SYLLABUS SPRING 2020
CENG 4315-32L

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MEMORANDUM FOR STUDENTS ENROLLED IN CENG 4315-32L
SUBJECT: CENG 4315 Administrative Instructions (Senior Design II)

1. Welcome to CENG 4315, Senior Design II. This course is essentially several courses in one. Of the 15 meeting times, approximately half will be focused on advanced topics that straddle the disciplines taught in various courses at UT Tyler. A large portion of the course is devoted to your comprehensive design problem. Working in teams, you will complete the construction design of a roadway and bridge. This design problem will incorporate material from essentially ALL of your other civil engineering courses, including construction management, surveying, geotechnical, environmental, structural, surveying, and hydrology and hydraulic (H&H) instruction, among others. The remainder of the problem started in CENG 4115 will constitute the bulk of Senior Design II this semester.

2. In this course we will simulate the design process as it is performed in engineering practice, and thus the problem that you have been given is broad in scope, ambiguous in its details, ill-defined and unstructured. The design work will be completed in groups, with each group member contributing to the overall effort and with primary responsibility for the design within a specific discipline of civil engineering (i.e. structural, geotechnical, hydrology, environmental, etc.). This course has 7 Student Outcomes (see Enclosure) that can generally be organized into two groups: 1) learning to internalize the engineering thought process by developing the ability to solve ill-defined, real world problems in a rational, systematic, and creative manner and presenting your solution in a clear and concise way; and 2) developing a working knowledge of design principles in other advanced topics to examine problems with realistic constraints.

3. I am practicing civil engineer engaged as a part time adjunct with UT Tyler. I work full-time Monday thru Thursday and to noon on Fridays. This is the only class I am teaching this semester. Please email me at tedminster@uttyler.edu (preferably through Canvas) with any questions, comments, or concerns regarding this class. Include proper identification of this class in all emails for timely response (the subject should always start with the class number). If you will miss a scheduled class, you are still responsible for the material.

4. You are encouraged to seek additional instruction (AI). I have not been assigned an office, so you will need to arrange a mutually agreeable time to meet with me prior to or after class on Fridays. Take advantage of AI, it's FREE and really will help! My goal is to be reasonably available to you for assistance, so feel free to meet with me. My cell phone number is 713-824-7367. Please feel free to call my cell phone and leave a message or text me. If you email me, my email address is tedminster@uttyler.edu.I will get back to you as soon as I can.

5. Classroom Procedures:

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a. I will collect weekly time sheets - please ensure the Weekly Time Sheets are circulated.

b. Bring study notes, note-taking materials, and a 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 to furnish a substitute. Class preparation is your individual responsibility.

c. Textbooks:

AISC Manual of Steel Construction, 13th Edition, 2005
ASCE Minimum Design Loads for Buildings and Other Structures, 7-05
American Concrete Institute (ACI) Building Code and Commentary ACI 318-08
Flexibility in Highway Design (FHWA, Free PDF available)

d. You are not required to use colored pencils or a straight edge, but colors and straight lines can help with emphasis and clarity in your notes.

e. I will have announced and unannounced quizzes.

6. Exams and Grading:

a. Grade Breakout:

Graded Assignments (5%)

Weekly Work Plans (5%)

Weekly Time Sheets (5%)

Engineering Design Problem (EDP) (70% as follows):

30% Oral Presentation (10%)

60% Design Review (15%)

100% Oral Presentation (15%)

100% Design Submittal (30%)

Individual Evaluation (15%) - the individual grade is a function of your peer evaluations

b. Grade Scale Cutoffs:

A+ 96.67%; A 93.33%; A- 90.00%

B+ 86.67%; B 83.33%; B- 80.00%

C+ 76.67%; C 73.33%; C- 70.00%

D 65.00%; F <65.00%

As you can see, the EDP constitutes a large portion of your grade for this course and thus stands in for a portion of the traditional final exam. The course will have one mid-term exam. Of course, final grades are only A, B, C, D, or F. Therefore, a C- is a C for a final grade. This distribution is to graphically remind you of how well you are doing. I reserve the right to adjust group grades for individual members of design teams who are not pulling their weight.

c. Exams:

There will not be a midterm or a final exam.

d. Research Assignments:

Periodically, I will request you/your team to research additional information to complement the design project. I will ask you/your team to find the requested information prior to the next class. I will expect that a summary or other presentation of the information be submitted in that class. I may give bonuses to you/your team that finds the useful information first, and reports this to me by submitting the requested summary by email. If I receive information early, I will share the information with the others/other teams who are *still responsible* for providing me with their write-up of the pertinent information.

e. Weekly Time Sheets:

Because this course is formulated to simulate design as performed in a professional company, we will track our time and workload through the use of tools common to the business world: Weekly Time Sheets and a Weekly Work Plan. The Weekly Time Sheet will be due each Friday in class and should reflect the time on task for each member in the design team. The Weekly Work Plan reflects the planned work for the upcoming week and will also be turned in on Friday. Each of these tools requires the initials of the engineer assigned and/or working on a particular task as well as the initials of at least one other engineer in the group.

f. Embedded indicators of accomplishment of program outcomes:

At times throughout the semester, portions of student work may be analyzed to determine if our program is accomplishing stated program outcomes based on established metrics. If your work is below the minimum established metric, you will be required to repeat the assignment or that portion of the assignment until you achieve the minimum acceptable standard based on the metric.

7. Homework:

All homework is mandatory and becomes part of your grade. Failure to submit any required homework will result in an incomplete. As an engineer your goal is to make a clear, logical, and professional presentation of your work, which is both accurate and correct. As such both your presentation and the accuracy of your work is important, and both will be graded.

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In order to ensure correctness and to model professional CE practice, this semester we may require you to submit all your work to your classmates for “Design Review”. It is critical that you show all of your work and leave “footprints” so that it can be easily followed. No guess work should be required to see what you did. All submissions are due at 4 PM on the due date.

Additional guidance:

a. Homework Assignments

1) Include a title sheet if your work constitutes more than 2 pages (and usually, it will).

2) Use Engineer paper or full-page printouts from Mathcad, Excel, Visual Analysis, etc. You may neatly tape or glue short computer printouts onto Engineer paper at the appropriate place in the logical flow of the problem. Only use one side of a page. Clearly present a brief problem statement and a sketch with your solution. Clearly and concisely explain each step. For narratives of more than a line or two, use your word processor or the text capability if you are using MathCAD or Excel. If you are writing out a paragraph or more, you must type it.

3) Late Submissions. It is a basic principle of professionalism that “Professionals are not Late.” A “COORDINATED LATE” submission occurs when you will miss the due date for a graded homework assignment and you contact me in advance. Notification immediately before the submission will not suffice. Point cuts up to the amounts below may be assessed for a “COORDINATED LATE” submission:

0-24 hours late a deduction of 25% of the earned grade
24-48 hours late a deduction of 50% of the earned grade
More than 48 hours late - No credit. Assignments must still be submitted.

Obviously, there are circumstances that will occur and make a timely submission impossible and I will work with you when and if they occur.

4) All homework in this course must be properly documented. As you are having your work reviewed it is likely that you might receive help from your classmates - just simply document it. Information from course textbooks (equations and outlines of procedures), class notes, or me is considered immediately available to all students and need not be acknowledged or documented with one exception. If an equation from your AISC Manual is used, please provide the equation no. and page no. in brackets [ ] beside its first use. This will help you as you study from your homework at a later date. **YOU ARE REQUIRED TO ACKNOWLEDGE AND DOCUMENT ALL OTHER ASSISTANCE AND REFERENCES USED.** Documentation will be accomplished in accordance with any manual for writing, footnote or endnote, for papers, but for written homework, just place the documentation right at the point you received help using “Who and what” assistance.

b. Engineering Design Problem:

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This course includes a year-long design problem with two written submissions. When submissions are complete you will have executed a portion of a complex design. The submissions will document critical stages of the design process, namely a 60% submission and a 100% submission. You will also be responsible for two oral presentations of your work: a presentation of the 30% submission completed last semester and a presentation of your completed 100% design. The presentation will be made to prospective clients (me and others). More information to follow under separate cover.

c. Assigned readings:

Doing the assigned reading prior to class will help you to understand the material presented during the instruction and will fill in gaps for things we do not cover (I will not cover everything). It will also make you more familiar with terms and concepts to be covered. To help motivate you to do the reading, there may be quizzes that you are required to complete prior to class on the readings, or there may be announced and unannounced quizzes during class.

8. There may be opportunities to earn bonus points for outstanding work on problem sets and for completion of other optional assignments. Opportunities for bonus points will be clearly identified by me and announced in class. Make use of these opportunities to extend your learning!

9. 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.html (Links to an external site.)

10. Grade Replacement/Forgiveness. If you are repeating this course for a grade replacement, you must file an intent to receive grade forgiveness with the registrar by the 12th day of class. Failure to do so will result in both the original and repeated grade being used to calculate your overall grade point average. Undergraduates will receive grade forgiveness (grade replacement) for only three course repeats; graduates, for two course repeats during his/her career at UT Tyler.

11. 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 12th day of class (See Schedule of Classes for the specific date.) Exceptions to the 6-drop rule include, but are not limited to, the following: totally withdrawing from the university; being administratively dropped from a course; dropping a course for a personal emergency; dropping a course for documented change of work schedule; or dropping a course for active duty service with the U.S. Armed Forces or Texas National Guard.

12. Petitions for exemptions must be submitted to the Registrar's Office and must be accompanied by documentation of the extenuating circumstance. Please contact the Registrar's Office if you have any questions.

13. Disability Services. In accordance with federal law, a student requesting accommodation must provide documentation of his/her disability to the Disability Support Services counselor. If you have a disability, including a learning disability, for which you request an accommodation, please contact Ida MacDonald in the Disability Support Services office in UC 282, or call (903) 566-7079.

14. 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 third class meeting** of the semester.

15. 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.

16. 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.

17. 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.

Best regards,
Truman C. Edminster,

P.E.

STUDENT OUTCOMES.pdf

Student Resources.pdf

Course Summary:

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Date	Details		
Sat Jan 18, 2020	Assignment	Work Plan Week 1	
Wed Jan 22, 2020	Assignment	Assignment 1 - Project Schedule	
Fri Jan 24, 2020	Assignment	Time Sheet Week 1	
Sat Jan 25, 2020	Assignment	Work Plan Week 2	
Fri Jan 31, 2020	Assignment	30% Oral Presentation	
	Assignment	Time Sheet Week 2	
Sat Feb 1, 2020	Assignment	Work Plan Week 3	
Tue Feb 4, 2020	Assignment	Assignment 3 - Storm Sewer Calculation Chart	
Fri Feb 7, 2020	Assignment	Time Sheet Week 3	
Sat Feb 8, 2020	Assignment	Work Plan Week 4	
Wed Feb 12, 2020	Assignment	Assignment 2 - Revised Project Schedule	
Fri Feb 14, 2020	Assignment	Time Sheet Week 4	
Sat Feb 15, 2020	Assignment	Weekly Work Plan 5	
Fri Feb 21, 2020	Assignment	Time Sheet Week 5	
Sat Feb 22, 2020	Assignment	Weekly Work Plan 6	
Fri Feb 28, 2020	Assignment	Time Sheet Week 6	
Sat Feb 29, 2020	Assignment	Work Plan Week 7	

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Date	Details		
Fri Mar 6, 2020	Assignment	60% Design Review	c
	Assignment	Time Sheet Week 7	c
Sat Mar 7, 2020	Calendar Event	Spring Break	
	Assignment	Work Plan Week 8	c
Sun Mar 8, 2020	Calendar Event	Spring Break	
Mon Mar 9, 2020	Calendar Event	Spring Break	
Tue Mar 10, 2020	Calendar Event	Spring Break	
Wed Mar 11, 2020	Calendar Event	Spring Break	
Thu Mar 12, 2020	Calendar Event	Spring Break	
Fri Mar 13, 2020	Calendar Event	Spring Break	
Sat Mar 14, 2020	Calendar Event	Spring Break	
Sun Mar 15, 2020	Calendar Event	Spring Break	
Fri Mar 27, 2020	Calendar Event	CENG-4315 Lab (2020-SPRING) 032L	12:3
Sun Mar 29, 2020	Calendar Event	CENG-4315 Lab (2020-SPRING) 032L	
Fri Apr 3, 2020	Calendar Event	CENG-4315 Lab (2020-SPRING) 032L	12:3
Fri Apr 10, 2020	Calendar Event	CENG-4315 Lab (2020-SPRING) 032L	12:3
Fri Apr 17, 2020	Calendar Event	CENG-4315 Lab (2020-SPRING) 032L	12:3

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Date	Details		
Fri Apr 24, 2020	Assignment	100% Oral Presentation	
	Calendar Event	CENG-4315 Lab (2020-SPRING) 032L	12:3
	Assignment	100% Design Submittal	c
Mon Apr 27, 2020	Assignment	Individual Team Member Assessment	c
Fri May 1, 2020	Calendar Event	CENG-4315 Lab (2020-SPRING) 032L	12:3

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Calendar

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
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5Today	6	7	8	9	10Click to view event details	11
12	13	14	15	16	17Click to view event details	18
19	20	21	22	23	24Click to view event details	25
26	27Click to view event details	28	29	30	1Next monthClick to view event details	2Next month
3Next month	4Next month	5Next month	6Next month	7Next month	8Next month	9Next month

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Assignments are weighted by group: