

CE 4188: Senior Design I

Department of Civil Engineering

General Information

Instructor:	Jeffrey Weidner, Ph.D. Office: Engineering Annex A-222 Labs: Engineering E-214 IDRB 3.101 Office Phone: (915)-747-6913 Cell Phone: (215) 292-4830 Email: jweidner@utep.edu By appointment – Book time with Dr. Weidner
Meeting Time and Location:	Friday 8:30 AM to 9:20 AM CCSB G.0208
Final Exam:	None
Course Description:	ABET Requirements: Students must be prepared for engineering practice through a curriculum culminating in a <i>major design experience</i> based on the <i>knowledge and skills acquired in earlier course work</i> and incorporating <i>appropriate engineering standards</i> and <i>multiple realistic constraints</i> .
Expectations:	Instructor Expectations: From me, you can expect the following: <ul style="list-style-type: none">• I will treat all teams and individuals respectfully and equitably• I will adhere to this syllabus• I will assign you the grade that you earn• I will provide minor instruction on very specific topics as needed• I will provide access to resources to support your project through the Resource Library• I will not teach material that should have been covered in a prior course, regardless of how well you felt it was taught, or how well you learned it• I will make myself available to attempt to address issues that may arise via office hours appointments• I will respond within 24 hours to emails and Teams messages• I will not be expected to reply to students immediately Student Expectations: From you, we expect the following: <ul style="list-style-type: none">• You will treat me, the other teams, and your teammates with respect• You will act in a professional manner at all times• You will adhere to this syllabus and to your team agreement• You will apply the knowledge to which you previously should have been exposed.• You will work to learn new skills as needed in a self-guided manner.

- You will treat my time as valuable, scheduling meetings in advance and coming prepared to ask questions and present proposed solutions
- You will take personal responsibility for the success of your project

Class Approach:

Project Concept: The theme for projects this year will be centered on improving El Paso. The project that you propose has to fit that theme, and it must be of a large enough scope to meet the requirements of Senior Design at UTEP and our accreditation board, ABET, listed above in the course description. Your project is your decision. You should be able to craft a project that focuses on your area of interest, if you prefer to focus in more depth on one area (e.g., stormwater or transportation design). Conversely, if you want a traditional senior design experience, focus on a building project, which will cover most aspects of civil engineering.

Teamwork: In order to meet ABET requirements, Senior Design should prepare you for engineering practice. Unless you are practicing as an engineer on your own (which is impossible prior to full licensure), you will be working in teams. Working successfully in a collaborative environment requires trust and patience in the face of pressure and time constraints. To encourage you explore and understand this dynamic, your deliverables will be graded as a team, not on an individual basis. That said, I understand that it is not uncommon for some team members to carry more of the load than others. As such, there will be a peer evaluation to reflect on everyone's performance within your team, including your own. This is a graded assignment that reflects personally on your individual performances within your team.

Team Formation: Team formation will be based on the results of a preliminary survey. You will find out your team on the first day of class.

Meetings: If you need to have a meeting, please schedule with me directly. You may use my [Booking Page](#) to schedule.

Resource Library: To help bridge the gap between your existing coursework and the specific design challenges you are facing with this project, I have created a resource library on Blackboard. Here you will find information about design codes and specifications, software resources, textbooks, and local engineers who may be willing to serve as a mentor or advisor. There is guidance for citing references and resources of which you may use.

Course Schedule: The **tentative** schedule for this course is in the table below:

Week #	Lecture Date	Topic	Deliverable(s) Due
1	01.19.24	Introduction	None
2	01.26.24	Inviting Difference Art Aguirre	Team Agreement, Team Name
3	02.02.24	Geotechnical/Site Jesus Baca	Project Concept(s)
4	02.09.24	Presentation Skills Carlos Tarin	None
5	02.16.24	Alumni Panel	None
6	02.23.24	Project Concept Presentations (6 min)	Project Concept Slides
7	03.01.24	Scope Estimation Exercise	None
8	03.08.24	Site Plan Development Bobby Gonzales	Mid-term Deliverables
9	03.15.24	Spring Break No Class	None
10	03.22.24	Site Presentations	Site Slides
11	03.29.24	Cesar Chavez Day No Class	None
12	04.05.24	Preliminary Cost Estimation	None
13	04.12.24	ASCE Student Sym. No Class	None
14	04.19.24	Progress Presentation (6 minutes)	Progress Presentation
15	04.26.24	Final Presentations (Plan to Attend)	Progress Report, Site Plan
16	05.03.24	Dead Day No Class	None









Course Support: *Office Hours:* Time TBD. Research has shown that spending time with faculty is a key driver for student success. In other words, there is strong correlation to you talking with me face to face, and you performing well in college. To that end, I am hosting office hours this term. You can use this time to come speak to me individually or as a team about this course or about other things. I would be happy to discuss careers, graduate school, etc.

Teaching Assistant: I do not have a Teaching assistant for this course.

Mentors: I strongly recommend you identify external mentors for this course. There is a list of names provided in the Senior Design Handbook which I periodically update, but you can always find your own mentors. Recent alumni make great mentors if they can afford the time. You will meet potential mentors in the process of the course as well. Remember that they do this voluntarily so please be respectful of their time and effort.

Faculty: Faculty can serve as mentors but remember that they support this course voluntarily so please be respectful of their time and effort. Do not seek faculty mentorship late in Senior Design II.

Course Objectives: By the end of this two-course sequence you should:

Course Learning Outcome	UTEP EDGE Advantage
Describe the design process for a realistic civil engineering project.	
Produce professional-quality engineering drawings	
Produce a professional-quality engineering report	
Produce representative professional quality design calculations	
Demonstrate professional quality presentation skills	
Use engineering software tools to aid in civil engineering design	
Interact with local practitioners to get mentoring and support	
Describe the role of sustainability in civil engineering design	

Class Policies

- Honor Code: Civil Engineering students are expected to adhere to the Honor Code of the Department of Civil Engineering, which can be found here (<http://ce.utep.edu/honorcode.htm>). This statement is consistent with the [UTEP Handbook of Operating Procedures](#). Academic dishonesty includes but is not limited to plagiarism, cheating, and collusion. Under no circumstances should any design work be completed by anyone outside of your team. Additionally, under no circumstances should a practicing mentor be compensated for their time or assistance. All suspected violations must be reported to the [Office of Student Conduct and Conflict Resolution \(OSCCR\)](#) for possible disciplinary action.
- Attendance Policy: I will periodically check attendance and include it is part of the participation grade if I notice an issue with students not showing up.
- COVID-19/Illness Policy: Please stay home if you have been diagnosed with COVID-19 or are experiencing COVID-19 symptoms. If you are feeling unwell (even if it is not COVID), let me know as soon as possible, so that I can work on appropriate accommodations.
- Neatness Policy: By this stage in your educational career, you should be submitting work that is neat and professional. I reserve the right to return work unreviewed if I deem it unprofessional. Resubmitted work will be considered late.
- Accommodations: The University is committed to providing reasonable accommodations and auxiliary services to students, staff, faculty, job applicants, applicants for admissions, and other beneficiaries of University programs, services and activities with documented disabilities in order to provide them with equal opportunities to participate in programs, services, and activities in compliance with sections 503 and 504 of the Rehabilitation Act of 1973, as amended, and the Americans with Disabilities Act (ADA) of 1990 and the Americans with Disabilities Act Amendments Act (ADAAA) of 2008. Reasonable accommodations will be made unless it is determined that doing so would cause undue hardship on the University. Students requesting an accommodation based on a disability must register with the [UTEP Center for Accommodations and Support Services](#).
- Technology Requirements: The course material (outside of lectures) will be delivered through and stored on Blackboard. Discussions will occur on Blackboard, and assignments will be assigned, submitted, and graded within Blackboard. Announcements will be made through Blackboard. [Microsoft Teams](#) will be used for communication outside of the classroom. This software is provided for free by UTEP. Please download and install Teams. I will invite you to join the course using your UTEP email. Be sure to check that notifications are set up properly in Blackboard and Teams so that you do not miss any important communications. I will not use a personal email address in this course.

You will need access to a computer for this course. To interact virtually, you will need access to video chat capabilities (webcam, microphone). To make use of many UTEP software off campus, you will need [VPN access](#) set up on your computer. The [ETC Helpdesk](#) can support you in terms of technology requirements and [VPN access](#).

UTEP can provide support or technology assistance as required. Please see [Technology Services](#) for access to computer, internet connectivity, and other technology-related support issues to facilitate remote learning if required.

AI Guidance:

Unlike many highly technical courses, the deliverables for this course could be heavily developed using ChatGPT. I recognize this reality and as such, I do not intend to completely ban AI Language Models. However, I strongly encourage you to use these tools in a responsible manner. ChatGPT and similar tools are very effective at editing and augmenting your creative work to make it more professional and coherent. I encourage this type of activity. ***You are not permitted to use AI tools for creating your own writing from scratch, for conducting scholarly research, and for answering technical questions.*** Be sure you use the tools as they are designed and be sure to cite them appropriately.

Coursework and Grading Expectations

Grading: Grade Breakdown:



Final Grade $A \geq 89.5$
Thresholds: $89.5 > B \geq 79.5$
 $79.5 > C \geq 69.5$
 $69.5 > D \geq 59.5$
 $59.5 > F$

Exams: There are no exams in this course.

Homework: There is no homework in this course.