- **Course Number and Title:** CE 301. Mechanics of Materials
- **Catalog Description:** Stress, strain, and elasticity of materials.
- **Credit Hours:** 3 Credits (3)
- **Prerequisite(s) / Corequisite(s)**
  Prerequisite(s): ENGR 233
  Pre/Corequisite(s): None
- **Required:** Required for BSME and BSAE Degrees
- **Course Availability:** Fall and Spring Semesters + Summer
- **Instructor (Usual):** Dr. Zhe Wan (See https://ce.nmsu.edu/faculty-and-staff/rank.html)
- **Textbook:** Hibbeler, R.C., *Mechanics of Materials*, 10th Ed., Pearson Education, 2016 (ISBN-10: 0134319656, ISBN-13: 978-0134319650).
- **Course Learning Objectives:**
  After completing this course, a student should be able to:
  1) Have a good understanding of the kinetics of particles, kinematics and kinetics rigid bodies, energy and momentum principles, and kinetics of rigid bodies.
  2) Be able to apply the acquired knowledge to formulate, solve and interpret solutions of engineering mechanics problems.
- **Topics Covered:**
  - Normal stress.
  - Normal strain.
  - Shear stress and strain.
  - Transformation of stress and strain.
  - Torsion
  - Shear and moment in beams.
  - Stresses in beams.
  - Beam deflections.
  - Combined loads.
  - Buckling (Optional)
  - Hoop stress (Optional)