

CE 5300: Deterioration of Infrastructure

Spring 2017

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Office Hours:

Teaching Assistant:

Section Information: CE 5300 / **Tuesday and Thursday 9:30– 10:50 AM**
/ Time and place of Meetings:

Course Content: To impart the understanding of deterioration mechanisms and durability issues for infrastructure. The lectures are divided into four topic areas:
(I) introduction/overview
(II) deep understanding mechanism of corrosion of steel and other metals,
(III) degradation of Portland cement concrete, and
(iv) degradation of organic materials.
The physical, mechanical and chemical characteristics of deterioration for each material are discussed, and practical issues are presented. A research literature review exercise enables study in a particular topic related to material durability

Reading Material: * Principles and Prevention Corrosion, 2nd Edition, D.A. Jones, Prentice Hall, Inc. 1996 (Required)
* Corrosion of Steel in Concrete, J.P. Broomfield, E&FN Spon. 1997. (recommended)

Grading Weight:

Written assignments	20%
Exams (2 @ 20% each)	40%
Final exam	25%
Research review exercise	15%

Course Policies

- Written assignments are due at the beginning of lecture on the due date. Late assignments are penalized 10% for each day late. Assignments submitted during or at the end of lecture on the due date are counted as 1 day late.
- All written assignments must be clearly and legibly presented. Any numerical answers must include calculations and a description of the logic behind each step. All work will be graded based on the correctness of numerical answers, correctness of logic of content, writing quality, and neatness and organization.
- Additional reading assignments will be assigned on occasion. Reading assignments will be made available in the previous lecture session.
- Academic integrity is expected. Sufficient evidence of plagiarism on any written assignment, term paper or exam will result in a grade of F for the course.
- Each student is required to carry out and report on a research review exercise on a specific topic, which is determined by the student. The exercise is comprised of 4 parts. More detail on the exercise will be given later in the term.