Units: 3
Lectures: Tue./Thu. 3:30-5:00 3107 Etcheverry Hall
Instructor: Prof. T. I. Zohdi,
Office hours: TBA, Room 6117 Etcheverry Hall
Phone/email: 642-9172, zohdi@me.berkeley.edu
Discussion sessions: TBA
GSI: 
Email: 
GSI Office hours: TBA
Text: Course notes.
Grading: The course grade will be approximately based on the following scheme:

- Midterm Exam: 25 %
- Homework projects and “pop” quizzes: 25 %
- Final Exam: 50 %

I will solve “key” problems in class. The GSI will solve more problems during the discussion sessions that are held each week. The quasi-weekly quizzes will come directly out of the lectures and problems solved in class. The projects will combine fundamental physical concepts to model complex systems.

General topics to be covered:

1) Deformation and measures of strain
2) Mechanical equilibrium and measures of stress
3) Analysis of stress, principle stresses, invariants, spherical and deviatoric stresses
4) Linearly-elastic constitutive laws, major mechanical constants, anisotropy
5) Composite materials and micromechanics
6) Design of materials and inverse problems
7) Non-linearly elastic material behavior
8) Elasto-plastic material behavior
9) Linear elastic fracture, stress concentration factors, asymptotic crack tip fields, propagation criteria, cyclic (fatigue) failure