COURSE OUTLINE
ME 560/E MCH 500 - SOLID MECHANICS

Instructor: Professor Ashok D. Belegundu, 330 Leonhard Bldg.
Text: Classical and Computational Solid Mechanics, Y.C. Fung & Pin Tong, World Scientific

Off Hrs and Class Help:
ph. (814) 863-2115, E-mail: adb3@psu.edu
Wed 3pm-4pm, or after classes, or via e-mail
(officially limited to (2) per assignment)

Grading policy: H.W.s = 60 %, Exams (2) = 40 %
Raw Score \rightarrow Grade (Guideline): < 50% = F; \geq 80% = A- 's or A's; interpolate in-between using B+, B, B-, C, D .

Assignments should be submitted via ANGEL in pdf format only.

Course Description And Objectives: see Bulletin

Academic integrity: as per Penn State Policies
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<tr>
<th>Class / Date</th>
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| Week 1      | Introduction  
Chapter 1 | HW 1                  |
| Week 2      | Tensor Analysis  
Chapter 2: 2.1–2.3 | HW 1                  |
| Week 3–4    | Stress, Strain, Equilibrium,  
Compatibility  
Chapter 3: 3.1–3.11  
Chapter 4: 4.1–4.4, 4.6, 4.12 | HW 2                  |
| Week 5      | Conservation Laws  
Chapter 5 |                      |
| Week 6–8    | Generalized Hooke’s Law,  
Stress–Strain Relations  
Chapter 6: 6.1, 6.2  
Linearized Theory of  
Elasticity and 2–D Problems  
Chapters 7 & 9 | HW 3                  |
| Exam – 1    | Open book and notes |                      |
| Week 9–11   | Variational Calculus, Energy Theorems  
Chapter 10: 10.1–10.10 | HW 4                  |
| Week 12     | Hamilton’s Principle  
Chapter 11: 11.1–11.2,  
11.5–11.8 |                      |
| Week 13–15  | Finite Element Methods  
Chapter 18 | HW 5                  |
| Week 15     | Miscellaneous Topics  
from Chapters 14 & 8 |                      |
| Exam – 2    | Take–home |                      |