ECE440 Nanoelectronics

(Department of Electrical and Computer Engineering, Fall 2013)

Schedule 309 BH, 11am~12:15pm, Tuesday and Thursday (08/26/2013~12/06/2013)
Course website http://www.ece.uic.edu/~zyang/Teaching/20132014Fall/index.html and UIC Blackboard
Instructor Prof. Zheng Yang (Email: yangzhen@uic.edu)
Office hours (1) Regular: ERF 3017, 9:30am~10:30am, Tuesday and Thursday.
(2) Additional office hours are requested by email appointments.

Prerequisite ECE346 or instructor’s consent

Additional information can be found at the textbook website:


Course materials Lecture Slides and Lecture Notes are posted in Blackboard.

Course descriptions In the course, elementary level of quantum mechanics, fundamental knowledge of nanotechnology, and recent research progress in nanotechnology-related topics are discussed. Preparation, fabrication and characterization techniques of nano-materials and nano-devices are presented. Representative two-dimensional (e.g. 2DEG in quantum wells, graphene, MoS$_2$, etc), one-dimensional (e.g. nanowire, nanotube), and zero-dimensional (e.g. quantum dots) nano-material systems are discussed.


Quizzes Two regular quizzes (75 minutes) are scheduled on 09/19/2013 and 10/17/2013. Each of them counts 15% for the final grading. Pop-up quizzes (5-10 minutes) will be given at the beginning of some classes to test the knowledge discussed in the previous class. The overall of all pop-up quizzes counts 15% of the final grading. NO MAKEUP QUIZZEZ will be given!

Research Report Each student need to submit a research report by the end of the semester based on literature review on state-of-the-art papers under the scope of nanoelectronics research area. The guidelines and requirements for the research report are posted separately.
Final Exam The Final exam is tentatively scheduled on 12/09/2013. No MAKEUP EXAMS will be given!

Grading The grading is based on quizzes (15%×2 + 15%=45%), one research report (25%), and the final exam (30%).

Professional and Ethical Responsibility
- Read announcements on Blackboard and emails from the instructor regularly.
- Review lecture slides and notes posted on Blackboard.
- Attend all lectures.
- Take exams on scheduled dates. No make-up exams or alternate arrangements will be allowed unless for reasons beyond a student’s control (supporting documents required).
- Submit the research report on time. No credit will be given to research report submitted late.
- Policy on Cheating: Dishonest actions by students will result in appropriate disciplinary action. Intentional use or attempt to use unauthorized assistance, materials, or information, in any quiz, examination, or assignment, may lead to penalties such as a failing grade. College of Engineering and University guidelines will be followed.