

## **ECE 4386: Introduction to Microsystems II**

**Credit / Contact hours:** 3 / 3

**Course coordinator:** Tim Dallas

**Textbook(s) and/or other required material:** Micro Electro Mechanical System Design, J. Allen

**Catalog description:** Application of microfabrication to create microsensor systems. Integration of optics, optoelectronics, and microfluids. Includes other MEMS projects.

**Pre-requisite(s) or co-requisites:** ECE 4385. For majors only or departmental consent.

**Designation:** Elective

**Course learning outcomes:** Upon completion of this course, students should be able to do the following:

1. Develop a Microelectromechanical System (MEMS) for fabrication at a semiconductor foundry.
2. Use computer based tools to predict the behavior of MEMS.
3. Operate and analyze the behavior of MEMS
4. Utilize computer layout and simulation tools to design MEMS devices for fabrication

**Student outcomes addressed:** a, c, e, and k

**Topics covered:**

AutoCAD (3 hours) SUMMiT V design, 2D and 3D visualization software (3 hours)

ANSYS (3 hours)

Student presentations and group discussion (21 hours)

Experiments (12 hours)