ENGR 110: Introduction to Engineering & Technology

Section 02E, Course Syllabus, Fall 2025

08/01/2025

INSTRUCTOR INFORMATION

Instructor	James Tague, Adjunct Professor
Office Location	AG/ET 216
Office Hours	Tuesday/Thursday: 8:00 AM – 9:15 AM
Phone	Office: 903-886-5474
University Email Address	James.Tague@etamu.edu
Preferred Form of Communication	Email
Communication Response Time	Typically, within 48 hours on weekdays for email

COURSE INFORMATION

Class Meeting Schedule	Refer to the detailed course schedule in this syllabus
Class Meeting Dates	Tuesday / Thursday 9:30 am - 10:45 am
Classroom	AG/ET 125
Textbook(s) Required	None
Software Required	Microsoft Office - MS Word, Excel, PowerPoint
Optional Texts and/or Materials	Engineering Fundamentals – An Introduction to Engineering, Saeed Moaveni, 5th Edition

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 teamwork 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.

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, and 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
- Demonstrate the capacity to function in multi-disciplinary teams
- Understand interconnectedness of global dynamics and potential impact as an engineer (local, regional, global)
- Demonstrate effective oral and written communication skills through:
  - Class participation
  - Effective communication among team members ○ solving engineering problems
  - Effective engineering report writing

Instructional Method

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 a leader's supervision, similar to a real-world engineering environment.

SPECIFIC COURSE REQUIREMENTS

Prerequisites

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

Required Technical Skills

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.

Student Laboratory Safety Training

As a new campus wide initiative to ensure compliance with system requirements, to improve efficiency and streamline processes, the Department of Environmental Health and Safety has created a required Student Laboratory Safety Training.

This training covers general lab safety topics as follows:

- Personal Protective Equipment (PPE)

- Globally Harmonized System (GHS)
- Safety Data Sheets (SDS)
- Hazard Communication (HazCom)
- Emergencies
- Physical Hazards
- Chemical Safety
- Spills
- Refrigerators / Freezers
- Glassware
- Compressed Gas Cylinder Safety
- Fume Hoods & BioSafety Cabinets
- Heat Stress

In addition to the general training, any courses with specific hazards (i.e., machines, equipment, certain chemicals, and/or processes) shall be covered by the instructor of that particular course. All instructors are responsible for ensuring students are aware and compliant with the deadlines of this requirement.

Process for Students:

- When a student registers for a course that has been identified with/ the LST Compliance Attribute, they will be automatically enrolled in the D2L "Lab Safety Training" Course.
- Student will have access on the first day of class.
- Student, by default, has a Compliance Hold "OH" placed on their Banner Profile; this will be removed once the student completes the training.
- Students will receive email notification prior to the start of the term and then once per day for the first 5 days of the semester. The students will also receive notification through D2L's Pulse App via Intelligent Agents.
- Students who have not completed the training within the first 5 days of the start of the term will begin getting an email notification on the 6th day indicating that their access to the courses associated with this training has been restricted.
- Restriction and Access to course(s) will be handled via the custom web-application.
- Students will continue to get a daily email notification until the training is complete (Instructors will be copied, so they are aware).
- On the 21st day of the term, students who have not completed the training will be notified via email that they have been dropped from the specific courses that required the "Lab Safety Training."
- On the 21st day of the term, a report will be generated, via the custom web-application, for EHS to review and to provide a written / formal request to the Registrar's Office to drop student(s) from the course(s) that they are enrolled in that have the associated LST Attribute.

Secondary method for obtaining the "drop list" would be to contact IR Office to assist w/ running a WebFocus report that would pull all students who still have a Compliance Hold Code of "OH".

ATTENDANCE & PARTICIPATION

On-time attendance is required. Students must show up awake and ready to participate with proper attire (see below). Attendance & Participation is a graded component because, for optimum learning, students need to attend class and participate in all activities. The table below shows the potential grade penalty for unexcused absences for the T/R morning class (2x per week).

# of unexcused absences	< 4	4	5	6	7	>7
Grade penalty	0%	5%	10%	20%	30%	F

For the Tuesday afternoon class (1x per week), the potential penalty is:

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

Coming late to class counts as half of an absence. Students should inform the instructor if they need to miss class. Students should bring a scientific calculator to class to support participation. Participation will also be graded based on your contributions and teamwork. Peer evaluations by your teammates will be used to evaluate participation.

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

Overall grades will be based on a weighted average as shown below:

Assessment Type	**Percent**
Quizzes	10
Midterm Exam	15
Engineering Design / Bridge Project	15
Capstone Project	25
Final Exam	25
Mission Statement/Cover Letter/Resume	10
Total	**100**

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

COURSE SYLLABUS, FALL 2025

Week	Dates	Unit / Topic	Quiz /Exam
1	8/25-29	Introduction to the Engineering Profession	**Quiz #1 - Safety**
2	9/1-4	Real World Engineering – Achievements and Disasters	**Quiz #2**
3	9/8-12	Fundamentals, Dimensions, and Units	**Quiz #3**
4	9/15-19	Math & Units for Electrical, Civil, and Construction Eng	**Quiz #4**
5	9/22-26	Engineering Materials and Properties	**Quiz #5**
6	9/29-10/3	Engineering Design / Bridge Project	**Quiz #6**
7	10/6-10	Bridge Week – Competition and Presentations	
8	10/13-17	Midterm Exam	**Exam**
10	10/20-24	Probability & Statistics in Engineering	
11	10/27-31	Engineering Economics	**Quiz #7**
12	11/3-7	The Energy & Power Revolution	**Quiz #8**
13	11/10-14	Soft Skills in Engineering	**Quiz #9**
14	11/17-21	Capstone Project	**Quiz #10**
15	11/25	Project Work / Thanksgiving	
16	12/1-5	Capstone Project Competition and Presentations	
17	12/6-11	Final Exam	**Exam/Resume**

1. 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 injury. Hoodies should not be worn over the head during class, nor should Bluetooth and similar devices be worn in the ears during class.
2. Homework will generally be handed out on a weekly basis, depending on the subjects covered. Homework will be optional and not graded; however, the exam questions will be pulled from the homework.
3. Quizzes on previous weeks' material will be handed out weekly at the beginning of class. The time limit will be 15 minutes. No makeup will be given for tardiness.
4. Projects will include a short team presentation before each competition, followed by a team competition. An individual engineering report discussing all elements of the project and the results of the competition will be due the week after. Students will be expected to work together in teams, 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.

The syllabus/schedule are subject to change

5. As part of soft skills development, students will be required to write a personal mission statement, cover letter, and resume, along with an “elevator pitch.”The professor will edit drafts throughout the semester, and the final version will be due the day of the final exam.
6. Exam questions will be pulled from the optional homework, quizzes, and any relevant points the instructor covers during class. The final exam will be comprehensive. The exams, unless otherwise noted, will be closed book & closed notes. Students 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 a timely manner.
7. Use of Artificial Intelligence (AI) Tools: Students should use tools such as spelling and grammar checkers, page and section breaks, and format templates. However, other than as directed by the instructor for specific assignments, AI tools, ChatBots, and other software that have the capacity to generate text or suggest replacements for text beyond individual words are prohibited. Any use of such software must be documented. Any undocumented use of such software constitutes an instance of academic dishonesty (plagiarism).
8. Syllabus is subject to change based on topics covered and class requirements.

Interaction with Instructor Statement

Use email, mobile, and office hours as presented under instructor information.

ETAMU TECHNOLOGY REQUIREMENTS

Online Learning Management System (LMS)

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

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**.**

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 ETAMU 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.

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

UNIVERSITY PROCEDURES/POLICIES

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, and

- 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 East Texas A&M University 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

Nondiscrimination Notice

East Texas A&M University 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.

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
East Texas A&M University
Velma K. Waters Library Rm 162
Phone (903) 886-5150 or (903) 886-5835
Fax (903) 468-8148
Email: studentdisabilityservices@tamuc.edu
Website: Office of Student Disability Resources and Services
http://www.tamuc.edu/campusLife/campusServices/studentDisabilityResourcesAndServices/

The Counseling Center at East Texas A&M, 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

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/34SafetyOf EmployeesAndStudents/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.

AI Use Policy

East Texas A&M University acknowledges that there are legitimate uses of Artificial Intelligence, ChatBots, or other software that have the 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 the use of such software entirely 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.

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.