ME 6704: Mechanics of Machinery

• **Instructor:** Ashok Midha, Professor, Department of Mechanical and Aerospace Engineering
  - Room 186 TMH
  - Office: (573) 341-4298; Cell: (573) 578-9823
  - E-mail: midha@mst.edu
  - Office Hours: Open; by availability and/or appointment

• **ME 6704: Mechanics of Machinery:**
  - **Course Objective:** i) selected topics in machine analysis and design for high-performance and high-speed applications, and ii) emphasis on design implications in the presence of elastically deformable mechanism elements
  - **Course Prerequisites:** Vector & matrix analysis; introductory planar kinematic & dynamic analysis of mechanisms; ME 5704 or equivalent, with consent of instructor
  - **Brief Course Description:** Rigid-body kinematics, dynamics and synthesis of mechanisms; cam-follower mechanisms; mathematical modeling of mechanisms containing elastic elements; transient and steady-state vibration response; parametric instability in mechanical systems; advanced topics in compliant mechanisms; high performance mechanisms will be emphasized
  - **Course Requirements:** *Homework:* weekly/bi-weekly assignments (20%); *Projects:* 2 to 3 projects (computer usage emphasized – 30%); *Exams:* 1 midterm (25%) and 1 final take-home (25%) exam
  - **Text:** *Kinematics and Dynamics of Planar Machinery,* B. Paul, Prentice-Hall, Inc., 1979. Supplementary handouts will be provided to facilitate course teaching and learning