

**CE 435/535 – Spring 2008**  
**PRESTRESSED CONCRETE STRUCTURES**

**Instructor:** Mohammad R. Ehsani, Ph.D., P.E., S.E.  
**Office:** 220H, Civil Engineering Building  
**Hours:** Tues. & Thurs. 10:45 a.m. – 12:00 or by appointment  
**Phone:** 621-6589  
**e-mail:** Mo@QuakeWrap.com  
**Listserv:** [CE435@listserv.arizona.edu](mailto:CE435@listserv.arizona.edu)  
**Website:** www.Ehsani.us

**Text:** T.Y. Lin, Ned H. Burns, *Design of Prestressed Concrete Structures*, John Wiley & Sons, 1981.

**References:** *Building Code Requirements for Reinforced Concrete and Commentary (ACI 318-05)*, American Concrete Institute, Detroit, Michigan, 2005.

*Standard Specifications for Highway Bridges*, The American Association of State Highway and Transportation Officials (AASHTO), Seventeenth Edition, 2002.

A good selection of other textbooks and journals are also available in the Engineering and Science Library.

**Homework:** There will be approximately twelve homework sets for the semester. You are encouraged to work in teams of two and each team can submit one solution for the group. Late homework may receive partial credit if it is turned in before I have graded and returned the homework back to the students.

**Exams:** There will be one hourly exam and a two-hour final exam. Both exams are open book and open notes.

**Grading:**

	CE 435 Students	CE 535 Students
Hourly Exam	30	25
Final Exam	45	35
Homework	25	25
Term Paper	N/A	15

**Objective:** The objective of this course is to study the analysis and design of prestressed concrete beams. The course will concentrate on flexural and shear design of statically determinate beams and composite members and calculation of loss of prestressing force. Provisions from the ACI Building Code and AASHTO Bridge Code will be introduced in the course at appropriate points. The analysis and design of indeterminate members (i.e. continuous beams) will also be discussed.

**Topics:** In general, materials discussed in Chapters 1 through 11 of the text will be covered. Most of the homework problems will be related to a multi-span bridge that utilizes prestressed AASHTO girders.