

ENGT 4326, 11523-110, Senior Design B

Spring 2022

Texas A&M University-Central Texas

COURSE DATES, MODALITY, AND LOCATION

This is a face-to-face course that meets from Jan 18 – May 13
on W from 11:00a – 1:45p pm in WH314 or WH413

Supplemental materials will also be made available online through the A&M-Central Texas Canvas Learning Management System [<https://tamuct.instructure.com/>]

INSTRUCTOR AND CONTACT INFORMATION

Instructor: Dr. Taylor Harvey

Office: Heritage Hall 302L

Phone: 254-519-5414

Email: tharvey@tamuct.edu (prefer direct email)

Office Hours

By appointment. Just email me and we can set something up!

Student-instructor interaction

You are strongly encouraged to communicate with me. If you get stuck on a concept or homework problem, contact me sooner rather than later. Send me an email that includes screenshot or photo of the problem and I can provide guidance. I will reply to any email within 48 hours during the work week or on Monday after a weekend (but probably a lot sooner in both cases). If you need more help, send me an email and schedule a virtual or in-person meeting.

Emergency Warning System for Texas A&M University-Central Texas

SAFEZONE. SafeZone provides a public safety application that gives you the ability to call for help with the push of a button. It also provides Texas A&M University-Central Texas the ability to communicate emergency information quickly via push notifications, email, and text messages. All students automatically receive email and text messages via their myCT accounts.

Downloading SafeZone allows access to push notifications and enables you to connect directly for help through the app.

You can download SafeZone from the app store and use your myCT credentials to log in. If you would like more information, you can visit the [SafeZone](http://www.safezoneapp.com) website [www.safezoneapp.com].

To register SafeZone on your phone, please follow these 3 easy steps:

1. Download the SafeZone App from your phone store using the link below:
 - o [iPhone/iPad](https://apps.apple.com/app/safezone/id533054756): [https://apps.apple.com/app/safezone/id533054756]
 - o [Android Phone / Tablet](https://play.google.com/store/apps/details?id=com.criticalarc.safezoneapp) [https://play.google.com/store/apps/details?id=com.criticalarc.safezoneapp]
2. Launch the app and enter your myCT email address (e.g. {name}@tamuct.edu)
3. Complete your profile and accept the terms of service

COURSE INFORMATION

Course Overview and description

This course covers the formulation, construction, and fabrication work by teaching students how to refine, experiment, and test models while considering alternatives. Students will analyze results, prepare and submit design documents including a project report.

Student Learning Outcomes

1. Solve a specific design challenge of a real-world industry problem and then conceptualize novel solutions to such industry problem
2. Communicate effectively in written, oral, and visual formats
3. Work effectively as a team, at the module/unit level, as well

Required Reading and Textbook(s)

No required textbook

COURSE REQUIREMENTS

The course will involve participation, status reports, a draft technical project report, and final technical project report.

An **individual reflection essay** (10 weighted pts in total) will be assigned throughout the semester (SLO 3). An individual 1–2-page essay will be required for each student reflecting on team dynamics and individual contribution during the project. The focus of this essay is to reflect on how the team interacted and how you contributed to the project. Each student’s reflection will be compared with the instructor’s evaluation of each student’s participation.

The following rubric will be used to grade the essay. Partial points may be assigned.

Item	Pts
Individual assessment of team	3
Team conflict resolution discussion	2
Description of individual contributions	3
Individual Lessons Learned	2
Instruction Evaluation of Participation	Up to -10

Weekly **Status Reports** (30 weighted pts in total) will be required. (SLO 1-3) Status reports should include the following information:

Item	Pts
Project Title, Team Members, Executive Summary (static)	1
Planned Schedule and current status	2
Accomplishments since last status update	2
Issues (Technical, Schedule, Budget) Purchasing Status (if applicable)	2
Risk Update	1
Plans until next status update	2

The final status report will be a presentation to the industrial sponsor. This will be graded in the status report section, but utilize the same rubric as the final technical report.

A **draft** (20 weighted points) and **final Technical Report** (40 weighted points) for the technical project will be required. Students will communicate the results of the project in this report. The report will be graded out of 100 pts and then scaled to the appropriate weight. Grading for the technical report will be according to the report rubric at the end of the syllabus. The report can utilize any style guide, but must be formatted and referenced. (SLO 1-3)

Grading Criteria Rubric and Conversion

Activity	Points	% of Final Grade
Individual Reflection Essay	10	10
Status Reports	30	30
Draft Technical Report	20	20
Final Technical Report	40	40

Course Grades will be assigned by the following scale based on weighted grade percentage:

Grade	Weighted Grade (%)
A	>= 90.00
B	80.00 - 89.99
C	70.00 - 79.99
D	60.00 - 69.99
F	< 60.00

Posting of Grades

All turned-in work will be graded within 2 weeks and results posted on Canvas.

Grading Policies

Late Work

Late work without penalty will not be accepted without **prior** approval. You must plan your time well in order to turn things in on time. If there are extenuating circumstances, an individual extension may be granted after speaking with the instructor. Emergencies will be accommodated.

Late work will have a 10% deduction for each calendar day the activity is turned in late (90% maximum score for a project turned in 1 day late, 80% for 2 days late, etc.), but no submissions will be accepted greater than 5 days late. Scores for late projects will be determined using this formula:

'Grade Recorded' = 'Grade Earned if not late' * 'maximum percent based on days late'.

The final technical report must be turned in on time. The general late work policy does not apply.

Missed exams

Exams will be administered either in the classroom, on Canvas, during a Webex session, or self-administered. Proctorio, a remote proctoring program integrated into Canvas, may be used during exams. Exams will be administered at a specific time or during a designated time period. Exam timing and instructions will be communicated during lecture and on Canvas.

If you cannot make an exam session/period, you **must** schedule an alternative time period beforehand. Extenuating circumstances will be considered after speaking with the instructor. Emergencies will be accommodated. All exams must be taken within 1 week of the original exam period.

Plagiarism

It is the responsibility of the student to understand plagiarism and avoid it completely. Contact me if you have any questions about what constitutes plagiarism. Any assignment deemed to be plagiarized by the instructor will receive a zero, even if the plagiarism is the result of a misunderstanding or ignorance. A second plagiarism offense will lead to a failing grade in the course.

Appeals

If the student wishes to appeal a grade, they must do so within 1 week of receiving the graded paper. Students should save all their work to ensure that no clerical errors are made in grade reporting.

COURSE OUTLINE AND CALENDAR

Complete Course Calendar

The course schedule will be determined by the project progress.

Important University Dates

See the Academic Calendar: <https://www.tamuct.edu/registrar/academic-calendar.html>

TECHNOLOGY REQUIREMENTS AND SUPPORT

Computer access will be needed to complete homework and projects.

Technology Requirements

This course will use the A&M-Central Texas Instructure Canvas learning management system. **We strongly recommend the latest versions of Chrome or Firefox browsers. Canvas no longer supports any version of Internet Explorer.**

Logon to A&M-Central Texas Canvas [<https://tamuct.instructure.com/>] or access Canvas through the TAMUCT Online link in myCT [<https://tamuct.onecampus.com/>]. You will log in through our Microsoft portal.

Username: Your MyCT email address. Password: Your MyCT password

Canvas Support

Use the Canvas Help link, located at the bottom of the left-hand menu, for issues with Canvas. You can select "Chat with Canvas Support," submit a support request through "Report a Problem," or call the Canvas support line: 1-844-757-0953.

For issues related to course content and requirements, contact your instructor.

Online Proctored Testing

A&M-Central Texas uses Proctorio for online identity verification and proctored testing. This service is provided at no direct cost to students. If the course requires identity verification or proctored testing, the technology requirements are: Any computer meeting the minimum computing requirements, plus web camera, speaker, and microphone (or headset). Proctorio also requires the Chrome web browser with their custom plug in.

Other Technology Support

For log-in problems, students should contact Help Desk Central, 24 hours a day, 7 days a week

Email: helpdesk@tamu.edu

Phone: (254) 519-5466

[Web Chat](http://hdc.tamu.edu): [<http://hdc.tamu.edu>]

Please let the support technician know you are an A&M-Central Texas student.

UNIVERSITY RESOURCES, PROCEDURES, AND GUIDELINES

Drop Policy

If you discover that you need to drop this class, you must complete the [Drop Request](#) Dynamic Form through Warrior Web.

[<https://dynamicforms.ngwebsolutions.com/casAuthentication.ashx?InstID=eaed95b9-f2be-45f3-a37d-46928168bc10&targetUrl=https%3A%2F%2Fdynamicforms.ngwebsolutions.com%2Fsubmit%2FForm%2Fstart%2F53b8369e-0502-4f36-be43-f02a4202f612>].

Faculty cannot drop students; this is always the responsibility of the student. The Registrar's Office will provide a deadline on the Academic Calendar for which the form must be completed. Once you submit the completed form to the Registrar's Office, you must go into Warrior Web and confirm that you are no longer enrolled. If you still show as enrolled, FOLLOW-UP with the Registrar's Office immediately. You are to attend class until the procedure is complete to avoid penalty for absence. Should you miss the drop deadline or fail to follow the procedure, you will receive an F in the course, which may affect your financial aid and/or VA educational benefits.

Academic Integrity

Texas A&M University-Central Texas values the integrity of the academic enterprise and strives for the highest standards of academic conduct. A&M-Central Texas expects its students, faculty, and staff to support the adherence to high standards of personal and scholarly conduct to preserve the honor and integrity of the creative community. Any deviation by students from this expectation may result in a failing grade for the assignment and potentially a failing grade for the course. All academic misconduct concerns will be referred to the Office of Student Conduct. When in doubt on collaboration, citation, or any issue, please contact your instructor before taking a course of action.

For more [information regarding the Student Conduct process](#), [<https://www.tamuct.edu/student-affairs/student-conduct.html>].

If you know of potential honor violations by other students, you may [submit a report](#), [https://cm.maxient.com/reportingform.php?TAMUCentralTexas&layout_id=0].

Academic Accommodations

At Texas A&M University-Central Texas, we value an inclusive learning environment where every student has an equal chance to succeed and has the right to a barrier-free education. The Warrior Center for Student Success, Equity and Inclusion is responsible for ensuring that students with a disability receive equal access to the university's programs, services and activities. If you believe you have a disability requiring reasonable accommodations, please contact the Office of Access and Inclusion, WH-212; or call (254) 501-5836. Any information you provide is private and confidential and will be treated as such.

For more information, please visit our [Access & Inclusion](#) Canvas page (log-in required) [<https://tamuct.instructure.com/courses/717>]

Important information for Pregnant and/or Parenting Students

Texas A&M University-Central Texas supports students who are pregnant and/or parenting. In accordance with requirements of Title IX and related guidance from US Department of Education's Office of Civil Rights, the Dean of Student Affairs' Office can assist students who are pregnant and/or parenting in seeking accommodations related to pregnancy and/or parenting. Students should seek out assistance as early in the pregnancy as possible. For more information, please visit [Student Affairs](https://www.tamuct.edu/student-affairs/pregnant-and-parenting-students.html) [https://www.tamuct.edu/student-affairs/pregnant-and-parenting-students.html]. Students may also contact the institution's Title IX Coordinator. If you would like to read more about these [requirements and guidelines](http://www2.ed.gov/about/offices/list/ocr/docs/pregnancy.pdf) online, please visit the website [http://www2.ed.gov/about/offices/list/ocr/docs/pregnancy.pdf].

Title IX of the Education Amendments Act of 1972 prohibits discrimination on the basis of sex and gender—including pregnancy, parenting, and all related conditions. A&M-Central Texas is able to provide flexible and individualized reasonable accommodation to pregnant and parenting students. All pregnant and parenting students should contact the Associate Dean in the Division of Student Affairs at (254) 501-5909 to seek out assistance. Students may also contact the University's Title IX Coordinator.

Tutoring

Tutoring is available to all A&M-Central Texas students, both virtually and in-person. Student success coaching is available online upon request.

If you have a question, are interested in becoming a tutor, or in need of success coaching contact the Warrior Center for Student Success, Equity and Inclusion at (254) 501-5836, visit the Warrior Center at 212 Warrior Hall, or by emailing WarriorCenter@tamuct.edu.

To schedule tutoring sessions and view tutor availability, please visit [Tutor Matching Services](https://tutormatchingservice.com/TAMUCT) [https://tutormatchingservice.com/TAMUCT] or visit the Tutoring Center in 111 Warrior Hall.

Chat live with a remote tutor 24/7 for almost any subject from on your computer! Tutor.com is an online tutoring platform that enables A&M-Central Texas students to log in and receive online tutoring support at no additional cost. This tool provides tutoring in over 40 subject areas except writing support. Access Tutor.com through Canvas.

University Writing Center

University Writing Center: Located in Warrior Hall 416, the University Writing Center (UWC) at Texas A&M University–Central Texas (A&M–Central Texas) is a free service open to all A&M–Central Texas students. For the Spring 2022 semester, the hours of operation are from 10:00 a.m.-5:00 p.m. Monday thru Thursday in Warrior Hall 416 (with online tutoring available every hour as well) with satellite hours available online only Monday thru Thursday from 6:00-9:00 p.m. and Saturday 12:00-3:00 p.m.

Tutors are prepared to help writers of all levels and abilities at any stage of the writing process. While tutors will not write, edit, or grade papers, they will assist students in developing more

effective composing practices. By providing a practice audience for students' ideas and writing, our tutors highlight the ways in which they read and interpret students' texts, offering guidance and support throughout the various stages of the writing process. In addition, students may work independently in the UWC by checking out a laptop that runs the Microsoft Office suite and connects to WIFI, or by consulting our resources on writing, including all of the relevant style guides. Whether you need help brainstorming ideas, organizing an essay, proofreading, understanding proper citation practices, or just want a quiet place to work, the UWC is here to help!

Students may arrange a one-to-one session with a trained and experienced writing tutor by making an appointment via [WOnline](https://tamuct.mywconline.com/) [https://tamuct.mywconline.com/]. In addition, you can email Dr. Bruce Bowles Jr. at bruce.bowles@tamuct.edu if you have any questions about the UWC, need any assistance with scheduling, or would like to schedule a recurring appointment with your favorite tutor by making an appointment via [WOnline](https://tamuct.mywconline.com/) [https://tamuct.mywconline.com/]. In addition, you can email Dr. Bruce Bowles Jr. at bruce.bowles@tamuct.edu if you have any questions about the UWC, need any assistance with scheduling, or would like to schedule a recurring appointment with your favorite tutor.

University Library

The University Library provides many services in support of research across campus and at a distance. We offer over 200 electronic databases containing approximately 400,000 eBooks and 82,000 journals, in addition to the 96,000 items in our print collection, which can be mailed to students who live more than 50 miles from campus. Research guides for each subject taught at A&M-Central Texas are available through our website to help students navigate these resources. On campus, the library offers technology including cameras, laptops, microphones, webcams, and digital sound recorders.

Research assistance from a librarian is also available 24 hours a day through our online chat service, and at the reference desk when the library is open. Research sessions can be scheduled for more comprehensive assistance, and may take place virtually through WebEx, Microsoft Teams or in-person at the library. [Schedule an appointment here](https://tamuct.libcal.com/appointments/?g=6956) [https://tamuct.libcal.com/appointments/?g=6956]. Assistance may cover many topics, including how to find articles in peer-reviewed journals, how to cite resources, and how to piece together research for written assignments.

Our 27,000-square-foot facility on the A&M-Central Texas main campus includes student lounges, private study rooms, group work spaces, computer labs, family areas suitable for all ages, and many other features. Services such as interlibrary loan, TexShare, binding, and laminating are available. The library frequently offers workshops, tours, readings, and other events. For more information, please visit our [Library website](http://tamuct.libguides.com/index) [http://tamuct.libguides.com/index].

OPTIONAL POLICY STATEMENTS

A Note about Sexual Violence at A&M-Central Texas

Sexual violence is a serious safety, social justice, and public health issue. The university offers support for anyone struggling with these issues. University faculty are mandated reporters, so if someone discloses that they were sexually assaulted (or a victim of Domestic/Dating Violence or Stalking) while a student at TAMUCT, faculty members are required to inform the Title IX Office. If you want to discuss any of these issues confidentially, you can do so through Student Wellness and Counseling (254-501-5955) located on the second floor of Warrior Hall (207L).

Sexual violence can occur on our campus because predators often feel emboldened, and victims often feel silenced or shamed. It is incumbent on ALL of us to find ways to actively create environments that tell predators we don't agree with their behaviors and tell survivors we will support them. Your actions matter. Don't be a bystander; be an agent of change. For additional information on campus policy and resources visit the [Title IX webpage](https://www.tamuct.edu/compliance/titleix.html) [https://www.tamuct.edu/compliance/titleix.html].

Behavioral Intervention

Texas A&M University-Central Texas cares about the safety, health, and well-being of its students, faculty, staff, and community. If you are aware of individuals for whom you have a concern, please make a referral to the Behavioral Intervention Team. Referring your concern shows you care. You can complete the [referral](https://cm.maxient.com/reportingform.php?TAMUCentralTexas&layout_id=2) online [https://cm.maxient.com/reportingform.php?TAMUCentralTexas&layout_id=2].

Anonymous referrals are accepted. Please see the [Behavioral Intervention Team](https://www.tamuct.edu/bit) website for more information [https://www.tamuct.edu/bit]. If a person's behavior poses an imminent threat to you or another, contact 911 or A&M-Central Texas University Police at 254-501-5805.

Copyright Notice

Students should assume that all course material is copyrighted by the respective author(s). Reproduction of course material is prohibited without consent by the author and/or course instructor. Violation of copyright is against the law and Texas A&M University-Central Texas' Code of Academic Honesty. All alleged violations will be reported to the Office of Student Conduct.

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tharvey@tamuct.edu

Category	Excellent (A) 95%	Good (B) 85%	Fair (C) 75%	Poor (D) 65%	Fail (F) 0%
Cover Sheet, Exec Summary, and Recommendations (7%)	Cover Sheet included with title of report, team members, course info, and date. Overview clearly describes the content of the report with a clear indication of results. Strong and well thought out recommendations given. Provides key words and phrases.	Cover Sheet has all needed information. Overview describes the content of the proposal and give an adequate indication of results. Recommendations reasonable.	Cover Sheet missing information. Overview refers to, but do not describe, content of the report.	No Cover Sheet. Overview omits key content of the report.	No submission /No effort exhibited
	Comments:				Score:
Introduction and Background (10%)	An appropriate review of the problem specification and considerations. A high level summary of the background, solution (proposed and actual), and any changes of scope.	Key project aspects summarized and understandable.	Some project aspects not reviewed. Poor outline of the background considerations.	Poor review of proposal with missing aspects	No submission /No effort exhibited
	Comments:				Score:
Design Specifications (30%)	Describes the design clearly and with appropriate depth. Fully explains how solution met technical design specifications and requirements. Risk reduction due to the project work clearly identified. Outcome is in line with proposal (or better) and of high quality. High quality figures clearly illustrate the design. Details included in the appendices as appropriate.	Solution described with appropriate depth. Technical design specifications meet requirements and are well done. Risk reduction addressed. Figures help with understanding of design. Appropriate details in appendix.	Weakly communicated, partial solution given. Figures poorly put together and unhelpful.	Poorly described solution and specifications. Missing details and no supporting appendix.	No submission /No effort exhibited
	Comments:				Score:

Budget and Changes in scope (8%)	A full comparison of proposed and actual solution given. Changes of scope addressed and are reasonable. Budget clearly reported.	Comparison of proposed and actual solution given along with changes in scope. Budget report present.	Poor comparison and changes in scope discussion. Budget report inadequate.	Very poor or missing comparison, changes in scope, or budget discussion.	No submission /No effort exhibited
	Comments:				Score:
Deliverables (15%)	All deliverables from the proposal are included and are of high-quality. Any changes in deliverables discussed.	All deliverables from the proposal are included. Any changes in deliverables discussed.	Most proposal deliverables included with changes discussed.	Significant missing deliverables. No discussion of changes.	No submission /No effort exhibited
	Comments:				Score:
Wrap Up (7%)	Report includes a thorough discussion of lessons learned, conclusions, and future potential work. These sections are well supported by the entirety of the report.	Report includes a discussion of lessons learned, conclusions, and future potential work that are supported by the report.	Report includes a partial discussion of lessons learned, conclusions, and future potential work.	Missing wrap up sections or sections unrelated to the rest of the report.	No submission /No effort exhibited
	Comments:				Score:
Bibliography and Appendices (3%)	Provides a complete list of references used in the proposal using a citation style (i.e. APA, MLA). Any additional documents needed to support the report included in an appendix.	Most references are provided. Some inconsistency in the style used is evident.	Misses several references or does not adhere to the correct style. Missing needed appendices.	Most references are not included and/or the style used is incorrect. No appendices.	No submission /No effort exhibited
	Comments:				Score:

Report format and quality (20%)	Report is presented in an orderly and logical way. Format is very clean with no grammatical issues. High-quality illustrative materials (Tables and Figures) to support proposal.	Orderly and logical structure. Minor errors in format and grammar. Figures and tables are adequate to support proposals.	Poor structure with errors in format and grammar. Figures do not support proposal.	Poor structure with errors in format and grammar. No figures.	No submission /No effort exhibited
Comments:					Score:
Final Score					