

Department of Civil Engineering
The University of Texas at Arlington
CE 4337: Portland Cement Concrete Pavements
M, W, 4:00 – 5:20PM in 111 Nedderman Hall

Instructor: Dr. Stefan Romanoschi Office: 408 Nedderman Hall
Office Hours: W 10:00-12:00 PM Phone: (817) 272-0340 /9167 (lab)
E-mail: Romanoschi@uta.edu
Web: <https://mavspace.uta.edu/sroman/CE5362/> (must type capitals for CE)

Catalog Description: Portland cement concrete mix design and production. Paving operations. Saw and seal operations. Subgrade preparation. Base selection. Drainage selection, design and construction. Bonded and unbonded concrete overlays. Whitetopping and ultra-thin whitetopping. Concrete pavement restoration; quality assurance and quality control in concrete pavement construction. Credit not granted for both CE 4337 and CE 5362. Prerequisite: CE 3261 or equivalent.

TEXTBOOK: No text book is required for this class. Handouts will be provided to the students at the beginning of each lecture. However, the following book is recommended:

Norbert Delatte. *Concrete Pavement Design, Construction and Performance*. Taylor and Francis. 2008. ISBN13: 978-0-415-40970-4

ADDITIONAL MATERIAL :

1. Notes form NHI Course No. 131033: Construction of PCC Pavements
2. Notes form NHI Course No. 131062: PCCP Evaluation and Rehabilitation
3. Notes form NHI Course No. 131060: Design details for High Performance PCC Pavements.
4. S. Kosmatha, B. Kerkhoff and W. Panarese. Design and Control of Concrete Mixtures, 14th Edition. Published by the Portland Cement Association (www.portcement.org)

Student Learning Outcomes: At the end of this course, students will be able to:

Student Outcomes Addressed:

Extent of Coverage*

- | | |
|--|----------------|
| (a) An ability to apply knowledge of mathematics, science, and engineering | T _I |
| (i) A recognition of the need for, and an ability to engage in life-long learning | C _I |
| (j) A knowledge of contemporary issues | C _I |
| (k) An ability to use the techniques, skills and modern engineering tools necessary for engineering practice | C _I |

*Covered Implicitly (C_I): The outcome is implicitly covered

Tested Implicitly (T_I): The outcome is covered and implicitly assessed for by one or more means (assignments, test questions, essay questions, presentation evaluations, lab reports, etc.)

Specific Outcomes of Instruction Students will demonstrate an understanding of engineering properties of constituent materials for Portland cement concrete mixes, design methods for concrete mixes, production and placement of concrete for pavement construction, repair and maintenance methods for concrete pavements

Prerequisite: CE 3261 or equivalent

Attendance Policy: Class attendance and punctuality are required. Anyone missing class for whatever reason is responsible for any class notes, assignments or announcements missed in that class.

Drop Policy: Please see university drop policy and deadlines.

Major assignments and examinations: Homework assignments, Term-Paper (deadline: December 8, 2010), Presentation (deadline: December 8, 2010), Mid-Term Exam, and Final Exams. All exams are closed book and closed notes, unless otherwise directed by instructor.

Assessment Method: The final grade for this course will be determined on the following basis:

Mid-Term Exam.....	30%	A : 90% - 100%
Comprehensive Final Exam	35%	B : 80% - 90%
Term -Paper	25%	C : 70% - 80%
Oral presentation	10%	D : 60% - 70%
		F : < 60%

Course Topics:

1. Concrete Pavements: Concepts. History. The Concrete Pavement Industry.
2. Portland cement concrete mix design. Mechanical properties and durability of hardened concrete. Admixtures.
3. Concrete plant operations: truck mixed concrete and central mixed concrete;
4. Slip-Form Paving Operation;
5. Fixed-Form Paving Operation;
6. Saw and seal operations;
7. Subgrade preparation;
8. Cement, lime and fly ash stabilized bases;
9. Drainage selection, design and construction;
10. Thickness design, joint design and shoulder characterization;
11. Continuous Reinforced Concrete Pavements;
12. Unbonded and Bonded Concrete Pavement Overlays: Design and Construction.
13. Whitetopping;
14. Ultra-Thin Whitetopping;
15. Concrete pavement restoration;
16. Life-cycle cost analysis;
17. Quality Assurance and Quality Control in Concrete Pavement Construction.
18. Smoothness. Noise and Surface texture.
19. Traffic Management. Fast Track

Americans with Disabilities Act: The University of Texas at Arlington is on record as being committed to both the spirit and letter of federal equal opportunity legislation; reference Public Law 92-112 – The Rehabilitation Act of 1973 as amended. With the passage of federal legislation entitled *Americans with Disabilities Act (ADA)*, pursuant to section 504 of the Rehabilitation Act, there is renewed focus on providing this population with the same opportunities enjoyed by all citizens.

As a faculty member, I am required by law to provide “reasonable accommodations” to students with disabilities, so as not to discriminate on the basis of that disability. Student responsibility primarily rests with informing faculty of their need for accommodation and in providing authorized documentation through designated administrative channels. Information regarding specific diagnostic criteria and policies for obtaining academic accommodations can be found at www.uta.edu/disability. Also, you may visit the Office for Students with Disabilities in room 102 of University Hall or call them at (817) 272-3364.

Academic Integrity: It is the philosophy of The University of Texas at Arlington that academic dishonesty is a completely unacceptable mode of conduct and will not be tolerated in any form. All persons involved in academic dishonesty will be disciplined in accordance with University regulations and procedures. Discipline may include suspension or expulsion from the university.

“Scholastic dishonesty includes but is 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.” (Regents’ Rules and Regulations, Series 50101, Section 2.2)

Student Support Services Available: The University of Texas at Arlington supports a variety of student success programs to help you connect with the University and achieve academic success. These programs include learning assistance, developmental education, advising and mentoring, admission and transition, and federally funded programs. Students requiring assistance academically, personally, or socially should contact the Office of Student Success Programs at 817-272-6107 for more information and appropriate referrals.

Final Review Week: A period of five class days prior to the first day of final examinations is designated as Final Review Week. During this week, no new assignments will be given; however, previously assigned work (e.g. Term-Paper, Presentation) may have a completion date during this week. In addition, no portion of the final examination shall be administered during the Final Review Week. Classes are held as scheduled during this week and materials covered in lectures during this week may be included in the final examination.

Librarian to Contact: Sylvia George-Williams, Science and Technology Library. (Basement, Nedderman Hall)

E-Culture Policy: The University of Texas at Arlington has adopted the University email address as an official means of communication with students. Through the use of email, UT-Arlington is able to provide students with relevant and timely information, designed to facilitate student success. In particular, important information concerning registration, financial aid, payment of bills, and graduation may be sent to students through email.

All students are assigned an email account and information about activating and using it is available at www.uta.edu/email. New students (first semester at UTA) are able to activate their email account 24 hours after registering for courses. There is no additional charge to students for using this account, and it remains active as long as a student is enrolled at UT-Arlington. Students are responsible for checking their email regularly.

Make-up Exam Policy: No make-up exams are 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.

Grade Grievance Policy: Grade grievances will be handled according to the policy described in the College of Engineering portion of the Catalog.

Prepared By: Stefan Romanoschi

Date: 08/22/2012