MEMORANDUM FOR STUDENTS ENROLLED IN CENG 3310

SUBJECT: CENG 3310 Administrative Instructions – Summer 2026

Course Specific Policies

1. CENG 3310 Fluid Mechanics and Hydraulics
   Class Time: Online

2. Instructor: Dr. Mrittika Rodela
   Email: mrodela@uttyler.edu
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3. Office hours: By appointment

4. Course website: UT Tyler's Canvas website.

5. You are welcome to seek additional instruction.

Topics: fluid statics, conservation principles, Bernoulli, pipe flow, pump/turbines, momentum, drag, similitude, open channel flow.

Learning Objectives:

1. Determine pressures and forces on submerged bodies.
2. Analyze flow rates, velocities, energy losses, and momentum for fluid systems.
3. Apply the laws of conservation of mass, momentum, and energy to static fluids and general fluid flow in conduits or open channels.
4. Analyze fluid flow in pipeline components.

5. Prerequisites: ENGR 2302: Engineering Dynamics; MATH 3305: Ordinary Differential Equations.

6. Co-requisite: MATH 3404: Multivariable Calculus

7. Required Text:
a). Fundamentals of Fluid Mechanics, 7th Edition, by Munson, Okilshi, Huebsch and Rothmayer, Wiley Publishing, ISBN: 978-1-11811613-5.
b)Engineering Fluid Mechanics, 11th edition, Crowe et al., 2009, John Wiley & Sons, Inc.

8. If you will miss a scheduled class, you are still responsible for the material.

9. You are encouraged to seek additional instruction during my office hours or by appointment.

10. Class Room Procedures:

a. Bring study notes, note-taking material, and calculator to every class. You may not borrow or exchange calculators during graded events.

b. There may be unannounced quizzes given at the first of class, throughout the semester. So come prepared for class!!!

6. Course Materials:

a. I will try to give printed course materials in the class and also upload the material on canvas. Canvas enrollment is now automatic with course registration, but you should ensure that you can access the class Canvas page.

b. I may also on occasion email you homework tips or points of clarification that are made aware to me outside of class. All email correspondence will take place through the Canvas system, and therefore using your Patriot email accounts; so check your Patriot email account often.

7. Exams and Grading:

a. Grade Breakout and Cutoffs:

Course Points

Mid-term Exams (2 at 100 each)	400 (40%)
Homework	200(20%)
Professional Practice (Attendance)	100(10%)
Final exam	300(30%)
Course Total	1000 (100%)

Letter grades will be assigned based on the final course grade:

A 90 and above
B 80 to 89.99
C 70 to 79.99
D 60 to 69.99
F below 60

If you earn a cumulative average of less than 60% on all exams, or if you fail to earn at least 60% on the final exam you may fail the course, **regardless of your course grade**. The distribution shown above is to graphically remind you of how well you are doing.

b. Mid-term Exams, Final Exam and Quizzes:

1) The tentative dates for all exams are included in the course schedule. Official reasons for missing an exam are outlined in the UT Student Handbook. You are required to take a make-up Exam, regardless of your reason for missing the scheduled Exam. Report any conflict to me as soon as possible prior to the Exam.

2) The mid-term exams and final exam will be closed-book exams. However, equation sheets will be provided.

3) Use the restroom prior to coming to class to take an exam! Suspicious restroom breaks in the middle of an exam are not acceptable.

4) Solutions to exams will not be posted on Canvas, but you may stop by office and see exam solutions.

5) Pop quiz is a short test given to students **without prior warning**. The dates for all pop quizzes are NOT included in the course schedule. Pop quiz typically contains short problems and it is 10 to 15 minutes long.

c. Calculator Policy: Only NCEES approved calculators will be permitted during tests and your test will be collected and your grade will be a zero if you are caught using a non-approved calculator.

d. Laptops/PDAs/MP3 players/Cell Phones or other electronic devices: The use of any electronic device, except an approved calculator, is not permitted during lessons and exams. Your exam will be collected, and your grade will be a zero if you are caught using a non-approved electronic device. The use of phones and MP3 players is not permitted during lessons.

e. Collection of Student Work: Throughout the semester I will collect student work (best, average, and worst) for the ABET course and 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.

f. Embedded indicators of accomplishment of program outcomes: At times throughout the semester, portions of student work will 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.

8. **Homework**: The purpose of homework assignment is to help reinforce what was taught in class. It helps to prepare students for exams and tests, including statewide exams. Completing homework assignment makes students more responsible and helps them learn time management skills. It gives students another chance to review class material.

Homework problems will typically be assigned on a weekly basis. Students may *discuss* their homework solutions with one another, but **each student must submit their own, independent solutions (i.e. you may not just copy someone else's homework).** If you receive assistance from a fellow student on a particular problem, you must cite that assistance within your solution. The homework due date will be clearly given with the homework assignment. Homework is due by the due date. You may turn in your homework directly to me in the classroom.

HOMEWORK FORMAT: The production of a neat, organized, high-quality homework assignment cannot be overestimated nor can its importance to your course grade be overstated.

All homework is mandatory and becomes part of your grade. Failure to submit any required homework will result in an incomplete.

a. Problem Sets:

1) **Use Engineer paper only or <u>full-page</u> 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. <u>For narratives of more than a line or two, use your word processor or the text capability if you are using MathCAD or Excel.</u> <u>If you are writing out a paragraph or more, you must type it.</u>

2) Late Submissions. It is a basic principle of professionalism that **"Professionals are not late."** A "COORDINATED LATE" submission occurs when you will miss the deadline for a graded homework assignment, and you contact me <u>in advance</u>. Notification immediately before the submission will not suffice. Deductions to your assignment grade for late submissions will be given as follows:

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
3. More than 48 hours late	No credit. **<u>Assignments must still be submitted.</u>**

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

3) All homework in this course must be properly documented. It is likely that you might receive help from your classmates - just simply document it. Information from the 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. **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. 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. **<u>Reading the assignment prior to attending class will enhance your ability to learn!</u>**

c. AI Policy: AI may be used as a helping tool, but completing homework completely with the help of AI is forbidden. In such cases, if homework is found to be completed completely by AI homework will receive a "0" grade.

9. Professional Practice. During this semester, a portion of your grade in this course (10%) will be derived from a level of professional practice expectations. These expectations include a professional demeanor and work ethic (attitude), consistent daily preparation (assignment reading, appropriate materials brought to class, homework completed on time, etc.), commitment to learning and fulfilling obligations (attendance, on time), and being engaged in class activities (participation), joining student clubs, attending ASCE meetings etc.

10. 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.

11. 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

12. 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 Census Day (See Schedule of Topics). 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. Also, please notify the instructor so that they know about your circumstances.

13. 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 Day (See Schedule of Topics). Exceptions to the 6-drop rule may be found in the catalog. 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. Please contact the instructor prior to dropping the course to receive any guidance in your course progress.

14. 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. Additional information may also be obtained at the following UT Tyler Web address: http://www2.uttyler.edu/disabilityservices/

15. 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.

16. 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.

17. 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.

18. 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. For Tornado warnings the safe areas within the building have been designated. The instructor will identify to you these safe refuge areas. 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, or other official Public Safety personnel.

19. **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.

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20. **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 availableathttp://www.uttyler.edu/about/campus-carry/index.php

21. **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, waterpipes (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 visitwww.uttyler.edu/tobacco-free.

Lesson #	Topic	Book a Reading	Book b Reading	
1	Course introduction and syllabus	Ch 1.1 - 1.2		
2	Dimensions and Units	Ch 1.3-5	Section 1.6 and 1.7	Homework assignments will be given throughout the semester, with due dates clearly defined
3	Density /Compressibility	Ch 1.3-5	Section 1.5	
4	Viscosity	Ch 1.6 - 1.9	Section 2.5	
5	Surface Tension/Capillarity		Section 2.6	
6	Vapor Pressure	Ch 1.6 - 1.9	Section 2.7	
7	Pressure	Ch 1.6 - 1.9	Section 3.1, 3.2	
8	Hydrostatic Forces on plane surface	Ch 2.8 - 2.9	Section 3.3	
9	Hydraulic Machines		Section 3.2	
10	Buoyancy	Ch 2.11	Section 3.6	
	Mid-Term 1 via zoom			
11	Velocity		Section 4.1, 4.2 and 4.4	
12	Bernoulli's Derivation	Ch 5.1 Ch 6.4.2	Section 4.5	
13	Control Volume		Section 5.1, 5.2	
14	Continuity Equation	Ch 5.1 Ch 6.4.2	Section 5.3, 5.4	
15	Momentum Equation	Ch 5.2	Section 6.2, 6.3	
	Mid-Term 2 via zoom			
16	Energy Equation		Section 7.2, 7.3	
17	Energy Grade Line, Hydraulic Grade line	Ch 3.3 – 3.7	Section 7.4, 7.8	
18	Major Head Loss	Ch 8.4	Section 10.2,10.2, 10.3	
19	Minor Head Loss	Ch 8.4	Ch 10.3	
20	Pump Curves			
21	Non-Dimensional Analysis	Ch 7.5, 7.7	Section 8.1,8.2,8.3	
22	Similitude	Ch 7.6, 7.8	Section 8.4,8.5	
23	Lift & Drag	Ch 9.1-9.3	Section 11.1,11.3	
24	Open Channel Flow	Ch 10.1-10.2	Section 15.1	
25	Specific Energy, Manning's Equation	Ch 10.3-10.4	Section 15.6	
26	Manning equation	Ch 10.5		
27	Hydraulic jump	Ch 10.5		
28	Weirs, orifices	Ch 10.6		
	Final Exam via zoom			