Syllabus-CIV-ENV-495

Advanced Design of Reinforced Concrete Structures

CivEnv 495-27
Spring Quarter 2018
4:00-5:50 PM Tuesdays & Thursdays

Instructor: Mahmoud Kamara, PhD
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Office Hours: 2:45 – 3:45 will be in room 220 Tuesdays & Thursdays

Prerequisites: CivEng 325 or Equivalent

Textbook: Required:

ACI 318-14 Building Code Requirements for Structural Concrete

Highly Recommended:


Optional


Grading

- Midterm exam 45% Tuesday, May 8, 2018
- Final exam 45%
- Homework 10%

Syllabus:

- Overview and review of the prerequisites.
- Shear in slabs. Transfer of moment in slab-column connections.
- Retaining Walls.
- Footings, strip footings, spread footings. Combined footings and mat foundation.
- Reinforcement development and splicing.
- Introduction to seismic detailing for reinforced concrete structures <If time allows>. Philosophy of seismic detailing. Importance of confinement. Hoops and crossties. Requirements for members in ordinary moment frames, intermediate moment frame and special moment frame.