

The University of Texas at Tyler  
Department of Civil Engineering  
CENG 4115-031L (803030): Senior Desing 1  
Fall 2023  
Course Syllabus

**COURSE TITLE:** Senior Design Project 1

**NUMBER AND SECTION:** CENG4115-031L

**SCHEDLUED CASS DAYS AND TIMES:** Fridays at 12:00 noon to 05:00 pm,  
(August 21 to December 09), 2023

**ATTENDANCE:** This is an in-class course, so attendance is required; attendance will be taken at the begging of each class.

**VENUE** Houston Engineering Center 0C204

**INSTRUCTOR:** Abbas Al-Omari, Ph. D.

**OFFICE LOCATION:** Houston Engineering Center (HEC)

**PHONE NUMBER:**

**EMAIL** aalomari@uttyer.edu through course Canvas,

If an in-person meeting is needed, please send an email to fix an appointment.

**OFFICE HOURS:** 12:00 to 02:00 Fridays

**COURSE WEBSITE:**

UT Tyler’s Canvas website will be used to manage the course material for the semester; assignments, solutions, handouts, announcements and other material relevant to the course will be posted there. Therefore, you are kindly required to check the Canvas frequently.

**CATALOG DESCRIPTION OF THE COURSE**

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.

**LEARNING OUTCOMES**

After completion of this course the students will learn:

1. 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,

2. The implementation of relevant software to their senior design project; where relevant, the students will be introduced to the modeling engineered systems,
3. The implementation of the relevant engineering, federal and state design codes, guidelines and regulations,
4. How to effectively communicate with relevant stakeholders; i.e., governmental agencies, regulating agencies, private sector, and end users of their design project,
5. How to work effectively and coordinate the different components of a project within a team,
6. How to assess environmental impacts of civil engineering projects such as carbon emissions and proposing ways to address them.
7. How to write a professional report that presents their findings in an engineering, documented, informative, and convincing manner,

## **PREREQUISTES**

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

Geomatics is provided in the Civil Engineering curriculum as an elective. Most of the students find this course.

## **REQUIRED TEXT**

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

## **GRADING**

Assignments, 15%

Quizzes, 15%

Written final report, 35%

Presentation of the final report to the peers, 35%

## **SCALE**

<b>Numeric grade</b>	<b>Letter grade</b>
90 - 100	A
80 - 89	B
70 - 79	C
60 - 69	D
< 60	F

## CRITERIA FOR FINAL REPORT GRADING

The final report will be graded on the following bases:

### **Report structure, completion and logical flow of information,**

The report should include:

- Introduction which should provide justification for the project and its importance,
- Brief review of the pertinent literature,
- Detailed methodology which may include, data collection, conceptual model, software selection and implementation, stakeholders' meetings and interviews, ....
- Timeline of the project, and
- Expected outcomes and findings.

### **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:

- Logical flow of information,
- Clarity and readability of the slides,
- Language, the slides should be free of grammatical and spelling errors,
- Addressing the audience,
- Ability to answer questions, and
- Time management,

### **Note:**

- 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 fail to earn at least 50% on the final exam, regardless of your course grade.

## EXAMS

There is going be one final exam which is the final report and peer evaluation, which will be grades as outlined earlier.

## QUIZZES

Announced and unannounced quizzes will be given during the course to ensure students follow up of their reading material and assignments.

## 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.

**Homework should be uploaded to Canvas as a single pdf file or (.doc or docx) no later than 5:00 pm on the date it is due.** All homework **must be submitted on engineering paper** (you can buy them in the Civil Engineering Department Office for \$5.00, at Office Depot, or online). Homework solutions not submitted on engineering paper will receive only 90% of the graded credit. Solutions should be presented in a clear methodical manner. No late homework will be accepted except for unusual circumstances. Homework solutions will be posted on Canvas after the deadline.

**Late homework submission policy:**

The following rules apply to late submission of homework:

1. 0-24 hours late, a deduction of 25% of the earned grade,
2. 24-48 hours late, a deduction of 50% of the earned grade, and
3. More than 48 hours late, No credit.

**LAPTOPS/PDAS/MP3 PLAYERS/CELL PHONES OR OTHER ELECTRONIC DEVICES**

Does not apply to this course.

**CALCULATOR USE POLICY**

Does not apply to this course.

**LAST DAY TO WITHDRAW**

The last day to withdraw from this course without penalty is **October 30<sup>th</sup>**.

**CENSUS DATES**

The university requires that instructors report the attendance to the register at various times in the semester. Therefore, attendance will be reported to the registrar's office on **September 01<sup>st</sup>**.

**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 these actions from others.

**RECORDING OF CLASS SESSIONS**

Class sessions may be recorded by the instructor to be used by students 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 these rules and policies provides no protection from the consequences.

## **COLLECTION OF STUDENT WORK**

Throughout the semester, sample students work (best, average, and worst) will be collected for the ABET outcomes notebooks. This will require me to make a copy of these samples, keep the original and return the copy of the graded work to the students. No attention to what level of work the student accomplished will be paid.

## **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 POLICES**

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

## **STATE-MANDATED COURSE DROP POLICY**

Texas law prohibits a student who began college for the first time in fall 2007 or thereafter from dropping more than six courses during their entire undergraduate career. This includes courses dropped at another 2-year or 4-year Texas public college or university. For purposes of this rule, a dropped course is any course that is dropped after the census date (See Academic Calendar for the specific date).

Exceptions to the 6-drop rule may be found in the catalog. Petitions for exemptions must be submitted to the Enrollment Services Center and must be accompanied by documentation of the extenuating circumstance. Please contact the Enrollment Services Center if you have any questions.

## **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. “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 instructor has 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 Safe Assign™, available on Blackboard. UT Tyler Resources for Students
- [UT Tyler Writing Center](#) (903.565.5995), [writingcenter@uttyler.edu](mailto:writingcenter@uttyler.edu)
  - [UT Tyler Tutoring Center](#) (903.565.5964), [tutoring@uttyler.edu](mailto:tutoring@uttyler.edu)
  - The Mathematics Learning Center, RBN 4021, this 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, quit lines, and group support. For more information on cessation programs please visit [www.uttyler.edu/tobacco-free](http://www.uttyler.edu/tobacco-free).

## **CAMPUS CARRY**

We respect the right 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/campus-carry/index.php>.

CENG 4115 – 031L Fall 2023 Course Syllabus  
 (Date: Aug 21, 2023. This version supersedes all earlier versions)

COURSE SCHEDULE *					
Week #	Date	Topic	Readings	Homework Assigned	Assignment Due on
Week 1	08/25	Course Introduction, syllabus, introduction to the different categories of senior design projects and groups	Syllabus	Groups selection	09/01/2023
Week 2	09/1	Projects and group selection More detail about the selected projects	Selected material related to the individual projects	HW2	09/08/2023
Week 3	09/08	Individual group meetings start; introductory material is presented To the individual groups to help them start their projects	Selected material related to the individual projects	HW3	09/15/2023
Week 4	09/15	Individual group meetings; introductory material is presented To the individual groups to help them start their projects	Selected material related to the individual projects	HW4	09/22/2023
Week 5	09/22	Individual group meetings; introductory material is presented To the individual groups to help them start their projects	Selected material related to the individual projects	HW5	09/29/2023
Week 6	09/29	Individual group meetings; introductory material is presented To the individual groups to help them start their projects	Selected material related to the individual projects	HW6	10/06/2023
Week 7	10/06	All group meeting: each group presents its methodology	Selected material related to the methodology	HW7	10/13/2023
Week 8	10/13	All group meeting: each group receive comments on its methodology	Selected material related to the methodology	HW8	10/20/2023
Week 9	10/20	Individual group meetings: groups present progress to date and encountered difficulties, challenges	Selected material related to the methodology	HW9	10/27/2023
Week 10	10/27	Individual group meetings: groups present progress to date and encountered difficulties, challenges	Selected material related to the methodology	HW10	11/03/2023
Week 11	11/03	Individual group meetings: groups present progress to date and encountered difficulties, challenges	Selected material related to the methodology	HW11	11/10/2023
Week 12	11/10	Individual group meetings: groups present progress to date and encountered difficulties, challenges	Selected material related to the methodology	HW12	11/17/2023
Week 13	11/17	Individual group meetings: groups present progress to date and encountered difficulties, challenges	Selected material related to the methodology	HW13	11/24/2023
Week 14	11/24	Thanks giving break			
Week 15	12/01	Presentation of the project proposal and progress to date to the peers			
Week 16	12/09	Presentation of the project proposal and progress to date to the peers			

\*The course schedule is subject to minor changes during the semester; changes will be noted in class