

**MARQUETTE UNIVERSITY**  
**DEPARTMENT OF CIVIL AND ENVIRONMENTAL ENGINEERING**

**COURSE DESCRIPTION**

- Course:** **CEEN 174 - Pavement Design**  
2 Lectures, 3 Semester Hours.
- Catalogue Data:** Study of the behavior and properties of pavements with emphasis on hot mix asphalt and Portland cement concrete pavements. The pavement is treated as a system and the interactions of the component layers of this system with the environment and traffic loads is studied. Design methods currently utilized for pavement structures are examined.
- Goals:** To provide the student with a good understanding of the materials used for highway and airfield pavement construction and the design procedures used to determine the required pavement structure.
- Textbook:** Yang H. Huang, *Pavement Analysis and Design*, 2<sup>nd</sup> Edition, Prentice Hall, 2004.
- References:** *Facilities Development Manual*, Wisconsin Department of Transportation  
*Guide for Mechanistic-Empirical Design of New and Rehabilitated Pavement Structures*, National Cooperative Highway Research Program, March 2004  
*2001 Design Guide*, Wisconsin Asphalt Pavement Association
- Coordination:** Dr. James A. Croveti, Associate Professor of Civil Engineering  
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website: <http://www.eng.mu.edu/crovetj/courses/ceen174>  
Office Hours: Mon&Wed: 11AM-2 PM; Tues&Thur: 2-4 PM
- Prerequisites:** 1. CEEN 170

**COURSE OUTLINE**

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|--|----------------|
| 1. Introduction (Ch. 1)                | Aug 28         |
| 2. Flexible Pavement Design (Ch 11)    | Aug 30         |
| 3. Rigid Pavement Design (Ch 12)       | Sep 4          |
| 4. Traffic & Loading (Ch. 6)           | Sep 6 - 13     |
| 5. Material Characterization (Ch. 7)   | Sep 18 - 25    |
| 6. Drainage (Ch. 8)                    | Oct 2 - 4      |
| 7. Pavement Performance (Ch. 9)        | Oct 9 - 11     |
| 8. Flexible Pavement Analysis (Ch 2,3) | Oct 16 - 25    |
| 9. Rigid Pavement Analysis (Ch. 4,5)   | Oct 30 – Nov 6 |
| 10. Flexible Pavement Design (Ch. 11)  | Nov 13 - 20    |
| 11. Rigid Pavement Design (Ch. 12)     | Nov 20 - 29    |
| 12. Design Project Presentations       | Dec 4 - 6      |

**IN-CLASS HOUR EXAM 1 (Topics 1-5) - THURSDAY, SEP 27**

**IN-CLASS HOUR EXAM 2 (Topics 6-9) - THURSDAY, NOV 8**

**FINAL EXAM - FRIDAY, DEC 14, 10:30 AM – 12:30 PM**

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**CEEN 174 - PAVEMENT DESIGN**  
**COURSE GRADING - FALL 2007**

Your final grade will be determined based on your exam and design project scores as well as the quality your class assignment submissions. Scores will be weighted as follows:

**Hour Exams - 45%; Homework – 20% Design Project - 20%; Final Exam - 15%**

Letter grades based on weighted exam, homework and project scores will be assigned as follows:

93 - 100%: A  
88 - 92.9%: AB  
83 - 87.9%: B  
78 - 82.9%: BC  
72 - 77.9%: C  
67 - 71.9%: CD  
62 - 66.9%: D  
0 - 61.9%: F

**Attendance Policy**

Your class performance is directly tied with your attendance and participation in class activities. All absences from lecture/discussion sessions will be considered as unexcused unless a written note from Dr. Barbara Silver-Thorn, excusing you from class, is provided. The following attendance policy will be enforced:

1 or 2 Unexcused Absences – No effect on grade  
3 to 6 Unexcused Absences – Lowering of one letter grade per absence  
7th Unexcused Absence – Automatic Administrative Withdrawal from Class

**Homework**

Homework will be collected on specified dates **at the beginning of the class**. Late homework will not be accepted. Homework problem materials will be included in tests.