

**University of Texas at Tyler - Department of Civil Engineering
CENG 4353/CENG 5360: Introduction to Pavement Engineering**

Instructor:	Dr. Mena Souliman RBS 1008 (903) 565-5892 msouliman@uttyler.edu	Office Hours: Tuesday & Thursday: 1:00PM- 2:30PM or by appointment
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Lectures:

Tuesday/Thursday: 3:30 PM-4:50PM, RBN 3039 and/or via Zoom.

Laboratory:

None

Course Website:

Canvas will be used to manage the course material for the semester. There you will find homework assignments, solutions, handouts and other material pertaining to the class. **Please check there regularly.**

Catalog Description:

Evaluation of stresses in flexible and rigid pavements, materials characterization, design of flexible and rigid pavements for highways and airports.

Learning Objectives:

1. Explain the different pavement design methodologies.
2. Develop a fundamental understanding of the analysis of pavement structures (develop necessary analytical skills to analyze stresses and strains in pavement system).
3. Explain the concepts and theory behind the materials and traffic characterization requirements for input in pavement structural design and performance.
4. Explain the basics of fracture mechanics and its application to paving materials and design.
5. Design asphalt pavements using the Pavement-ME design procedure.

Prerequisites:

CENG 3336: Soil Mechanics.

Required Texts:

Pavement Analysis and Design, Y. H. Huang, 2nd Edition, Prentice Hall, 2004. ISBN-10: 0131424734. ISBN-13: 978-0131424739. Available at the bookstore and web outlets.

Supplemental Textbooks/References:

- Additional handouts/references for the use of pavement design and analysis software will be provided in due course.

Course Schedule (Tentative and Subject to Change):

Course Schedule - Subject to Revision			
Date	Day	Material Covered	Lesson Material
1/11/2022	T	Introduction	Ch. 1
1/13/2022	TR		
1/18/2022	T		
1/20/2022	TR	Stresses and strains in flexible pavements	Ch. 2
1/24/2022	M	Census Date	
1/25/2022	T	Stresses and strains in flexible pavements	Ch. 2
1/27/2022	TR		
2/1/2022	T		
2/3/2022	TR	Stresses and strains in Rigid pavements	Ch. 4
2/8/2022	T		
2/10/2022	TR		
2/15/2022	T	Exam 1	
2/17/2022	TR	Traffic loading and volume	Ch. 6
2/22/2022	T		
2/24/2022	TR		
3/1/2022	T	Material Characterization	Ch. 7
3/3/2022	TR		
Spring Break 3/7/2022-3/12/2022			
3/15/2022	T	Drainage Considerations	Ch. 8
3/17/2022	TR	Exam 2	
3/22/2022	T	Flexible Pavement Design Methods	Ch. 11
3/24/2022	TR		
3/28/2022	M	Last Day to Withdraw	
3/29/2022	T	Flexible Pavement Design Methods	Ch. 11
3/31/2022	TR		
4/5/2022	T	Rigid Pavement Design Methods	Ch. 12
4/7/2022	TR		
4/12/2022	T		
4/14/2022	TR	Term-Project Presentation	
4/19/2022	T		
4/21/2022	TR	Final-Exam Prep.	
April 26-29		Final Exam Week	

Exams:

There will be 2 midterm examinations and one final examination. The exams are **TENTATIVELY** scheduled for:

- Exam 1: February 15
- Exam 2: March 17
- Final Exam: TBD

Exams dates may be moved up or pushed back depending on the progress of the lectures. You can use a calculator and instructor approved reference material. Solutions to exams will **NOT** be posted however, key answers will be demonstrated at class. 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.

Homework:

Homework will be assigned on regular basis. **Homework is due on the date assigned at the beginning of lecture.** No late homework will be accepted except when arrangements are made with the instructor ahead of time. Solutions will be posted on blackboard. **5% Extra credit will be given for each fully computer-typed homework assignments.**

Laboratory:

No Laboratory.

Term Project (For Undergraduate Students):

There will be also a design term project that can be completed by groups of 2 students. You will also be required to prepare and present a poster at the end of the term project to be presented at the Lyceum competition in April.

Term Paper (For Graduate Students):

Term paper topic will be assigned by the end of January. You will also be required to prepare and present a poster at the end of the term paper to be presented at the Lyceum competition in April.

Grades(For Undergraduate Students):

Homework/Quizzes = 20%
Professional Practice = 5%
Midterm Exams (2) = 30%
Final Exam = 20%
Term Project (Report + Poster)= 25%

Grade Scale:

A: 90-100
B: 80-89
C: 70-79
D: 60-69
F: <60

Grades(For Graduate Students):

Homework/Quizzes = 20%
Professional Practice = 5%
Midterm Exams (2) = 30%
Final Exam = 20%
Term Paper (Paper + Poster)= 25%

Grade Scale:

A: 90-100
B: 80-89
C: 70-79
D: 60-69
F: <60

****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:

Your professional practice grade will be computed based upon your attendance and the number of assignments you turn in that are completed in a professional manner meeting the deadline.

UNIVERSITY POLICIES AND ADDITIONAL INFORMATION

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.

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>

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>

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, quitlines, and group support. For more information on cessation programs please visit www.uttyler.edu/tobacco-free.

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, the Census Date is Sept. 12.) 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 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.

Student Accessibility and Resources

In accordance with Section 504 of the Rehabilitation Act, Americans with Disabilities Act (ADA) and the ADA Amendments Act (ADAAA) the University offers accommodations to students with learning, physical and/or psychiatric disabilities. If you have a disability, including non-visible disabilities such as chronic diseases, learning disabilities, head injury, PTSD or ADHD, or you have a history of modifications or accommodations in a previous educational environment you are encouraged to contact the [Student Accessibility and Resources \(SAR\)](#) office and schedule an interview with the Accessibility Case Manager/ADA Coordinator, Cynthia Lowery Staples. If you are unsure if the above criteria applies to you, but have questions or concerns please contact the SAR office. For more information or to set up an appointment please visit the SAR office located in the University Center, Room 3150 or call 903.566.7079. You may also send an email to cstaples@uttyler.edu

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.

- 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 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 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 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 SafeAssign™, available on Blackboard.

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)

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