

RENSSELAER POLYTECHNIC INSTITUTE
ECSE-2210 MICROELECTRONICS TECHNOLOGY
Spring 2024

Faculty	Professor Z. Rena Huang, Office: CII 6207; Phone: 276-6086, Email: huangz3@rpi.edu , Office hours: TBD (email first) or by appointments.			
	Professor Muhsin Celik, Office: JEC7026; Phone: 518 276-2937, Email: celiks@rpi.edu , Office hours: By appointment by email.			
TA	Daniel Crowley (GTA) Haoxuan Zhu (UG-SA) <i>TA office hour: TBD.</i>			
Objectives	An introductory survey of microelectronics technology emphasizing physical properties of semiconductors, physical principles of device operation, equivalent circuits useful in circuit design and fundamental limitations of semiconductor devices and principles of integrated circuit fabrication. Particular emphasis is placed on semiconductor fundamentals, p-n junctions, and MOSFETs.			
Pre-requisite	ECSE-2010 Electric Circuits			
Co-requisite	ECSE-2100 Fields and Waves I			
Text	R. F. Pierret “Semiconductor Device Fundamentals” Addison–Wesley			
Class	Tuesday, Friday, 10am – 11am,	Lecture	JEC4309	
	Tuesday, Friday, 11am – 11:50am	Class activity	JEC4309	
Homework	Homework assignments will be posted on LMS. Refer to the class schedule for the due date of the homework.			
In-class activities:	There will be 27 class activities. You should finish these activities in class. These will be graded mostly for effort, with timely submission particularly important.			
Exams	Quiz I	Feb. 14, 2024 (Wed.)	7:00 – 8:50 PM	JEC4309
	Quiz II	Apr. 3, 2024 (Wed.)	7:00 – 8:50 PM	JEC4309
	Final Exam	TBD		
Solutions	Solutions to the homework problems and class activities will be posted on LMS.			
Grading	Two quizzes:	45 %		
	Final exam:	30 %		
	In class activities	15 %		
	Homework	10 %		

COURSE PROCEDURES AND POLICIES

To maintain accurate course records, follow the following guidelines:

- Print your name clearly on all papers.
- In case of absence from a class, give the class instructor an excuse prior to the lecture.
- To submit a paper including homework assignment, class activity and quizzes for re-grading, attach a note and give it to the TA who is responsible for the grading. Do not make any changes to the work; but describe the discrepancies in an attached note. Do this no later than **one week** after the paper was returned.
- Save your graded papers (at least until the course is concluded). You may need these papers in the unlikely event of a clerical error.

Other policies:

- In quizzes and final exam, students are allowed crib sheets that have size of 8.5" x 11". You can write anything on this sheet. In the second quiz, you can bring the crib sheet you prepared for quiz 1. In final exam, you can bring the crib sheets you prepared for quiz 1 and 2 in addition to a new crib sheet.
- There will be **NO** make-ups for quizzes! If you can't take any quiz due to unexpected emergence, you need to notify the course instructor **prior** to the exam date.
- If you miss one quiz, the grade composition will adjust to the following:

One quiz:	30 %
Final exam:	45%
In class activities	15 %
Homework	10 %
- If you miss both midterm exams, an oral exam for the 2nd quiz will be scheduled in the instructor's office.
- Class activity is due at the end of each class. No credit if you submit the class activity after class.
- Homework is due **in class** on Friday. We don't accept late homework.
- The grades you will earn in the course will be as follows: After final exam: A = 90 +, B = 80 +, C = 70 +, and D = 60 +.
- "Curving" may be done only after final exam.
- Grade modifiers may be assigned after final exam.
- In calculation of the final grade for the class, the lowest homework grade and 4 class activity grades will be dropped.

Academic integrity:

- Students are encouraged to work in a group for in-class activities.
- Collaboration with others on homework is permitted. However, each student must submit his or her own homework.
- Students must work independently on quizzes and final exam. Cases of academic dishonesty will be dealt with according to procedures outlined in the Student Handbook.