Course Selection Guidance for Students with Interests in Materials, Solid Mechanics or Structural Mechanics

What is “solid mechanics”?  
• The mechanics and physics of materials  
• Mechanics of structures and solid mechanics,  
• Computational science and statistical mechanics & physics  
• Analytical, experimental and computational methods,  
• Continuum, multi-scale and non-continuum approaches  
• And some materials that are not so “solid”

Suggested core courses:

• MAE 6110 Foundations of Solids Mechanics (Fall) or CEE 6710 Fundamentals of Structural Engineering (Fall)  
• MAE 5700 Finite Element Analysis for Mech and Aero Design (Spring)  
• MAE 4130 Mechanics of Composite Structures (Fall)  
• MAE 4140 Mechanics of Lightweight Vehicles (Fall)

Typically, students take two or more of these core courses.

Follow-on courses include:

• MSE 5120/MAE 5130 - Mechanical Properties of Thin Films (Spring)  
• MAE 5200 Dimensional Tolerancing in Mechanical Design (Fall)  
• MSE 6020 Elasticity, Plasticity, and Fracture (Spring)

Most students could benefit from taking a course in Applied Mathematics such as:

• MAE 3100 Intro to Applied Math (Fall)  
• MAE 6810 Methods of Applied Mathematics I (Fall)  
• CEE 6000 Numerical Methods for Engineers (Fall)

Additional courses to broaden engineering knowledge

• MAE 5730 Intermediate Dynamics and Vibrations (Fall)  
• MAE 5230 Intermediate Fluid Dynamics with CFD (Spring)