students/>  
(<https://www.hccs.edu/resources-for/current-students/communicable-diseases/resources-for-students/>)

## Basic Needs Resources:

<https://www.hccs.edu/support-services/counseling/hcc-cares/basic-needs-resources/> (<https://www.hccs.edu/support-services/counseling/hcc-cares/basic-needs-resources/>)

## Student Basic Needs Application:

[https://hccs.co1.qualtrics.com/jfe/form/SV\\_25WyNx7NwMRz1FH](https://hccs.co1.qualtrics.com/jfe/form/SV_25WyNx7NwMRz1FH)  
([https://hccs.co1.qualtrics.com/jfe/form/SV\\_25WyNx7NwMRz1FH](https://hccs.co1.qualtrics.com/jfe/form/SV_25WyNx7NwMRz1FH))

## COVID-19

Here's the link to the HCC information about COVID-19:

<https://www.hccs.edu/resources-for/current-students/communicable-diseases/> (<https://www.hccs.edu/resources-for/current-students/communicable-diseases/>)

## Instructional Modalities

### In-Person (P)

Safe, face-to-face course with scheduled dates and times

### Online on a Schedule (WS)

Fully online course with virtual meetings at scheduled dates and times

### Online Anytime (WW)

Traditional online course without scheduled meetings

### Hybrid (H)

Course that meets safely 50% face-to-face and 50% virtually

### Hybrid Lab (HL)

Lab class that meets safely 50% face-to-face and 50% virtually

## Course Calendar

## Syllabus Modifications

The instructor reserves the right to modify the syllabus at any time during the semester and will promptly notify students in writing, typically by e-mail, of any such changes.

Week #	DAY	DATE	Reading Assignment	Module/Topic	Specific Task/Assignment
1	Mo	Aug 23	Chapter 1	Introduction Units and Conversions	Getting Started with Connect
	We	Aug 25	Chapter 2 Sections 2.1-2.2	Statics of Particles	Connect LearnSmart – Chapter 1 & 2

2	Mo	Aug 30	Chapter 2 Section 2.3-2.4	Finish Chapter 2 Problem solving	HW #1 (CH 2) - Connect
	We	Sep 1	Chapter 3 Sections 3.1-3.2	Rigid Bodies – Equivalent Systems of Forces	Connect LearnSmart – Chapter 1 & 2
3	Mo	Sep 6	No Class	Labor Day	
	We	Sep 8	Chapter 3 Sections 3.1-3.4	Finish Chapter 3 Problem solving Chapter 3	HW #2 (CH 3) - Connect
4	Mo	Sep 13	Chapters 1 - 3	Review for Exam 1	Quiz #1 – (CH 1-3) - Canvas or Connect
	We	Sep 15		EXAM 1	Exam 1 (Class Time), Chapters 1, 2 and 3
5	Mo	Sep 20	Chapter 4 Sections 4.1-4.2	Equilibrium of Rigid Bodies	Connect LearnSmart – Chapter 1 & 2
	We	Sep 22	Chapter 4 Sections 4.2-4.3	Equilibrium of Rigid Bodies	
6	Mo	Sep 27	Chapter 4	Problems solving – CH 4	HW #3 (CH 4) – Connect
	We	Aug 29	Chapter 5 Sections 5.1 - 5.2	Distributed Forces: Centroids and Centers of Gravity	Connect LearnSmart – Chapter 5
7	Mo	Oct 4	Chapter 5 Sections 5.3 - 5.4	Finish Chapter 5	HW #4 (CH 5) - Connect
	We	Oct 6	Chapter 6 Sections 6.1 – 6.3	Analysis of Structures	Connect LearnSmart – Chapter 6
8	Mo	Oct 11	Chapter 6	Analysis of Structures	HW #5 (CH 6) - Connect
	We	Oct 13	Chapter 6	Problems solving – CH 6	

9	Mo	Oct 18	Review	Review for Exam 2	Quiz #2 – (CH 4, 5, 6)
	We	Oct 20		<b>EXAM 2</b>	<b>Exam 2 (Class Time), Chapters 4, 5 and 6</b>
10	Mo	Oct 25	Chapter 7 Sections 7.1-7.4	Internal Forces and Moments	Connect LearnSmart – Chapter 7
	We	Oct 27	Chapter 7	Finish Chapter 7  Problem solving – Chapter 7	HW #6 (CH 7) - Connect
11	Mo	Nov 1	TBD	Structural Analysis/ simulation examples	
	We	Nov 3	Chapter 8 Sections 8.1-8.2	Friction	Connect LearnSmart – Chapter 8
12	Mo	Nov 8	Chapter 8	Finish Chapter 8  Problems solving	HW #7 (CH 8) - Connect
	We	Nov 10	Chapter 9 Sections 9.1-9.4	Distributed Forces: Moments of Inertia	Connect LearnSmart – Chapter 9
13	Mo	Nov 15	Chapter 9	Finish Chapter 9	HW #8 (CH 9) - Connect
	We	Nov 17		Chapter 9  Problem solving	Problem solving
14	Mo	Nov 22		Problems solving review for Exam 3	Quiz #3 – (CH 7, 8, 9)
	We	Nov 24		<b>EXAM 3</b>	<b>Exam 3 (Class Time), Chapters 7, 8 and 9</b>
15	Mo	Nov 29		Problem Solving Reviews (CHs 1-5)	Problem solving
	We	Dec 1		Problem Solving Reviews (CHs 6-9)	Problem solving
16					

	We	Dec 8		FINAL EXAM	FINAL EXAM COMPREHENSIVE (2 HOURS), 6:00 PM
--	----	-------	--	------------	---

When	Topic	Notes
E2301 Course Calendar varies	Instructions to Professors	These are instructions to follow when copy/paste your Calendar to the correct section.

## Additional Information

---

### Departmental/Program Information

HCC has a chapter of the Society of Hispanic Engineers [SHPE]. Contact Chapter Advisor June Keller.

ENGR Scholarships. The HCC Foundation has the Dr. Zachary Hodges ENGR Scholarship. See <https://www.hccsfoundation.org/page.aspx?pid=767> for more information and to apply.

HCC LSAMP Program. Applications will open for Fall 2021 in late July. See this website for some general information <https://hcclsamp.org> or contact Mr. Jeff Stear for more specific information.

HCC Research Experiences for Undergraduates [REU] program. Contact Mr. Jeff Stear for more specific information.

ENGR Dept Learning Web - <https://learning.hccs.edu/programs/engineering>

#### DEPARTMENT CONTACT INFORMATION:

Dean – John Vasselli – [john.vasselli@hccs.edu](mailto:john.vasselli@hccs.edu) – 713-718-5690 – Alief Room A407.

Administrative Assistant – Mary Beth Hurd – [mary.hurd@hccs.edu](mailto:mary.hurd@hccs.edu) – 713-718-5690 – Alief Room A407.

Program Coordinator – June Keller – [june.keller@hccs.edu](mailto:june.keller@hccs.edu) – 713-718-8866 – Alief Room A415

Advisor – Dr. Sherin Isaac – [sherin.isaac@hccs.edu](mailto:sherin.isaac@hccs.edu) – 713-718-5706. Email first and include your full name and student ID number. Dr. Isaac also provides information about the HCC-TAMU Chevron Engineering Academy.

STEM/REU/LSAMP Opportunities – Jeffrey Stear – [jeffrey.stear@hccs.edu](mailto:jeffrey.stear@hccs.edu) – 713-718-5784

Program Director STEM Initiatives, Externships, HCC-UH Engineering Academy – Susan Thompson – [susan.thompson@hccs.edu](mailto:susan.thompson@hccs.edu) – 713-718-5451. Ms. Thompson also provides information about the HCC-UH Engineering Academy at both Katy and Fraga campus locations.

ENGR does not have a department chair.

### Process for Expressing Concerns about the Course

Always try to work out any issues with your professor first. If needed, because ENGR does not have a Department Chair, you will need to contact the Dean of Engineering. The current Dean is John J. Vasselli and he can be reached at [john.vasselli@hccs.edu](mailto:john.vasselli@hccs.edu) or 713-718-5690. His office is at Alief Hayes, Room A407.