

The Counseling Center at A&M-Commerce, located in the Halladay Building, Room 203, offers counseling services, educational programming, and connection to community resources for students. Students have 24/7 access to the Counseling Center's crisis assessment services by calling 903-886-5145. For more information regarding Counseling Center events and confidential services, please visit [www.tamuc.edu/counsel](http://www.tamuc.edu/counsel)



## ENGR 110 Introduction to Engineering & Technology

### Section 03E

### Course Syllabus, Fall 2023

#### INSTRUCTOR INFORMATION

<b>Instructor</b>	Eddie Oh, Ph.D.
<b>Office Location</b>	AG/ET 208
<b>Office Hours</b>	Monday 10 am – 1 pm Tuesday 2 pm – 4 pm
<b>Phone</b>	Office: 903-886-5468
<b>University Email Address</b>	Eddie.Oh@tamuc.edu
<b>Preferred Form of Communication</b>	Email
<b>Communication Response Time</b>	Typically, within 48 hours on weekdays for email

#### COURSE INFORMATION

<b>Class Meeting Schedule</b>	See schedule at end of syllabus
<b>Class Meeting Dates</b>	MWF 9:00 am – 9:50 am
<b>Classroom</b>	AG/ET 125
<b>Textbook(s) Required</b>	None
<b>Software Required</b>	Microsoft Office - MS Word, Excel, PowerPoint
<b>Optional Texts and/or Materials</b>	Engineering Fundamentals – An Introduction to Engineering, Saeed Moaveni, 5 <sup>th</sup> Edition

*The syllabus/schedule are subject to change*

## COURSE DESCRIPTION

This course provides a solid foundation in fundamental skills needed for freshmen and transfer students to academically succeed and professionally prepare them for challenges within the disciplines of Engineering and Technology Management. The project-based assignments will provide students with opportunities to apply mathematics to solve engineering problems, acquire team working skills, practice written and verbal communication skills, and enhance problem solving and design skills. Early understanding of these skills will assist students throughout their undergraduate experience.

**Prerequisites:** Prerequisites: MATH 142 or MATH 2312 (precalculus), or concurrent enrollment.

## Student Learning Outcomes

Upon successful completion of this course, students will achieve the following learning outcomes:

- Understand key engineering principles and the engineering design process
- Recognize engineering disciplines, and professional & ethical responsibilities
- Understand and be able to apply mathematical, chemical, and physical laws to model and analyze and investigate engineering problems
- Know basic quantities such as length, time, mass, force, temperature and their related variables
- Be able to use scientific notation and interpret scales from nano ( $10^{-9}$ ) to giga ( $10^9$ )
- Develop skills in using engineering computational tools to record, organize, analyze data.
- Understand basic characteristics of materials such as metals, plastics, glass, and concrete
- Be able to select and apply appropriate engineering tools & techniques to solve problems
- Be able to verify and validate engineering designs or products
- Understand the fundamentals of teamwork, and effective communication skills.
- Demonstrate the capacity to function in multi-disciplinary teams
- Demonstrate effective oral and written communication skills through:
  - Class participation
  - Effective communication among team's members
  - Solving homework and exam problems
  - Effective engineering report writing

## COURSE REQUIREMENTS

### Minimal Technical Skills Needed

Students must be able to access the Internet, use the D2L learning management system, and use Microsoft Office tools (Word, Excel, PowerPoint). Students should know how to use a scientific calculator.

### Instructional Methods

The instructional methods in this course include lectures, class discussion and participation, informal quizzes, homework assignments, team projects, and exams. The team projects and class participation will include the use of teamwork for students to learn from each other under leader supervision, similar to a real-world engineering environment.

## Student Responsibilities or Tips for Success in the Course

- **Attendance Policy:** On-time attendance is required. Students must show up awake and ready to participate with proper attire for laboratory work with power equipment (see below). Attendance & Participation is a graded component because for optimum learning, students need to attend class and participate in discussion, quizzes, demonstrations, lab work, and exams. The table below shows the potential grade penalty for unexcused absences; coming late to class counts as half of an absence. Note that even excused absences can negatively impact the participation component of the total grade.

# of unexcused absences	0 - 3	4	5	6	7	7+
Grade penalty	0%	5%	10%	20%	30%	F

- **Homework Assignments:** Working through example problems is a critical component to learning. The homework sets will include review problems in addition to problems illustrating new material. Homework will be due approximately once per week except during major projects. Late work may be penalized, including a grade of zero, unless student has an acceptable excuse proven by a doctor's note or other legal documentation.
- **Projects:** Students will be expected to work together in team projects, similar to real-world engineering, to design and build a system, and to document via in-class presentation, soft-copy presentation, and engineering report. Peer reviews will be collected for group projects to support group evaluation of team member performance.
- **Soft-Copy Report Formats:** Students shall submit assignments either in class or in the assigned drop boxes on D2L (directions will be provided in class). If problems are encountered using D2L, then email may be used as a backup with instructor permission.
- **Collaboration:** Students are encouraged to collaborate on homework, but must turn in their own work.
- **Soft-Copy Report Formats:** Students should submit reports in Word or PDF formats. APA or other standard format is required for all reports assigned during this class. Students should use MS Office and other available tools to improve their work, such as spelling and grammar checkers, page and section breaks, and format templates. This is highly encouraged PRIOR to submission of assignments.
- **Exams:** The exams, unless otherwise noted, will be closed book & closed notes. Student will need to bring a scientific calculator for quizzes and exams. The use of a personal phone is strictly prohibited during exams. A makeup exam may be offered but an official permit for absence that fulfills University procedures must be provided to the instructor in timely manner.
- **Quizzes:** Quizzes will be used to assess problem solving skills and provide student feedback. Student should bring a scientific calculator to class for quizzes.
- **Shoes & Attire:** This course requires laboratory work with power tools, and thus closed toe shoes are required for safety. In addition, as described in safety training, suitable attire will be required to minimize the risk of serious injury.
- **D2L:** Regularly log into the D2L course website to monitor grades, homework assignments, and directions from the instructor.
- **Scientific Calculator:** Be proficient in the use of a scientific calculator to perform analysis and problem solving in the assignments, quizzes, and exams. If the student does not have a calculator available, then the student will need to accurately estimate the answers.

## GRADING

Final grades in this course will be based on the following scale:

A	B	C	D	F
100 - 90	89 - 80	79 - 70	69 - 60	59 - 0

The grades will be a weighted average with the following weights based on assessment type:

Assessment Type	Percent
Attendance & Participation (see attendance policy)	30
Assignments (individual & team)	25
Exams (2 exams)	25
Projects (individual & team)	20
<b>Total</b>	<b>100</b>

**Note:** There may also be opportunities for bonus points; these will be discussed in class.

## TECHNOLOGY REQUIREMENTS

All course sections offered by Texas A&M University-Commerce have a corresponding course shell in the myLeo Online Learning Management System (LMS). Below are technical requirements

LMS Requirements:

<https://community.brightspace.com/s/article/Brightspace-Platform-Requirements>

LMS Browser Support:

[https://documentation.brightspace.com/EN/brightspace/requirements/all/browser\\_support.htm](https://documentation.brightspace.com/EN/brightspace/requirements/all/browser_support.htm)

YouSeeU Virtual Classroom Requirements:

<https://support.youseeu.com/hc/en-us/articles/115007031107-Basic-System-Requirements>

## ACCESS AND NAVIGATION

You will need your campus-wide ID (CWID) and password to log into the course. If you do not know your CWID or have forgotten your password, contact the Center for IT Excellence (CITE) at 903.468.6000 or [helpdesk@tamuc.edu](mailto:helpdesk@tamuc.edu).

**Note:** Personal computer and internet connection problems do not excuse the requirement to complete all course work in a timely and satisfactory manner. Each student needs to have a backup method to deal with these inevitable problems. These methods might include the availability of a backup PC at home or work, the temporary use of a computer at a friend's home, the local library, office service companies, Starbucks, a TAMUC campus open computer lab, etc.

## COMMUNICATION AND SUPPORT

If you have any questions or are having difficulties with the course material, please contact your Instructor.

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## Technical Support

If you are having technical difficulty with any part of Brightspace, please contact Brightspace Technical Support at 1-877-325-7778. Other support options can be found here:

<https://community.brightspace.com/support/s/contactsupport>

Interaction with Instructor Statement

Preferred Form of Communication: email

## **COURSE AND UNIVERSITY PROCEDURES/POLICIES**

### Course Specific Procedures/Policies

#### Syllabus Change Policy

The syllabus is a guide. Circumstances and events, such as student progress, may make it necessary for the instructor to modify the syllabus during the semester. Any changes made to the syllabus will be announced in advance.

### **University Specific Procedures**

#### Student Conduct

All students enrolled at the University shall follow the tenets of common decency and acceptable behavior conducive to a positive learning environment. The Code of Student Conduct is described in detail in the [Student Guidebook](#).

<http://www.tamuc.edu/Admissions/oneStopShop/undergraduateAdmissions/studentGuidebook.aspx>

Students should also consult the Rules of Netiquette for more information regarding how to interact with students in an online forum: <https://www.britannica.com/topic/netiquette>

#### TAMUC Attendance

For more information about the attendance policy please visit the [Attendance](#) webpage and [Procedure 13.99.99.R0.01](#).

<http://www.tamuc.edu/admissions/registrar/generalInformation/attendance.aspx>

<http://www.tamuc.edu/aboutUs/policiesProceduresStandardsStatements/rulesProcedures/13students/academic/13.99.99.R0.01.pdf>

#### Academic Integrity

Students at Texas A&M University-Commerce are expected to maintain high standards of integrity and honesty in all of their scholastic work. For more details and the definition of academic dishonesty see the following procedures:

[Undergraduate Academic Dishonesty 13.99.99.R0.03](#)

[Undergraduate Student Academic Dishonesty Form](#)

<http://www.tamuc.edu/aboutUs/policiesProceduresStandardsStatements/rulesProcedures/documents/13.99.99.R0.03UndergraduateStudentAcademicDishonestyForm.pdf>

[Graduate Student Academic Dishonesty Form](#)

<http://www.tamuc.edu/academics/graduateschool/faculty/GraduateStudentAcademicDishonestyFormold.pdf>

<http://www.tamuc.edu/aboutUs/policiesProceduresStandardsStatements/rulesProcedures/13students/undergraduates/13.99.99.R0.03UndergraduateAcademicDishonesty.pdf>

*Texas A&M University-Commerce acknowledges that there are legitimate uses of Artificial Intelligence, ChatBots, or other software that has the*

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*capacity to generate text, or suggest replacements for text beyond individual words, as determined by the instructor of the course.*

*Any use of such software must be documented. Any undocumented use of such software constitutes an instance of academic dishonesty (plagiarism).*

*Individual instructors may disallow entirely the use of such software for individual assignments or for the entire course. Students should be aware of such requirements and follow their instructors' guidelines. If no instructions are provided the student should assume that the use of such software is disallowed.*

*In any case, students are fully responsible for the content of any assignment they submit, regardless of whether they used an AI, in any way. This specifically includes cases in which the AI plagiarized another text or misrepresented sources.*

13.99.99.R0.03 Undergraduate Academic Dishonesty  
13.99.99.R0.10 Graduate Student Academic Dishonesty

### **Students with Disabilities-- ADA Statement**

The Americans with Disabilities Act (ADA) is a federal anti-discrimination statute that provides comprehensive civil rights protection for persons with disabilities. Among other things, this legislation requires that all students with disabilities be guaranteed a learning environment that provides for reasonable accommodation of their disabilities. If you have a disability requiring an accommodation, please contact:

#### **Office of Student Disability Resources and Services**

Texas A&M University-Commerce  
Velma K. Waters Library Rm 162  
Phone (903) 886-5150 or (903) 886-5835  
Fax (903) 468-8148  
Email: [studentdisabilityservices@tamuc.edu](mailto:studentdisabilityservices@tamuc.edu)

Website: [Office of Student Disability Resources and Services](#)

<http://www.tamuc.edu/campusLife/campusServices/studentDisabilityResourcesAndServices/>

#### **Nondiscrimination Notice**

Texas A&M University-Commerce will comply in the classroom, and in online courses, with all federal and state laws prohibiting discrimination and related retaliation on the basis of race, color, religion, sex, national origin, disability, age, genetic information or veteran status. Further, an environment free from discrimination on the basis of sexual orientation, gender identity, or gender expression will be maintained.

### **Campus Concealed Carry Statement**

Texas Senate Bill - 11 (Government Code 411.2031, et al.) authorizes the carrying of a concealed handgun in Texas A&M University-Commerce buildings only by persons who have been issued and are in possession of a Texas License to Carry a Handgun. Qualified law enforcement officers or those who are otherwise authorized to carry a concealed handgun in the State of Texas are also permitted to do so. Pursuant to Penal Code (PC) 46.035 and A&M-Commerce Rule 34.06.02.R1, license holders may not carry a concealed handgun in restricted locations.

For a list of locations, please refer to the [Carrying Concealed Handguns On Campus](#) document and/or consult your event organizer.

Web url:

<http://www.tamuc.edu/aboutUs/policiesProceduresStandardsStatements/rulesProcedures/34SafetyOfEmployeesAndStudents/34.06.02.R1.pdf>

Pursuant to PC 46.035, the open carrying of handguns is prohibited on all A&M-Commerce campuses. Report violations to the University Police Department at 903-886-5868 or 9-1-1.

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## **A&M-Commerce Supports Students' Mental Health**

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## **Department or Accrediting Agency Required Content**

## COURSE OUTLINE / CALENDAR

Week #	Week of	Topic
1	Aug 28	Course overview; lab safety; volume;
2	Sep 4	Introductions; engineering design & reports
3	Sep 11	Resumes; Trig & force; SI units, nano -> mega
4	Sep 18	Trig & complex numbers; unit conversions
5	Sep 25	Friction, time & rate, distance & speed
6	Oct 2	Energy, force, work, power
7	Oct 9	Review -> Exam 1
8	Oct 16	Engineering disasters; mechanical advantage
9	Oct 23	Destructive testing; engineering ethics
10	Oct 30	Probability & statistics; material properties
11	Nov 6	P1 Research methods; P2 Mouse Trap Car
12	Nov 13	Review -> Exam 2
13	Nov 20	Engineering video; Team project time
14	Nov 27	Special topics; project time; early presentations
15	Dec 4	Presentations; competition
16	Dec 11	Finals (no final for this class)

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