

Fall 2025

COURSE SYLLABUS

The University of Texas at Tyler

College of Engineering

Department of Civil Engineering and Construction Management

CMGT4195 CONE/CENG4115

Capstone1 Senior Design1

Instructor: Dr. Ahmad Jibreen

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Office #: RBS 1037

Office Hours: Tuesdays – Thursdays 03:30 PM – 5:00 PM

Mondays – Wednesdays 11:30 PM – 1:00 PM

Course Number, Section Number, and Course Title:

- CMGT 4195 – 001 (lecture), Capstone 1
- CONE/CENG 4115 – 001 (lecture), Senior Design1

Time and Place of Class Meetings:

- Lecture 4195 Tuesdays 11:00AM – 01:45PM, Room RBN 3035
- Lecture 4115 Tuesdays 11:00AM – 01:45PM, Room RBN 3035

Description of Course Content: Problem definition, project planning and scheduling, follow-up and control techniques. Results in presentation and plan for senior capstone design project. Multidisciplinary teams will work on design problems defined in cooperation with representatives from engineering firms, industry, or government organizations when possible. Three hours of Design Studio Lab per week. Corequisite: CENG4412. Prerequisite: Department Chair approval and CMST1315.

Course Objective: The course objective is to prepare students to demonstrate sound engineering and managerial judgment in the application of construction sites to improve decision-making and optimize the use of available resources.

Student Learning Outcomes: Upon completion of the course, the student will have:

- How to use the knowledge they gained during their study at UT Tyler, soft and hard skills, professional judgment, to solve a real-life, ill determined, civil engineering problem in a creative and sustainable way.
- The implementation of relevant software to their senior design project; where relevant, the students will be introduced to modeling engineered and natural systems.
- The implementation of the relevant engineering, federal and state design codes, guidelines and regulations.
- How to effectively communicate with relevant stakeholders, i.e., governmental agencies, regulating agencies, private sector, and end users of their design project.
- How to work effectively and coordinate the different components of a project within a team,
- How to assess environmental impacts of civil engineering projects such as carbon emissions and proposing ways to address them.
- How to write a professional report that present their findings in an engineering, documented, informative, and convincing manner

Textbooks Adopted:

- No text is required for this course; however, the students may refer to relevant textbooks they have used in their senior design courses.

Prerequisites:

- SPCM 1315 and Department Chair approval. It is helpful, but not mandatory, to have completed as many of the following core courses as possible:
- CENG 3325 – Structural Analysis
- CENG 3336 – Soil Mechanics
- CENG 3351 – Transportation Engineering
- CENG 3361 – Engineering Hydrology
- CENG 3371 – Introduction to Environmental Engineering
- CENG 4339 – Civil Engineering Construction Management CENG 2336

Grading Policy: Grades will be determined according to the following scale (the grading scale may be lowered at the discretion of the instructor, but will not be raised):

Letter Grade	% Required
A	90 -100
B	80-89
C	70-79
D	60-69
F	Less than 60

Students will be required to accumulate points from the following percentages:

Meeting Discussion and Interactions	Percentage
Weekly Meeting & Class Participation	10%
Peer Evaluation	10%
Colleague Evaluation	10%
Ratliff Relay Project	10%
Report-1	25%
Report-2	10%
Presentations and answer the questions	25%
Total	100%

Note:

- You may fail this course, if you earn less than 65% on all Exams or if you fail to earn at least 50% on the Final exam, regardless of your course grade.

Attendance: ALL in-class students are expected to attend the on-campus lecture and in-person regularly. During the lecture, no electronic devices are allowed.

All works must be uploaded to the Canvas by the due date. No work will be accepted via the email system. Late work will NOT be accepted unless permission is given by the instructor prior to the due date.

All students should reply to the instructor's emails as soon as possible to answer his questions and facilitate constant communication. They can also send their questions to the instructor via email.

Reports

- ❖ The requirements for Report 1 and Report 2 will be uploaded to Canvas.

Presentations

- ❖ Final presentation: The requirements for Final Presentation will be uploaded to Canvas.

Reports Submission Dates

- **First Report: September 26th at 11:59PM.**
- **Final Report: November 7th at 11:59PM.**

The Report Will Be Graded on The Following Bases:

Report structure, completion and logical flow of information

Reports should include:

1. Abstract
2. Introduction which should provide justification for the project/the case study, and its importance
3. Table of contents
4. Figures, Tables, and Charts
5. Budget during the construction works
6. Software selection and implementation, stakeholders' meetings and interviews,
7. Drawings.
8. Safety and Risks Management.
9. Timeline of the project, and
10. Expected outcomes, new questions and findings.
11. Conclusion

Important: Grades for group work will be adjusted based on the relative contribution of each team member.

Language: The language should be free of grammatical and spelling errors,

Referencing: References should be included where needed within the report,

The Oral Presentation Will Be Graded on The Following Bases:

1. Logical flow of information,
2. Clarity and readability of the slides,
3. Addressing the audience,
4. Ability to answer questions, and
5. Time management,

PRESENTATION INSTRUCTION:

As a group, you need to make a presentation of not more than 20 slides. You as a team are given:

- 20 mins to present your work, and 5 mins to answer the questions for the final report.

Slides can be included with the contents listed for the report.

NOTE: ONLY THE TEAM LEADER OF THE GROUP IS REQUIRED TO SUBMIT. (ONE SUBMISSION FROM A GROUP IS REQUIRED)

Warnings:

- No makeup work or extra credit allowed/granted at the end of, or during, the semester unless allowed/granted to everyone by the instructor. All assignments must be turned in by the deadline to receive the credit.
- According to UT Tyler regulations, a student may fail a course if he/she earned less than 65% on all Exams or if he/she fails to earn at least 50% on the final exam, regardless of your course grade.

Exams

No written exams will be conducted on this course.

Ratliff Relay Project

Will be hold on 25th of October, and there will be enough explanation about the project and conditions on Canvas.

Homework

This is not a regular course; however, homework will be given to ensure timely progress of the project and to help understand the different components of a certain design project.

Late Reports Submission Policy:

The following rules apply to late submission of homework:

- ❖ 0-24 hours late, a deduction of 25% of the earned grade applies,
- ❖ 24-48 hours late, a deduction of 50% of the earned grade applies, and
- ❖ 48-72 hours late, a deduction of 75% of the earned grade applies,
- ❖ More than 72 hours late, No credit.

Plagiarism:

All submitted reports will be checked for similarity; no more than 10% similarity is allowed. If a higher percentage is found, the grade will be down scaled.

Classroom Procedures:

- It is a basic principle of professionalism that “Professionals are not Late.” Please come to class on time and leave on time. Interruption of lecture is not acceptable.
- Bring study notes, textbook, note-taking material, and calculator TO EVERY CLASS. You may not borrow or exchange calculators during graded events. If your calculator fails during a graded exercise, I am not responsible for furnishing a substitute. Class preparation is your individual responsibility. Please refer to the Calculator Policy.
- No food or snacks in classrooms and Labs.
- Audio or video recording is not permitted during the class except with the instructor’s approval.
- There is extra credit for the students participating in the class.

Artificial Intelligence Tools:

You can use AI programs (ChatGPT, Copilot, etc.) in this course. These programs can be powerful tools for learning and other productive pursuits, including completing assignments in less time, helping you generate new ideas, or serving as a personalized learning tool. However, your ethical responsibilities as a student remain the same. You must follow UT Tyler’s Honor Code and uphold the highest standards of academic honesty. This applies to all uncited or improperly cited content, whether created by a human or in collaboration with an AI tool. If you use an AI tool to develop content for an assignment, you must cite the tool’s contribution to your work.

Grade Grievances: Any appeal of a grade in this course must follow the procedures and deadlines for grade-related grievances as published in the current University Catalog.

Drop Policy: Students need to consult UT Tyler Web site for information on the university drop policy.

Laptops/Pads/Mp3 Players/Cell Phones or Other Electronic Devices:

Does not apply to this course.

Calculator Policy:

Does not apply to this course.

CELL PHONE

The use of cell phones is strictly prohibited during the class.

Final Day to Withdraw:

The final day to withdraw from the course is November 4th

Census Dates:

The university requires that instructors report the attendance to the register at various points in the semester.

Therefore, on September 9th, I will report the attendance for the class.

UT Tyler Honor Code:

Every member of the UT Tyler community joins together to embrace: Honor and integrity that will not allow me to lie, cheat, or steal, nor to accept the actions of those who do.

Information For Classrooms and Laboratories:

Students are strongly encouraged to wear face masks covering their nose and mouth in public settings (including classrooms and laboratories). The UT Tyler community of Patriots views adoption of these practices consistent with its Honor Code (Links to an external site.) and a sign of good citizenship and respectful care of fellow classmates, faculty, and staff.

Students who are feeling ill or experiencing symptoms such as sneezing, coughing, or a higher-than-normal temperature should stay at home and notify their faculty. Students needing additional accommodation may contact the Office of Student Accessibility and Resources at University Center 3150, or call (903) 566-7079 or email saroffice@uttyler.edu.

Recording of Class Sessions:

Class sessions may be recorded by the instructor for use by students enrolled in this course. Recordings that contain personally identifiable information or other information subject to FERPA shall not be shared with individuals not enrolled in this course unless appropriate consent is obtained from all relevant students. Class recordings are reserved only for the use of students enrolled in the course and only for educational purposes. Course recordings should not be shared outside of the course in any form without express permission.

Academic Misconduct:

Plagiarism of homework and cheating on examinations will be interpreted as academic misconduct and will not be tolerated. Please refer to the University of Texas at Tyler current Undergraduate Catalog for academic policies and Manual of Policies and Procedures for Student Affairs (MOPPS, Chapter 8) regarding academic integrity, cheating and plagiarism. Academic dishonesty will not be tolerated. Ignorance of the rules and policies provides no protection from the consequences.

Collection of Student Work:

Throughout the semester I will collect student work (best, average, and worst) for the ABET outcomes notebooks. This will require me to make a copy of your work, keep your original and return a copy of the graded work to you. I will not pay attention as to what level of work you accomplished.

Students Rights and Responsibilities:

To know and understand the policies that affect your rights and responsibilities as a student at UT Tyler, please follow this link:

<http://www.uttyler.edu/wellness/StudentRightsandResponsibilities.php>

Grade Replacement/Forgiveness and Census Date Policies:

Students repeating a course for grade forgiveness (grade replacement) must file a Grade Replacement Contract with the Enrollment Services Center (ADM 230) on or before the Census Date of the semester in which the course will be repeated. Grade Replacement Contracts are available in the Enrollment Services Center or at <http://www.uttyler.edu/registrar>. Each semester's Census Date can be found on the Contract itself, on the Academic Calendar, or in the information pamphlets published each semester by the Office of the Registrar.

Failure to file a Grade Replacement Contract will result in both the original and repeated grade being used to calculate your overall grade point average. Undergraduates are eligible to exercise grade replacement for only three course repeats during their career at UT Tyler; graduates are eligible for two grade replacements.

Full policy details are printed on each Grade Replacement Contract.

The Census Date is the deadline for many forms and enrollment actions that students need to be aware of.

These include:

- Submitting Grade Replacement Contracts, Transient Forms, requests to withhold directory information, approvals for taking courses such as Audit, Pass/Fail or Credit/No Credit.
- Receiving 100% refunds for partial withdrawals. (There is no refund for these after the Census Date)
- Schedule adjustments (section changes, adding a new class, dropping without a “W” grade)
- Being reinstated or re-enrolled in classes after being dropped for non-payment.
- Completing the process for tuition exemptions or waivers through Financial Aid

Disability/Accessibility Services:

In accordance with Section 504 of the Rehabilitation Act, Americans with Disabilities Act (ADA) and the ADA Amendments Act (ADAAA) the University of Tyler at Texas offers accommodations to students with learning, physical and/or psychological disabilities. If you have a disability, including non-visible a diagnosis such as a learning disorder, chronic illness, TBI, PTSD, ADHD, or you have a history of modifications or accommodations in a previous educational environment, you are encouraged to visit <https://hood.accessiblelearning.com/UTTyler> and fill out the New Student application. The Student Accessibility and Resources (SAR) office will contact you when your application has been submitted and an appointment with Cynthia Lowery, Assistant Director Student Services/ADA Coordinator. For more information, including filling out an application for services, please visit the SAR webpage at <http://www.uttyler.edu/disabilityservices>, the SAR office located in the University Center, # 3150 or call 903.566.7079.

Student Absence Due to Religious Observance:

Students who anticipate being absent from class due to a religious observance are requested to inform the instructor of such absences by the second-class meeting of the semester.

Student Absence for University-Sponsored Events and Activities:

If you intend to be absent for a university-sponsored event or activity, you (or the event sponsor) must notify the instructor at least two weeks prior to the date of the planned absence. At that time the instructor will set a date and time when make-up assignments will be completed.

Social Security and FERPA Statement:

It is the policy of The University of Texas at Tyler to protect the confidential nature of social security numbers. The University has changed its computer programming so that all students have an identification number. The electronic transmission of grades (e.g., via e-mail) risks violation of the Family Educational Rights and Privacy Act; grades will not be transmitted electronically.

Emergency Exits and Evacuation:

Everyone is required to exit the building when a fire alarm goes off. Follow your instructor’s directions regarding the appropriate exit. If you require assistance during an evacuation, inform your instructor in the first week of class. Do not re-enter the building unless given permission by University Police, Fire department, or Fire Prevention Services

Student Standards of Academic Conduct:

Disciplinary proceedings may be initiated against any student who engages in scholastic dishonesty, including, but not limited to, cheating, plagiarism, collusion, the submission for credit of any work or materials that are attributable in whole or in part to another person, taking an examination for another person, any act designed to give unfair advantage to a student or the attempt to commit such acts.

i “Cheating” includes, but is not limited to:

- ☐ copying from another student’s test paper.
- ☐ using, during a test, materials not authorized by the person giving the test.
- ☐ failure to comply with instructions given by the person administering the test.
- ☐ possession during a test of materials which are not authorized by the person giving the test, such as class notes or specifically designed “crib notes”. The presence of textbooks constitutes a violation if they have been specifically prohibited by the person administering the test.
- ☐ using, buying, stealing, transporting, or soliciting in whole or part the contents of an unadministered test, test key, homework solution, or computer program.
- ☐ collaborating with or seeking aid from another student during a test or other assignment without authority.
- ☐ discussing the contents of an examination with another student who will take the examination.
- ☐ divulging the contents of an examination, for the purpose of preserving questions for use by another, when the instructors

have designated that the examination is not to be removed from the examination room or not to be returned or to be kept by the student.

☐ substituting for another person or permitting another person to substitute for oneself to take a course, a test, or any course-related assignment.

☐ paying or offering money or other valuable thing to, or coercing another person to obtain an unadministered test, test key, homework solution, or computer program or information about an unadministered test, test key, home solution or computer program.

☐ falsifying research data, laboratory reports, and/or other academic work offered for credit.

☐ taking, keeping, misplacing, or damaging the property of The University of Texas at Tyler, or of another, if the student knows or reasonably should know that an unfair academic advantage would be gained by such conduct; and

☐ misrepresenting facts, including providing false grades or resumes, for the purpose of obtaining an academic or financial benefit or injuring another student academically or financially.

ii. "Plagiarism" includes, but is not limited to, the appropriation, buying, receiving as a gift, or obtaining by any means another's work and the submission of it as one's own academic work offered for credit.

iii. "Collusion" includes, but is not limited to, the unauthorized collaboration with another person in preparing academic assignments offered for credit or collaboration with another person to commit a violation of any section of the rules on scholastic dishonesty.

iv. All written work that is submitted will be subject to review by SafeAssign™, available on Blackboard. UT Tyler Resources for Students

- UT Tyler Writing Center (903.565.5995), writingcenter@uttyler.edu
- UT Tyler Tutoring Center (903.565.5964), tutoring@uttyler.edu
- The Mathematics Learning Center, RBN 4021, is the open access computer lab for math students, with tutors on duty to assist students who are enrolled in early- career courses.
- UT Tyler Counseling Center (903.566.7254)

UT Tyler A Tobacco-Free University:

All forms of tobacco will not be permitted on the UT Tyler main campus, branch campuses, and any property owned by UT Tyler. This applies to all members of the University community, including students, faculty, staff, University affiliates, contractors, and visitors. Forms of tobacco not permitted include cigarettes, cigars, pipes, water pipes (hookah), bidis, kreteks, electronic cigarettes, smokeless tobacco, snuff, chewing tobacco, and all other tobacco products. There are several cessation programs available to students looking to quit smoking, including counseling, quitlines, and group support. For more information on cessation programs please visit www.uttyler.edu/tobacco-free.

Campus Carry:

We respect the rights and privacy of students 21 and over who are duly licensed to carry concealed weapons in this class. License holders are expected to behave responsibly and keep a handgun secure and concealed. More information is available at <http://www.uttyler.edu/about/campuscarry/index.php>.

Disability/Accessibility Services:

In accordance with Section 504 of the Rehabilitation Act, Americans with Disabilities Act (ADA) and the ADA Amendments Act (ADAAA) the University of Tyler at Texas offers accommodations to students with learning, physical and/or psychological disabilities. If you have a disability, including non-visible a diagnosis such as a learning disorder, chronic illness, TBI, PTSD, ADHD, or you have a history of modifications or accommodations in a previous educational environment, you are encouraged to visit <https://hood.accessiblelearning.com/UTTyler> and fill out the New Student application. The student Accessibility and Resources (SAR) office will contact you when your application has been submitted and an appointment with Cynthia Lowery, Assistant Director Student Services/ADA Coordinator. For more information, including filling out an application for services, please visit the SAR webpage at <http://www.uttyler.edu/disabilityservices>, the SAR office located in the University Center, # 3150 or call 903.566.7079

Senior Design 1/ Capstone 1
TENTATIVE COURSE OUTLINE

Day	Date	Topic	General Description	Reading Assignment	Assignments
Week 1					
Tuesday	August 26	- Course Introduction and syllabus presentation - Introduction to Senior Design projects and groups selection		Syllabus	
Week 2					
Tuesday	September 2	Meeting with the 1st client (Rob from 11-12), 2nd client (Mary 12:00-12:45), and 3rd client (Logan 12:45-1:30) to introduce the project and answer the students' questions.		Selected material related to the individual projects	
Week 3					
Tuesday	September 9	Individual group meetings: discussion of progress and encountered challenges		Selected material related to the individual projects	
Week 4					
Tuesday	September 16	Individual group meetings: discussion of progress and encountered challenges		Selected material related to the individual projects	
Week 5					
Tuesday	September 23	Individual group meetings: discussion of progress and encountered challenges		Selected material related to the individual projects	
Friday	September 26	First Report PDF file Submission must be submitted to Canvas by 11:59PM			
Week 6					
Tuesday	September 30	Discuss the results of First Report		Selected material related to the individual projects	
Week 7					
Tuesday	October 7	Meeting with the 1st client (Rob from 11-12:30) and with 2nd client (Mary 12:30-1:30) to discuss the results of the first report and answer the students' questions.		Selected material related to the individual projects	
Week 8					
Tuesday	October 14	Meeting with the 3rd client (Logan from 11-12:30) to discuss the results of the first report and answer the students' questions.		Selected material related to the individual projects	
Week 9					
Tuesday	October 21	Individual group meetings: discussion of progress and encountered challenges		Selected material related to the individual projects	
Week 10					
Tuesday	October 28	Individual group meetings: discussion of progress and encountered challenges		Selected material related to the individual projects	

Week 11				
Tuesday	November 4	Review for final presentation	Selected material related to the individual projects	
Friday	November 7	Final PDF report file and PPT presentation file Submission must be submitted to Canvas by 11:59PM		
Week 12 and 13				
Tuesday	November 11, 18	11 th and 18 th : Final Presentation for all groups 11 th Bridge and Nursing projects 18 th TEDC and Basketball projects		
Week 14				
Tuesday	November 27	NO Classes THANKSGIVING HOLIDAYS		

As the instructor for this course, I reserve the right to adjust this syllabus in any way that serves the educational needs of the students enrolled in this course -----Dr. Ahmad Jibreen