Attention Students!
New Course Starting Fall 2017

Undergraduate and graduate elective; 3 Credits

Instructor: Dr. Yu Huang, yu.huang@usu.edu

Schedule: Lectures, Wed & Fri 1:30-2:20pm; Labs, Thr 1:30-3:30pm

CRN: 54269 for undergraduates, 54271 for graduates (opens on 4/13/2017)

Prerequisites: BENG 3500 or permission of instructor and Admission to the Professional Engineering Program.

Highlights of Learning

- Computer Aided Design (CAD)
- Good Manufacturing Practice (GMP) & cleanroom training
- Microfabrication
- Cell and tissue engineering
- Multiphysics Simulation
- Research Proposal

This is a fundamental course of bioMEMS (biological Micro-Electro-Mechanical Systems), meant to be an advanced undergraduate or entry-level graduate course in engineering or other relevant interdisciplinary program. The lecture introduces the concepts of miniaturization, materials and methods for microfabrication, principles of microengineering, and overviews of the application in biomedical research, including microfluidics, tissue engineering, cell-based and non-cell-based devices, and implantable systems. The lab session provides additional hands-on experience for design, fabrication and computer simulation of miniaturized system.