

University of Texas at Tyler - Department of Civil Engineering
CENG 4350/5359 Topics in Civil Engineering: Pavement Management Systems
Spring 2023

Instructor: Dr. Mena Souliman
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Office Hours:
Tuesday, Wednesday
& Thursday: 11:00AM-12:00PM
Or by appointment

Lectures:

Tuesday/Thursday: 3:30 PM-4:50PM: RBN 3039 as well as **Zoom synchronous and/or asynchronous sessions.**

Laboratory:

None.

Course Website:

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

Catalog Description:

Conducts the project and network-level pavement management processes. Identifies the data to be collected and how to define and predict the conditions of the pavement.

Learning Objectives:

1. Explain the philosophy and the background of pavement management systems.
2. Analyze different pavement management levels and functions.
3. Explain the development process, development, and management of databases.
4. Analyze pavement management systems databases.
5. Explain different maintenance, rehabilitation, and reconstruction pavement techniques.
6. Develop needs analysis

Prerequisites:

CENG 3351

Required Texts:

None.

Supplemental Textbooks/References:

- Pavement Management Guide, American Association of State Highway and Transportation Officials, AASHTO, ISBN: 1-56051-155-9, 2001.
- Modern Pavement Management. Haas R., Hudson W. R., and Zaniewski J. Krieger Publishing Company, ISBN: 0894645889, 1994.
- Download the LTPP Distress Identification Manual from:
www.fhwa.dot.gov/publications/research/infrastructure/pavements/ltpp/reports/03031

Topics Covered and Schedule (Tentative and Subject to Change)

Date	Day	Materials Covered	
1/10/2023	T	Course Syllabus	Chapter
1/12/2023	TR	Introduction	1
1/17/2023	T	How do pavements fail?	1
1/19/2023	TR	Pavement management levels and functions	2
1/23/2023	M	Census Date	
1/24/2023	T	Overview of principals in PMS	2
1/26/2023	TR	PMS development and implementation	3
1/31/2023	T	Exam#1 Review	
2/2/2023	TR	Exam #1	
2/7/2023	T	Network-Level PMS	3
2/9/2023	TR	Functional versus structural performance	4
2/14/2023	T	Functional versus structural performance	4
2/16/2023	TR	Functional versus structural performance	4
2/21/2023	T	Functional versus structural performance	4
2/23/2023	TR	PMS databases	5
2/28/2023	T	PMS databases	5
3/2/2023	TR	PMS databases	5
3/7/2023	T	Needs analysis	6
3/9/2023	TR	Needs analysis	6
Spring Break 3/13/2023-3/18/2023			
3/21/2023	M	Exam #2 Review	
3/23/2023	TR	Exam #2	
3/23/2023	T	Last Day to Withdraw	
3/28/2023	T	Needs analysis	6
3/30/2023	TR	LCCA analysis	6
4/4/2023	T	LCCA analysis	6
4/6/2023	TR	MR&R prioritization	7
4/11/2023	T	MR&R prioritization	7
4/13/2023	TR	Class presentation	
4/18/2023	T	Class presentation	
4/20/2023	TR	Course and Final Exam Review	
Exam Week April 24 - April 28 Final Exam			

Exams:

There will be 2 midterm examinations and one final examination. The exams are **TENITATIVELY** scheduled and shown in page 3.

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.

Term paper (For CENG 5359 students only):

Term paper topic will be assigned by the end of February.

Laboratory:

None.

Grades (For CENG 4350):

Professional Practice = 5%
 Midterm Exams (2) = 40%
 Final Exam = 25%
 Term Project = 15%
 Lyceum Poster = 15%

Grade Scale:

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

Grades (For CENG 5359):

Professional Practice = 5%
 Midterm Exams (2) = 40%
 Final Exam = 25%
 Term Paper = 15%
 Lyceum Poster = 15%

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.

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, www.ncees.org/exams/calculator-policy/. Examples include but are not limited to:

- Hewlett Packard – HP 33s, HP 35s, and no others
- Casio – All FX 115 models
- Texas Instruments – All TI 30X or TI-36X models.
- If you are unsure about your calculator, it is your responsibility to check with the instructor for approval.

At the discretion of the course instructor, any calculator not meeting the requirements stated (especially in the case of a graphing calculator) may be used but only after an inspection of the device and a clearing of all the memory within the device, performed for the instructor at a time immediately prior to the exam. At any time during the exam your calculator is subject to a random search by the instructor. Failure or refusal to clear all memory or to surrender your calculator to search will disqualify you from the exam immediately, unless you can produce a calculator meeting the requirements as stated above.

-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.

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.

Final day to withdraw:

The final day to withdraw from the course without penalty is March 23rd.

Census dates:

The university requires that instructors to report the attendance to the register at various points in the semester. Therefore, on **January 23rd** I will be taking attendance. Please make sure you are there for class on that date or notify ahead if you will not be there.

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.

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.

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>

Grade Replacement/Forgiveness: If you are repeating this course for a grade replacement, you must file 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.

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.

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.

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.

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.

Prepared by: Mena Souliman, Ph.D.

UNIVERSITY POLICIES AND INFORMATION

Withdrawing from Class - Students you are allowed to [withdraw Links to an external site.](#)(drop) from this course through the University's [Withdrawal Portal Links to an external site.](#) Texas law prohibits students 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 other 2-year or 4-year Texas public colleges and universities. Make sure to consider the impact withdrawing from this class has on your academic progress as well as the financial implications. We encourage you to consult your advisor(s) and financial aid for additional guidance. CAUTION #1: Withdrawing before census day does not mean you get a full refund. Please see the [Tuition and Fee Refund Schedule Links to an external site.](#) CAUTION #2: All international students must check with the [Office of International Programs Links to an external site.](#)before withdrawing. All international students are required to enroll full-time for fall and spring terms.

Final Exam Policy: Final examinations are administered as scheduled. If unusual circumstances require that special arrangements be made for an individual student or class, the dean of the appropriate college, after consultation with the faculty member involved, may authorize an exception to the schedule. Faculty members are required to maintain student final examination papers for a minimum of three months following the examination date.

Incomplete Grade Policy: If a student, because of extenuating circumstances, is unable to complete all of the requirements for a course by the end of the semester, then the instructor may recommend an Incomplete (I) for the course. The "I" may be assigned in lieu of a grade only when all of the following conditions are met: (a) the student has been making satisfactory progress in the course; (b) the student is unable to complete all course work or final exam due to unusual circumstances that are beyond personal control and are acceptable to the instructor; and (c) the student presents these reasons prior to the time that the final grade roster is due. The semester credit hours for an Incomplete will not be used to calculate the grade point average for a student.

The student and the instructor must submit an Incomplete Form detailing the work required and the time by which the work must be completed to their respective department chair or college dean for approval. The time limit established must not exceed one year. Should the student fail to complete all of the work for the course within the time limit, then the instructor may assign zeros to the unfinished work, compute the course average for the student, and assign the appropriate grade. If a grade has not been assigned within one year, then the Incomplete will be changed to an F, or to NC if the course was originally taken under the CR/NC grading basis.

Grade Appeal Policy: - UT Tyler's Grade Appeal policy requires the completion of a Grade Appeal form for this action to take place. The grade appeal begins with the instructor of your course. If you do not agree with the decision of the instructor, you may then move your appeal to the department chair/school director for that course. If you are still dissatisfied with the decision of the chair/director, you may move the appeal to the Dean of the College offering that course who has the final decision. Grade appeals must be initiated within sixty (60) days from the date of receiving the final course grade. The Grade Appeal form is found on the [Registrar's Form Library](#). [Links to an external site.](#)

Disability/Accessibility Services: The University of Texas at Tyler has a continuing commitment to providing reasonable accommodations for students with documented disabilities. Students with disabilities who may need accommodation(s) in order to fully participate in this class are urged to contact the Student Accessibility and Resources Office (SAR) as soon as possible to explore what arrangements need to be made to ensure access. If you have a disability, you are encouraged to visit the [SAR Portal](https://hood.accessiblelearning.com/UTTyler/) [Links to an external site.](#) (<https://hood.accessiblelearning.com/UTTyler/> [Links to an external site.](#)) and complete the New Student Application. For more information, please visit the [SAR webpage](#) [Links to an external site.](#) or call 903.566.7079.

Military Affiliated Students: UT Tyler honors the service and sacrifices of our military affiliated students. If you are a student who is a veteran, on active duty, in the reserves or National Guard, or a military spouse or dependent, please stay in contact with me if any aspect of your present or prior service or family situation makes it difficult for you to fulfill the requirements of a course or creates disruption in your academic progress. It is important to make me aware of any complications as far in advance as possible. I am willing to work with you and, if needed, put you in contact with university staff who are trained to assist you. Campus resources for military affiliated students are in the [Military and Veterans Success Center \(MVSC\)](#) [Links to an external site.](#) The MVSC can be reached at MVSC@uttyler.edu, or via phone at 903.565.5972.

Academic Honesty and Academic Misconduct: The UT Tyler community comes together to pledge that "Honor and integrity will not allow me to lie, cheat, or steal, nor to accept the actions of those who do." Therefore, we enforce the [Student Conduct and Discipline policy](#) [Links to an external site.](#) in the Student Manual Of Operating Procedures (Section 8).

FERPA - UT Tyler follows the Family Educational Rights and Privacy Act (FERPA) as noted in [University Policy 5.2.3](#) [Links to an external site.](#) The course instructor will follow all requirements in protecting your confidential information.

COVID Guidance

Information for Classrooms and Laboratories: It is important to take the necessary precautions to ensure a healthy and successful year. UT Tyler continues to urge you to protect yourselves against the flu, COVID and any new threats that may be developing. Be diligent about preventive measures such as washing hands, covering sneezes/coughs, social distancing and vaccinations, which have proven to be successful in slowing the spread of viruses. Encourage those who don't feel well to stay home, and if they show symptoms, ask them to get tested for the flu or COVID. Self-isolation is important to reduce exposure ([CDC quarantine/isolation guidelines Links to an external site.](#)). Please work with your faculty members to maintain coursework and please consult [existing campus resources Links to an external site.](#) for support.

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.

Absence for Official University Events or Activities: This course follows the practices related to approved absences as noted by the Student Manual of Operating Procedures ([Sec. 1 -501 Links to an external site.](#)).

Absence for Religious Holidays: Students who anticipate being absent from class due to a religious holiday are requested to inform the instructor by the second class meeting of the semester.

Campus Carry: We respect the right and privacy of students 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>.

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