University of Wisconsin - Madison  
College of Engineering [EGR]  
Last Offered: 2015-2016 Spring [1164]  
Direct Link to this Syllabus:

1. ECE 335, Microelectronic Devices  
2. Credits: 3  Contact Hours: 4.0  
3. Textbook and Materials:


4. Specific Course Information:

   a. Brief description of the content of the course (Course Catalog Description):
   Characteristics of semiconductors; study of physical mechanisms and circuit modeling of solid state electronic and photonic devices; principles of microelectronic processing and examples of integrated circuits.

   b. Pre-requisites or Co-requisites:
   ECE 220, ECE 230, and ECE 235

   c. EE-Required  
   CMPE-Selected Elective

   • Specific Goals for the Course:

   a. Course Outcomes:

   1. Students will know how microelectronic devices work and use that to better understand other related undergraduate and graduate courses.

   • ABET Student Learning Outcomes:

   (a) Ability to apply mathematics, science and engineering principles.
   (d) Ability to function on multidisciplinary teams.
   (e) Ability to identify, formulate and solve engineering problems.
   (i) Recognition of the need for and an ability to engage in life-long learning.
(k) Ability to use the techniques, skills and modern engineering tools necessary for engineering practice.

- **Brief List of Topics to be Covered:**

  pn junctions, BJT and FET operation, IC fabrication.