



TEXAS A&M UNIVERSITY
SAN ANTONIO

Texas A&M University-San Antonio
College of Science and Arts
Computations, Engineering, Mathematics
Sciences
Electronics Systems Engineering Technology
ESET

ENTC 1301:001, Principles of Engineering Technology
Spring 2024, CRN: 24685

Course Syllabus

Instructor:	Wael Deabes, Ph.D. Office: 211K (STEC Building) E-Mail: wdeabes@tamusa.edu Student emails will receive a reply within one business day.
Class Modality:	Hybrid Course Structure: Course material is delivered online asynchronously +Face to Face meeting (1/week)
Credit Hours:	3 Credits
Meeting Time and Place:	Tuesday and Thursday 2:00 PM - 3:15 PM Room: STEM 245
Class Duration:	01/16 – 05/07
Course Website:	https://tamusa.blackboard.com/
Office Hours:	Monday: 01:00 PM – 03:00 PM (In person) Wednesday: 02:00 PM- 3:30 PM (In person) Email the professor for communication to zoom meeting (Mon – Fri)

Course Description: This course explores engineering technology as a profession, and its place in society. Role of engineers, engineering technologists, and engineering technicians. Engineering technology as a career. Major tools and techniques utilized by engineering technologists. Professional ethics, professionalism, and social responsibility. Engineering ethics. Optimization. Technical communication. Introduction to engineering design; other topics include computer applications and programming, visualization; introduction to Excel, statistics, and MATLAB programming skills.

Restrictions: TSI Reading/Writing/Mathematics.

NOTE: This is an F2F – Hybrid course. Lecture content is delivered primarily asynchronously. Meaning lecture material and assignments will be posted on B.B. under specific tabs with a specific due date(s). A weekly mandatory F2F meeting will occur at above mentioned time(s): What to expect? Come prepared to partake in an assignment, discuss, and interact at any given time. The instructor will engage the lecture materials with interactive questions and engineering projects. Through participating in several exciting engineering projects, students could learn the course knowledge much better. Critical problems and concepts related to that Week's material will be discussed, and no new topic will be taught! Attendance is mandatory.

Course Contents: (*Subject to change based on relevance and time)

- Introduction to the Engineering Profession.
- Preparing for an Engineering Career.
- Introduction to Engineering Design.
- Engineering communications + Ethics.
- Fundamental Dimensions and Units

- Estimation and Solving Problems
- Electronic Spreadsheets + Graphical Solutions
- Programming: Matlab Basics.

Required Materials:

Textbook:

- [1] Saeed Moaveni, *“Engineering Fundamentals: An Introduction to Engineering”*, Cengage Learning; 7th edition, ISBN-13 978-0357684412
- [2] eBook + Assignment Platform: E. E. Stephan, D. R. Bowman, W. J. Park, B. L. Sill, and M. W. Ohland, *Thinking Like an Engineer: An Active Learning Approach*, 5th edition. Available at Pearson, it can be accessed from B.B. (Getting Started tab).

Blackboard: Connect to <http://tamusa.blackboard.com>. You will have lecture notes, solutions to problems, multimedia materials, and other supplementary materials in Blackboard. All class communications will be through Blackboard, and students should monitor this several times a day.

Time Expectation for coursework: You are expected to spend 3-6 hours per week for the course. Based on the background, some students may require more time. Time spent may be longer when assignment/exams are due.

Course Grades and Polices:

- Final grades will be assigned using the weighted average of the following components.
- The instructor reserves the right to adjust the grading scale and/or weights based on the difficulty of work assigned throughout the semester.
- **Grading Policy**

- **Class works 40 %:** Lecture-based Assignments 20%, Homework 20%.
- **Final Project 20%:** (Details under Final Projects Tab)
- **Exams 40%:** (12.5%, 12.5%, 15%)

Course grades are awarded as follows:

A: Over 90.0%; B: 80.0 ~ 89.99%; C: 70 ~ 79.99%; D: 60.0 ~ 69.99%; F: less than 59.99%.

- **Reading Assignment (RA):** Students are required to read specific sections in the textbook before each lecture, to enable a teaching style somewhat like a “flipped classroom”, i.e., concentrating on the intuitive understanding of the material, computational problems, etc., instead of derivations of equations.
 - RA (not graded) should be completed 11:59 pm CST every Friday, + Questions from students need to be posted on Discussion Board by midnight every Saturday!
- **HomeWorks** will be assigned, falling mainly into three categories.
 - Computational exercises related to the specific chapters treated during the past instruction week.
 - Computational exercises requiring a “big picture” approach, using material from different lectures throughout the semester.
 - Simulations to be written by the students to cover more realistic scenarios for which closed-form equations often do not exist.
- **Final Project:** To pass this class, students must prepare a report and present it during Finals Week. Students will work in teams (if possible, 1-2 students/team). Each team will identify (or use previous) a practical electronic engineering project (e.g., research, prototype, product, or design) and submit their project plan with a timeline at week 4 to the instructor for approval. Each team will have to submit a report that describes and analyzes the main findings (Week 14-15) and present the work in Class (during Finals week). The Report should not exceed 10 pages double-spaced, 12 font sizes with 1-inch margins, and the Final

presentation should not exceed 25 slides. The project should demonstrate the student's ability to transfer the knowledge and skills acquired in the course to real-world applications.

- **Exams:** There will be three (3) exams during the semester: all to be taken at the scheduled date, time, and location (in Class)/ no makeup allowed! Final exams cannot be rescheduled or missed.
 - **Schedule of Exam and content**

Exam# (%)	Content	Time allowed	Format	Tentative Date
Exam1 (12.5%)	Ch. 1-5	60 minutes	MCQ and Long Answer Questions	Week 5, Tuesday in Class from 2:05 am
Exam2 (12.5%)	Ch. 6-14	90 minutes	MCQ and Long Answer Questions	Week 10, Tuesday in Class from 2:05 am
Final Exam (15%)	All topics	120 minutes	MCQ and Long Answer Questions	Week 15, Tuesday in Class from 2:05 am

CURVE: One lowest grade among the first two semester exams will be dropped. Exam 3 is mandatory, and no grade replacement is possible!

Examinations and assignments: There will be multiple assignments and exams during the semester. The assignments and exams will consist of conceptual multiple-choice, problem-solving, and short essay questions. The assignments /exam materials will come from lecture notes, the text, and class discussions. Questions will emphasize understanding and applications of concepts and topics covered in class. Exams will be in person during class time.

Make up and Late Assignment/exam/quiz policy: Generally, make-up or late submissions will **NOT** be offered or accepted for any missed assignments/exams/quizzes. Late submissions or makeups may be accepted/administered only in extraordinary circumstances such as an excused official university activity, a severe illness, or a dire emergency. However, you must provide comprehensive documentation either before or within a few days of the missed assignment/quiz/exam.

Class conducts and civility code: Everyone in class is expected to follow all rules in the student handbook, as well as common courtesy during classroom lectures and discussions in class and online, including the following:

1. Attendance may be taken at the beginning or the end of the class. A vital part of every student's education is regular attendance of class meetings.
2. It is the students' responsibility to obtain and be able to use the required materials and software for this class.
3. Students should regularly check the Course Calendar, Announcements, and Messages (e-mail) systems in Blackboard.
4. Students should be prepared to turn in their assignments' solutions and must be uploaded to BB by their due date and time. **No late assignments will be accepted, nor are make-ups allowed.**
5. If you cannot submit answers to any assignment online and are within the deadline. You can only get credit for your work by emailing the instructor your completed assignment. As possible, take pictures/snapshots of the Issue faced online so it can be addressed.
6. Students must retain copies of all assignments and graded work for verification purposes and provide it to the instructor, if necessary. Keep your own copies of all computer files and e-mails till the final grade is received.
7. Talking while the instructor is lecturing is extremely disruptive and discourteous to the instructor and other students.
8. Using computers or phones (except for a valid urgent need) during class for a purpose not related to class is disruptive. All cell phones and gadgets should be turned OFF and headphones removed.
9. For any questions about the exams and assignments, a student should contact the instructor well in advance of the day they are due, so the instructor may have enough time to provide

- feedback.
10. All communications will be via e-mail communications to the Texas A&M University e-mail account, and students are expected to use their school provided email account. The instructor will reply to student e-mail messages and voice messages within 2 business days (Monday-Friday).
 11. For all classwork, exams, quizzes, etc., if a student is completing it off-campus, they are responsible for the availability of internet connectivity. Extensions will **not** be granted for lack of availability of internet connections.

The submission window may close or marked late, even if late by one second. Anyone violating these policies may be subject to disciplinary actions.

Broader Use of Generative AI Permitted Within Guidelines: Artificial intelligence (AI) tools, including ChatGPT, are permitted in this course for students who wish to use them. To adhere to our scholarly values, students must cite any AI-generated material that informed their work (this includes in-text citations and/or use of quotations and in your reference list). Using an AI tool to generate content without proper attribution qualifies as academic dishonesty and violates Texas A&M-San Antonio's standards of academic integrity.

IMPORTANT POLICIES AND RESOURCES

Academic Accommodations for Persons with Disabilities: Texas A&M University-San Antonio is committed to providing all students with reasonable access to learning opportunities and accommodations in accordance with The Americans with Disabilities Act, as amended, and Section 504 of the Rehabilitation Act. If you experience barriers to your education due to a disability or think you may have a disability, please contact Disability Support Services in the Central Academic Building, Suite 210, or at (210) 784-1335 or visit <https://www.tamusa.edu/index.html> or email us at dss@tamusa.edu. Disabilities may include, but are not limited to, attentional, learning, mental health, sensory, physical, or chronic health conditions. All students are encouraged to discuss their disability-related needs with Disability Support Services and their instructors as soon as possible.

Academic Learning Center: The Academic Learning Center provides free course-based tutoring to all currently enrolled students at Texas A&M University-San Antonio. Students wishing to work with a tutor can make appointments through the Brainfuse online tutoring platform. Brainfuse can be accessed in the *Tools* section of Blackboard. You can contact the Academic Learning Center by emailing tutoring@tamusa.edu, calling (210) 784-1307, or visiting the Central Academic Building, room 202.

Counseling/Mental Health Resources: As a college student, there may be times when personal stressors interfere with your academic performance and/or negatively impact your daily functioning. If you are experiencing emotional difficulties or mental health concerns, support is available to you through the Student Counseling Center (SCC). To schedule an appointment, call 210-784-1331 or visit Modular C, Room 166 (Rear entrance). All mental health services provided by the SCC are free and confidential (as the law allows). The Student Counseling Center provides brief individual and group therapy, crisis intervention, consultation, case management, and prevention services.

Crisis support is available 24/7 by calling the SCC at 210-784-1331 (after-hours select option '2'). For more information and self-help resources, please visit www.tamusa.edu/studentcounseling

Emergency Preparedness: JagE Alert is Texas A&M University-San Antonio's mass notification. In the event of an emergency, such as inclement weather, students, staff and faculty, who are registered, will have the option to receive a text message, email with instructions and updates. To register or update your information visit: <https://tamusa.bbcportal.com/>. More information about Emergency Operations Plan and the Emergency Action Plan can be found here: <https://www.tamusa.edu/about-us/campus-information/safety/university-police-department/documents/emergency-operations-plan.pdf> and <https://www.tamusa.edu/about-us/campus-information/safety/university-police-department/documents/emergency-action-plan.pdf> Download the SafeZone App for emergencies or call (210) 784-1911. Non-Emergency (210) 784-1900

Financial Aid and Verification of Attendance: According to the following federal regulation, 34 CFR 668.21: U.S. Department of Education (DoE) Title IV regulation, a student can only receive Title IV funds based on Title IV eligibility criteria which include class attendance. If Title IV funds are disbursed to ineligible students (including students who fail to begin attendance), the institution must return these funds to the U.S. DoE within 30 days of becoming aware that the student will not or has not begun attendance. Faculty will provide the Office of Financial Aid with an electronic notification if a student has not attended the first week of class. Any student receiving federal financial aid who does not attend the first week of class will have their aid terminated and returned to the DoE. Please note that any student who stops attending at any time during the semester may also need to return a portion of their federal aid.

Writing, Language, and Digital Composing Center: The Writing, Language, and Digital Composing Center supports graduate and undergraduate students in all three colleges as well as

faculty and staff. Tutors work with students to develop reading skills, prepare oral presentations, and plan, draft, and revise their written assignments. Our language tutors support students enrolled in Spanish courses and students composing in Spanish for any assignment. Our digital studio tutors support students working on digital projects such as eportfolios, class presentations, or other digital multimedia projects. Students can schedule appointments through JagWire under the Student Services tab. Click on “Writing, Language, and Digital Composing Center” to make your appointment. The Center offers face-to-face, synchronous online, and asynchronous digital appointments. More information about what services we offer, how to make an appointment, and how to access your appointment can be found on our website at <https://bit.ly/WLDCCenter>.

Meeting Basic Needs: Any student who has difficulty affording groceries or accessing sufficient food to eat every day, or who lacks a safe and stable place to live, and believes this may affect their performance in the course, is urged to contact the Dean of Students (DOS@tamusa.edu) for support. Furthermore, please notify the professor if you are comfortable in doing so. This will enable them to provide any resources they may possess.

Military Affairs: Veterans and active-duty military personnel are welcomed and encouraged to communicate, in advance if possible, and special circumstances (e.g., upcoming deployment, drill requirements, disability accommodations). You are also encouraged to visit the Patriots’ Casa in-person room 202, or to contact the Office of Military Affairs with any questions at military.va@tamusa.edu or (210)784-1397.

Religious Observances: Texas A&M University-San Antonio recognizes the diversity of faiths represented among the campus community and protects the rights of students, faculty, and staff to observe religious holidays according to their tradition. Under the policy, students are provided an opportunity to make up any examination, study, or work requirements that may be missed due to a religious observance provided they notify their instructors before the end of the second week of classes for regular session classes.

The Six-Drop Rule: Students are subject to the requirements of Senate Bill (SB) 1231 passed by the Texas Legislature in 2007. SB 1231 limits students to a maximum of six (6) non-punitive course drops (i.e., courses a student chooses to drop) during their undergraduate careers. A non-punitive drop does not affect the student’s GPA. However, course drops that exceed the maximum allowed by SB 1231 will be treated as “F” grades and will impact the student’s GPA.

Statement of Harassment and Discrimination: Texas A&M University-San Antonio is committed to the fundamental principles of academic freedom, equality of opportunity and human dignity. To fulfill its multiple missions as an institution of higher learning, A&M-San Antonio encourages a climate that values and nurtures collegiality and the uniqueness of the individual within our state, nation, and world. All decisions and actions involving students and employees should be based on applicable law and individual merit. Texas A&M University-San Antonio, in accordance with applicable federal and state law, prohibits discrimination, including harassment, on the basis of race, color, sex, religion, national origin, age, disability, genetic information, veteran status, sexual orientation, gender identity, gender expression, or pregnancy/parenting status. Individuals who believe they have experienced harassment or discrimination prohibited by this statement are encouraged to contact the appropriate offices within their respective units.

Texas A&M University-San Antonio faculty are committed to providing a safe learning environment for all students and for the university as a whole. If you have experienced any form of sex- or gender-based discrimination or harassment, including sexual assault, sexual harassment, domestic or dating violence, or stalking, know that help and support are available. A&M-San Antonio’s Title IX Coordinator can support those impacted by such conduct in navigating campus life, accessing health and counseling services, providing academic and housing accommodations, and more. The university strongly encourages all students to report any such incidents to the Title IX Coordinator. Please be aware that all A&M-San Antonio employees (other than those designated

as confidential resources such as counselors and trained victim advocates) are required to report information about such discrimination and harassment to the university. This means that if you tell a faculty member about a situation of sexual harassment or sexual violence, or other related misconduct, the faculty member must share that information with the university's Title IX Coordinator (titleix@tamusa.edu, 210-784-2061, CAB 439K). If you wish to speak to a confidential employee who does not have this reporting requirement, you can contact the Student Counseling Center at (210) 784-1331 or visit them in Madla 120.

Pregnant/Parenting Students: Texas A&M-San Antonio does not require a pregnant or parenting student, solely because of that status or issues related to that status, to (1) take a leave of absence or withdraw from their degree or certificate program; (2) limit the student's studies; (3) participate in an alternative program; (4) change the student's major, degree, or certificate program; or (5) refrain from joining or cease participating in any course, activity, or program at the University. The university will provide reasonable accommodations to pregnant students that would be provided to a student with a temporary medical condition and that are related to the health and safety of the student and the student's unborn child. These could include maintaining a safe distance from substances, areas, and activities known to be hazardous to pregnant individuals and their unborn child; excused absences because of illness or medical appointments; modified due dates for assignments; rescheduled tests/exams; taking a leave of absence; and being provided access to instructional materials and video recordings of lectures for excused absences, if these would be provided to any other student with an excused absence. Pregnant/parenting students are encouraged to contact the Title IX Coordinator with any questions or concerns related to their status (titleix@tamusa.edu; 210-784-2061; CAB 439K).

Texas A&M-San Antonio has also designated the Title IX Coordinator as the liaison officer for current or incoming students who are the parent or guardian of a child younger than 18 years of age. The Title IX Coordinator can provide students with information regarding support services and other resources.

Students' Rights and Responsibilities: The following statement of students' rights and responsibilities is intended to reflect the philosophical base upon which University Student Rules are built. This philosophy acknowledges the existence of both rights and responsibilities, which is inherent to an individual not only as a student at Texas A&M University-San Antonio but also as a citizen of this country.

Students' Rights

1. A student shall have the right to participate in a free exchange of ideas, and there shall be no university rule or procedure that in any way abridges the rights of freedom of speech, expression, petition, and peaceful assembly as set forth in the U.S. Constitution.
2. Each student shall have the right to participate in all areas and activities of the university, free from any form of discrimination, including harassment, on the basis of race, color, national or ethnic origin, religion, sex, disability, age, sexual orientation, gender identity, gender expression, genetic information, or veteran status in accordance with applicable federal and state laws.
3. A student has the right to personal privacy except as otherwise provided by law, and this will be observed by students and University authorities alike.
4. Each student subject to disciplinary action arising from violations of university student rules shall be assured a fundamentally fair process.

Students' Responsibilities

1. A student has the responsibility to respect the rights and property of others, including other students, the faculty and staff, and the administration.
2. A student has the responsibility to be fully acquainted and compliant with the University Student Rules found in the Student Handbook, Student Code of Conduct, on our website, and in the University Catalog.
3. A student has the responsibility to recognize that student actions reflect upon the individuals

involved and upon the entire University community.

Students are expected to exhibit a high level of honesty and integrity in their pursuit of higher education. Students engaging in an act that violates the standards of academic integrity will find themselves facing academic and/or disciplinary sanctions. Academic misconduct is any act, or attempt, which gives an unfair advantage to the student. Additionally, any behavior specifically prohibited by a faculty member in the course syllabus or class discussion may be considered as academic misconduct. For more information on academic misconduct policies and procedures please review the [Student Code of Conduct](#).

Important Dates:

January 16	First day of class
March 11-17	Spring Break – No classes
March 29	Study Day – No classes
April 13	Last day to drop with an automatic “W”
April 20	Last day to drop a course or withdraw from the University
April 29	Last day of classes
April 30	Study Day – No classes
May 1-7	Final exams

The complete academic calendar is available online:

<https://www.tamusa.edu/academics/academic-calendar/index.html>