

MEMORANDUM FOR STUDENTS ENROLLED IN CENG 4339

SUBJECT: CENG 4339 Administrative Instructions – Fall 2021

Instructor: Shariful Huq
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Office Hours: Hrs. below or by appointment
Mo/We: 1:30PM-3:30PM (Rm. HEC D113)
Tu/Th: 11:00AM-12:00PM (Rm. HEC A204)

Lectures:

TuTr 9:30 AM - 10:50 AM

Note to Student about a Syllabus

This syllabus is a statement of intent about how the course will be taught this semester. It outlines what we will cover, what you will need to do in the course, and it explains what and when you must do it to successfully complete the course and get a great final grade. This syllabus is intended to protect you from arbitrary or untimely changes in course requirements and due dates. But I reserve the right to make changes as necessary to the syllabus with announcement of changes. As we learned during 2020, there are many circumstances outside of our direct course control that may require changes to this syllabus in content and schedule. These will always be announced in advance and the syllabus will be updated on Canvas so all can be aware of the required changes.

Important Covid-19 Information for Classrooms and Laboratories

Students are expected to wear face masks covering their nose and mouth in public settings (including classrooms and laboratories), as specified by [Procedures for Fall 2020 Return to Normal Operations](#). 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, digestive issues (e.g. nausea, diarrhea), or a higher than normal temperature should stay at home and are encouraged to use the [UT Tyler COVID-19 Information and Procedures \(Links to an external site.\)](#) website to review protocols, check symptoms, and report possible exposure. Students needing additional accommodations 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.

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, 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)

Course Website:

Canvas will be used to manage the course material for the semester. There you will find homework assignments, HW/Quiz solutions, handouts, and other material pertaining to the class. **Collected homework graded for completion only.** The class lectures may be recorded and posted on canvas. **Please check canvas regularly.**

CENG 4339 Course Objectives:

1. Explain the characteristics and challenges of the construction industry within the U.S.
2. Explain concepts of construction administration, including project delivery systems, contracting requirements, project control, dispute resolution, safety, and quality assurance and control.
3. Solve large earth construction problems including earthwork volumes and flow, machine power, and equipment cycle times.
4. Generate building construction estimates for time, labor, and materials.
5. Apply principles of project scheduling
6. Apply principles of project control and tracking.
7. Solve engineering economics problems with compounding interest.
8. Apply equivalence approaches in forming engineering economics decisions.
9. Assess risks and uncertainty associated with engineering economics decisions.

Course Specific Policies

1. Welcome to CENG 4339 - Civil Engineering Construction Management. In this course we will explore all phases of construction project management, starting with the owner feasibility study and ending with the contractor completing the project. In doing so, this course will integrate a variety of topics in the fields of construction management and engineering economics. A tentative course schedule is provided in Attachment 1.

Within the project management portion of the course, you will learn several aspects of construction management including estimating, scheduling, administration, project control techniques, quality, and safety. The engineering economics portion of the course addresses several of the fundamental concepts of engineering economics including annual-cost, present-worth, capitalized cost, and rate-of-return applications. Specific course objectives are provided in Attachment 2.

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

3. Class Room Procedures:

- a. 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 to furnish a substitute. Class preparation is your individual responsibility. Please refer to Calculator Policy below.**
- b. **Textbooks:**
 - 1) Construction Management Fundamentals, Second Edition by Knutson, Schexnayder, Fiori, and Mayo, 2009, ISBN 978-0-07-340104-1.
 - 2) Engineering Economics (Schaum's Outlines), First Edition by Sepulveda, Souder, and Gottfried, 1984, ISBN 0-07-023834-0.
 - 3) Basics of Engineering Economy, First Edition by Leland Blank and Anthony Tarquin, 2008, ISBN 978-0-07-340129-4.
- c. You are not typically required to use colored pencils or a straight edge, but colors and straight lines sure can help with emphasis and clarity in your notes.
- d. There may be unannounced reading quizzes given at the first of class, throughout the semester. It is your responsibility to come to class having completed the reading assignment.

4. Course Materials:

- a. I will post all course materials 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.

5. Exams and Grading:

- a. **Tentative Grade Breakout and Cutoffs:**

| Course Points | | Grade Scale |
|-----------------------------|------------|--------------------|
| Mid-term Exams (2 * 15% =) | 30% | A 90%+ |
| Home Work / Quizzes | 25% | B 80% - 89% |
| Project – Cardboard Canoe | 10% | C 70% - 79% |
| Professional Practice Grade | 10% | D 60% - 69% |
| Final Examination | <u>25%</u> | F <60% |
| | 100% | |

****NOTE:** There will be 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 at the appropriate time to receive credit.

Professional Practice Grade Breakdown:

Your professional practice grade will be computed based upon your attendance (35% of professional practice grade) plus participation in this course (35% of professional practice grade)

plus ASCE student chapter activity. I will assign 30% percentage of the professional grade towards joining and attending a minimum of 2 ASCE meetings and submission of one mini report describing the meeting contents. I will provide a document template and an example of what needs to be submitted

“If necessary, I reserve the right to adjust the grade scale at the end of the semester to your benefit”.

b. Mid-term Exams and Final Exam:

- 1) The dates for all exams are included in the course schedule. Official reasons for missing an exam are outlined in the UT Student Handbook. There will be no exceptions. **No make-up exams** will be given except for medical or other similar hardships where advanced arrangements are made with the instructor; or in case of non-selective medical emergencies with appropriate physician’s note or documentation. Other than circumstances described above, **failure to take the exam at the scheduled time will constitute a grade of zero in the exam**
- 2) The mid-term exams and final exam are closed book. Certain CENG 4339 reference sheets may be allowed to be used during the exams.
- 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**
- 5) **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 un-administered 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 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 un-administered test, test key, homework solution, or computer program or information about an un-administered 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 plagiarism software.
- 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 using a non-approved calculator.** The approved calculators include the following: (Please check the NCEES website for a complete listing, <https://ncees.org/exams/calculator/>. Examples include but are not limited to:
The following calculator models are the only ones acceptable for use during the **2021 exams**:
- Casio: All fx-115 and fx-991 models (Any Casio calculator must have “fx-115” or “fx-991” in its model name.)
 - Hewlett Packard: The HP 33s and HP 35s models, but no others
 - Texas Instruments: All TI-30X and TI-36X models (Any Texas Instruments calculator must have “TI-30X” or “TI-36X” in its model name.)
- 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 exams. Your exam will be collected and your grade will be a zero if you are caught using a non-approved electronic device/calculators. Any instances of a calculator inappropriately used during an exam will be the basis of alleging Academic Misconduct and may result in Failing (F) of the course at the determination of the course’s instructor or the basis for a recommendation for expulsion from the University. Any Calculator used during an exam in this course must meet the requirements stated within the policy below
- 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. I will not draw attention as to what level of work you accomplished.

- 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.**
6. Homework: Homework will be assigned on a regular basis. **To receive full completion grade - Homework must be uploaded in canvas by the due date and time.** No late homework will be accepted except when arrangements are made with the instructor ahead of time. 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).

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. A homework assignment should be something you are proud of and not something hastily “slapped together”. Toward this end, considerable emphasis will be placed on not only getting the correct answer but also on how the solution is presented.

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 are important, and both will be graded. It is critical that you show all of your work and leave “footprints” so that it can be easily followed.

a. Problem Sets:

- 1) **Use engineering 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.
- 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 in advance. Notification immediately before the submission will not suffice. Deductions to your assignment grade for late submissions will be given as follows:
 1. 6-24 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. Assignments must still be submitted.**

Obviously there are circumstances that can occur that make a timely submission impossible and I will work with you when and if they occur. *I will not play the game of having a stack of incomplete homework assignments turned in on the last day of class. Late assignments should still be submitted within a week unless you coordinate otherwise with me. Habitually late homework WILL have a significant negative impact on your professional practice grade!*

- 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 may not be able to cover everything***). It will also make you more familiar with terms and concepts to be covered. Reading the assignment prior to attending class will enhance your ability to learn!
7. **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.
8. **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/rightsresponsibilities.php>
9. **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>
10. **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.

11. **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. (**For Fall 2021, the Census Date is Sept. 3.**) 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 of which students need to be aware.

These include:

- Submitting Grade Replacement Contracts, Transient Forms, requests to withhold directory information, approvals for taking courses 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

12. **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

13. **Student Accessibility and Resources**

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.

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 second 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.

Attachments x2

Shariful Huq PhD, PE

Topics Covered and Schedule

| SUBJECTS | LESSONS |
|---------------------------------|----------------|
| <u>Construction Management:</u> | |
| Basic Concepts | 1 |
| Construction Administration | 1 |
| Project Delivery Systems | 1 |
| Earthwork Construction | 2 |
| Construction Equipment | 2 |
| Quantities, Labor, Cost | 2 |
| Building Construction | 2 |
| Site Civil | 1 |
| Scheduling | 2 |
| Project Control and Tracking | 1 |
| Safety, QA/QC | 1 |
| <u>Engineering Economics:</u> | |
| Compounding | 3 |
| Equivalence | 2 |
| Depreciation | 1 |
| Comparisons and Analysis | 2 |
| Project – Cardboard Canoe | 2 |
| Course Summary | 1 |
| Exams (including Final) | 3 |
| Totals: | 30 |

| CENG 4339: CE CONSTRUCTION MANAGEMENT COURSE SCHEDULE - Fall 2021 | | | | | |
|--|---------------|--|----------------------|---------------|--------------------------------|
| <i>As of August 24, 2021 (Subject to revision as needed)</i> | | | | | |
| Lesson# | Date | Topic | Reading | HW Due | Project Cardboard Canoe |
| 1 | 24-Aug | Foundations of engineering economy | BEE Ch. 1 | - | - |
| 2 & 3 | 26-Aug | Cash Flow - Annual Compounding Interest | SCH. Ch. 1-3 | - | - |
| 4 | 31-Aug | Nominal and Effective Interest Rate | SCH. Ch. 4-5 | #1 | - |
| 5 | 2-Sep | Discrete and Continuous Compounding | | | |
| - | 3-Sep | Census Day | - | - | - |
| - | 6-Sep | LABOR DAY - No Class | - | - | - |
| 6 | 7-Sep | Equivalence, Present & Future Worth | SCH. Ch. 6, 7 | #2 | - |
| 7 | 9-Sep | Benefit/Cost, MARR, Economic Life | SCH. Ch. 8, 9, 10 | #3 | - |
| 8 | 14-Sep | Depreciation | SCH. Ch. 11 | - | - |
| - | 16-Sep | Project: Cardboard Canoe Discussion - 1 | - | - | - |
| - | 20-Sep | Project - Lab Report 1 | - | - | Due |
| 9 | 21-Sep | In-class economics assessment | SCH. Ch. 1-11 | #4 and #5 | - |
| 10 | 23-Sep | Introduction to Construction Management | Ch. 1 | - | - |
| - | 28-Sep | Mid Term Examination #1 | - | - | - |
| 11 | 30-Sep | Overview of Construction Industry | Ch. 2 | #6 and #7 | - |
| - | 5-Oct | Project: Cardboard Canoe Discussion - 2 | - | - | - |
| 12 | 7-Oct | Project Delivery Systems | Ch. 3 (58-75, 89-91) | #8 | - |
| - | 8-Oct | Project - Design Paper | - | - | Due |
| - | 8-Oct | Project - Video Presentation | - | - | Due |
| 13 | 12-Oct | Construction Administration | Ch. 8 | - | - |
| 14 | 14-Oct | Estimating Earthwork Construction | Ch. 6 (169-183) | #9 and #10 | - |
| - | 15-Oct | Project - Video Watching Guide | - | - | Due |
| 15 | 19-Oct | Mass Haul, Cycle Time | Ch. 6 (183-196) | - | - |
| 16 | 21-Oct | Machine Power | Ch. 10 | #11 and #12 | - |
| - | 23-Oct | Project - Cardboard Canoe Display and Races | - | - | Due |
| 17 | 26- | Equipment Selection | Ch. 11 | - | - |

| | | | | | |
|--------------------|---------------------|---|------------------------|-------------|---|
| | Oct | | | | |
| 18 | 28-Oct | Equipment Costs, Cost Estimates | Ch. 12 | #13 and #14 | - |
| - | 1-Nov | LAST DAY TO WITHDRAW FROM CLASSES | - | - | - |
| 19 | 2-Nov | Understanding the Drawings | Ch. 7 (212-228) | - | - |
| | 4-Nov | Estimating Building Projects | Ch. 7 (228-265) | #15 | - |
| 20 | 9-Nov | Equipment Quantities, Labor, Cost | Ch. 5, Ch. 6 (196-208) | - | - |
| 21 | 11-Nov | Project Scheduling, Critical Path Method | Ch. 4 | - | - |
| 22 | 16-Nov | Project Scheduling, Critical Path Method (cont'd) | Ch. 4 | - | - |
| - | 18-Nov | Mid Term Examination #2 | - | #16 | - |
| Nov 23 – 27 | | Thanksgiving Week – No Class | - | - | - |
| 23 & 24 | 30-Nov | Project Control and Tracking | Ch. 3 (76-89), Ch. 4 | - | - |
| 23 & 24 (cont'd) | 2-Dec | Construction Safety / Quality and Productivity Course Summary | Ch. 15, Ch. 16 | - | - |
| - | Week of 12/6 | FINAL EXAM - COMPREHENSIVE | - | - | - |

Notes: BEE ==> **B**asics of **E**ngineering **E**conomy
 SCH ==> **S**chaum's **O**utlines
 Chapter # ==> Construction Management Fundamentals Text Book