Capabilities & Research Focus

Department of Mechanical Engineering
2014-2015
Research Focus

- Interactive and innovative web-based learning and testing with immediate feedback: software and design
- Theoretical and applied mechanics
  - Displacement center
  - Compatible versus rigid-body virtual displacements
  - Concise major steps and strategy for applying virtual work method in Statics and Dynamics
  - Guiding rules for conjugate beam method
  - Method of model formulas for beam deflections
  - Effective approach to analyzing stepped beams

Application Areas

- On-line learning and self-testing for students in large (or any size) classes
  - Statics and Dynamics
  - Mechanics of materials
- Analyses of frames and machines
- Virtual work method made accessible
- Analyses of statically indeterminate reactions and deflections of beams: prismatic, Gerber, or stepped
- Providing independent checking