ME 459 Dynamics of Machinery
Course Objectives

**Objective 1**
To expand students knowledge of planar kinematic analyses of rigid body systems

**Objective 2**
To teach students concepts of planar, inverse, Newtonian dynamic analyses of mechanisms and machines

**Objective 3**
To teach students concepts of three-dimensional, inverse, Newtonian dynamic analyses of fixed-axis rotation of non-symmetric bodies

**Objective 4**
To teach students concepts of static and dynamic mass balancing and flywheels

**Objective 5**
To teach students concepts of generalized forces and the Principle of Virtual Work

**Objective 6**
To teach students concepts of planar Lagrangian dynamic analyses of one and two degree-of-freedom rigid body systems

**Objective 7**
To teach students concepts of linear vibration analyses of one and two degree-of-freedom rigid body systems

**Objective 8**
To teach students to use existing software tools for planar mechanical system dynamics