**Course Topics**

**EEE 528: Introduction to Microelectromechanical Systems (MEMS)**

**Prerequisites:** Graduate Engineering student

**Catalog Course Description:** Microelectromechanical systems and devices emphasizing analytical and numerical modeling of actuation and sensing mechanisms with an overview of fabrication technology.

**Course Topics:** Crystalline Structures, the Physics of Scaling, Microfabrication for MEMS, Designing Process Flows, Electrostatics, Elasticity, Beams, Moments, Resonance, Thermodynamics, Fluid Mechanics, Soft Lithography, Microfluidics,

Finite Element Analysis, Signal Transduction, BioMEMS, and Equivalent Modeling for Multiple Domains (e.g. electrical, mechanical, rotation, incompressible fluid flow, thermal, etc.)