
CE310 = Structure I (Spring'11) INSTRUCTOR = Dr. Duc T. Nguyen
Required Book = Structural Analysis OFFICE = 1319 ECSB
 by R.C. Hibbeler (7-th Edition) PHONE = 683-3761
ISBN# 13: 978-0-13-602060-8, Prentice-Hall Off. Hrs.=
ISBN# 10: 0-13-602060-7

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TOPICS

[1] Possible using the developed software (SMM module) on-line, at

<http://www.lions.odu.edu/~skadi002/work/>

then, select & CLICK "educational and assessment tools"
then select & CLICK "SMM module"

[2] Review of Statics (1.5 "regular" weeks) ---> Chapters 2,3 and 4
---> Reactions, Equation of Condition(s)
---> Determinacy and Stability
---> Shear and Moment Diagrams, Deflected Shapes
---> Analysis of (determinate) Truss (method of joint/section)
Homeworks # 2.16, 2.17, 2.41; 3.5, 3.17; 4.2, 4.7, 4.16 (7-th EDITION)

[3] Deflection By Virtual Work (3.5 "regular" weeks) ---> Chapter 9
---> Theoretical Developments
---> Application to Beams, Simple Frames and Trusses
 (effects of loads, temperatures, support settlements, fabrication
 errors)
---> Maxwell-Betti Law
Homeworks #9.3, 9.28, 9.29, 9.49, 9.51, 9.52, 9.58, 9.64 (7-th EDITION)

[4] Intro. Matrix Structural Analysis (2.5 "regular" weeks) -> Chapters 14-16
Homeworks & Self-Assessment (BONUS) Test(s)
Also using the developed VIS_SA software (from NSF grants)

Homeworks # 14.12; 15.7; 16.4 (7-th EDITION)

[5] Analysis of Indeterminate Structures (1.0 + 2.5 + 2.5 "regular" weeks)
---> By Superposition Method (Beams, Trusses and Frames) ---> Chapter 10

Homeworks # 10.2, 10.3; 10.20, 10.21; 10.31 (7-th EDITION)

---> By Slope Deflection Method (Beams, Frames) ---> Chapter 11

Homeworks # 11.1, 11.3, 11.10, 11.14 (7-th EDITION)

---> By Moment Distribution Method (Beams and Frames) ---> Chapter 12

Homeworks # 12.1, 12.11, 12.14, 12.17 (7-th EDITION)

[6] Influence Lines (1.0 "regular" week) ---> Chapter 6

(related to DESIGN components)

Homeworks # 6.1, 6.3 (7-th EDITION)

NOTES:

Homeworks will be assigned and collected

No late assignments (HomeWorks, computer projects ...) will be accepted

Approx. 2 tests + computer projects + Final exam will be given

Course grade will be (TENTATIVELY) based upon:

2 (in-class) tests 50% + computer (take-home) test 20% + final exam 30%

Numerical accuracy of calculations is critical for grading tests/exam

No make-up tests/projects or final exam will be given, unless medical

certificate of illness is produced (MAKE UP TEST WILL BE "MORE DIFFICULT")

HONOR CODE is observed