

CE 567 – Prestressed Concrete Course Outline – Cr. Hrs: 3
Instructor: Dr. Hota V.S. GangaRao, P.E. – Spring 2013, T-Th: 8:00 – 9:15 AM
Text: Prestressed Concrete – A Fundamental Approach by Edward G. Nawy, 5th ed., updated 2009

1. Basic Concepts

Lecture 1: Section 1.3

Lecture 2: Section 1.4 – 1.6

2. Materials and Systems for Prestressing

Lecture 3: Section 2.3.2, 2.4

Lecture 4: Section 2.5 – 2.7

Lecture 5: Section 2.5 – 2.7

Lecture 6: Section 2.10.1 – 2.10.3

3. Partial Loss of Prestress

Lecture 7: Section 3.2 – 3.4

Lecture 8: Section 3.5 – 3.7

Lecture 9: Section 3.8 – 3.10

4. Flexural Design of Prestressed Concrete Elements

Lecture 10: Section 4.2

Lecture 11: Section 4.3

Lecture 12: Section 4.4

Lecture 13: Section 4.4

Lecture 14: Section 4.5.1 – 4.5.2

Lecture 15: Section 4.5.3 – 4.5.4

Lecture 16: Section 4.6.1 – 4.6.3

Lecture 17: Section 4.8

Lecture 18: Exam 1

Lecture 19: Section 4.9

Lecture 20: Section 4.9

Lecture 21: Section 4.12

Lecture 22: Section 4.14 – 4.15

Lecture 23: Section 4.16

5. Shear and torsional Strength Design

Lecture 24: Section 5.5

Lecture 25: Section 5.7

Lecture 26: Section 5.8 – 5.11

Lecture 27: Section 5.12 – 5.14

Lecture 28: Section 5.16, 5.17.1 – 5.17.5

Lecture 29: Section 5.16, 5.17.1 – 5.17.5

Lecture 30: Exam 2

6. Indeterminate Prestressed Concrete Structures

- Lecture 31: Section 6.4
- Lecture 32: Section 6.5
- Lecture 33: Section 6.6
- Lecture 34: Section 6.7
- Lecture 35: Section 6.9
- Lecture 36: Section 6.12
- Lecture 37: Section 6.12

7. Camber, Deflection, and Crack Control

- Lecture 38: Section 7.4 – 7.5
- Lecture 39: Section 7.7, 7.10

8. Prestressed Compression and Tension Members

- Lecture 40: Section 8.4 – 8.5
- Lecture 41: Section 8.6 – 8.8, 8.10
- Lecture 42: Section 8.6 – 8.9, 8.10

9. Two-Way Prestressed Concrete Floor Systems

- Lecture 43: Section 9.1 – 9.2
- Lecture 44: Section 9.3 – 9.4

Grading:

- Homework – 30%
- Mid-term Exam – 40% (mid March)
- Final Exam – 30%

Attendance is Mandatory