

Syllabus
ECE 471B Semiconductor Junctions
Spring 2020
February 24- April 6

Instructor: Carmen S. Menoni
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Class Times: TR, 9:30am - 10:50am, B3
Office: Engineering C 101E
Office Hours: TR: 8.30-9.30 AM or by appointment
Text: "Semiconductor Physics and Devices"
Donald A. Neamen, Fourth Edition (Chapters 5-8)

Course description:

This course introduces basic concepts of carrier transport phenomena in a semiconductor, understanding of the behavior of excess carriers and the basics of the pn junction electrostatics and current-voltage behavior.

Course Credits: 1
Prerequisites: ECE331 with a minimum grade of C; ECE471A, may be taken concurrently

Grading and Exams:

Comprehensive Final	70%
Quizzes (2)	20%
In class HW discussion	10%

Homework will be assigned once a week. It will not be graded. There will be in-class discussion of the homework.

Quizzes. There will be 2 CANVAS Quizzes. They will be open book and open notes.

Final Exam: In class, open book and notes, will take place on **April 2, 2020**. Prof. Menoni will provide a formula sheet.

Material for the class is stored in CANVAS.

Presentations from students should also be uploaded into this folder before class time when required.

The pace of this class requires student read each chapter before they are discussed in class

Course Outline

Lecture No.	Week No.	Chapter	Topic
1	1	4	Review
2	1	5	Carrier Transport Phenomena
3	2	5	Carrier Transport Phenomena
4	2	6	Nonequilibrium Excess Carriers in Semiconductors
5	3	6	Nonequilibrium Excess Carriers in Semiconductors
6	3	6	Nonequilibrium Excess Carriers in Semiconductors
			SPRING BREAK
7	5	7	PN Junction
8	5	8	PN junction Charge transport
9	6	8	PN Junction Charge transport
	6		Final Exam – April 2

Class Etiquette

Phones and other electronic devices must be turned off at the beginning of the class and remain off during the duration of the class.