

**FLORIDA INTERNATIONAL UNIVERSITY
UNIVERSITY CURRICULUM COMMITTEE
Course Change/Deletion Request**

DO NOT TYPE IN THIS BOX

Bulletin # : _____
Academic Year : _____

INSTRUCTIONS: Fill out Part I completely. In Part II, fill out the items which have changed and explain reason for change.

I. 1a. SCHOOL/COLLEGE Engineering and Computing DIV./DEPT. IN WHICH TAUGHT Electrical and Computer Engineering
 b. DIV./DEPT. NO. EGEL DEPT. ACCOUNT NO. 2124001
 (9 digits)
 2a. Present Course Title Electronics I
 b.

<u>EEE</u>	<u>3</u>	<u>303</u>		<u>3</u>		
Alpha Prefix	1st Digit	last 3 Digits	"C"-lec-lab "L"-Lab	Cr. Hrs.	HEGIS No. (6 digits)	CIP Code (Leave this blank)

 3. Deletion Request? Yes Effective Date / / 20
 a. Reason for Deletion: _____
 b. Skip Change Information Section (Part II)
 No Fill out Part II.

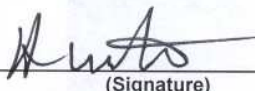
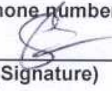
II. CHANGE INFORMATION ONLY

4a. New Title: _____ Change Effective / / 20
 b. Abbreviated course Title (for computer class schedules, transcripts) _____
 25 Characters (including spaces)
 5a.

<u> </u>	<u> </u>	<u> </u>	<u> </u>	Credit Hours: From <u> </u> To <u> </u>
New Alpha Prefix	1st Digit	last 3 Digits	"C"-lec-lab "L"-Lab	

 6. Catalog Description (not to exceed 200 characters including spaces) _____
 7. New Prerequisite(s): EEL 3110 and EEL 3110L New Corequisite(s): EEE 3303L
 8. Explain Reclassification Request: _____

CHANGE REQUESTED BY:

Faculty Contact	<u>Herman Watson</u> (Type name)	 (Signature)	<u>09/04/2012</u>
	<u>herman.watson@fiu.edu</u> (Email address)	<u>(305)348-3018</u> (Phone number)	
Chairperson (Dept./Div.)	<u>Shekhar Bhansali</u> (Type name)	 (Signature)	<u>9/4/2012</u>
Chairperson (Curr. Comm.)	<u>Nagarajan Prabhakaran</u> (Type name)	<u> </u> (Signature)	<u> </u> / <u> </u> / 20 <u> </u>
College/School Dean	<u>Amir Mirmiran</u> (Type name)	<u> </u> (Signature)	<u> </u> / <u> </u> / 20 <u> </u>

APPROVED BY:

University Curriculum Committee _____ / _____ / 20 _____
 Faculty Senate Chairperson _____ / _____ / 20 _____
 Academic Affairs V.P. _____ / _____ / 20 _____

Submit one original copy of this form. Attach one hard copy and one electronic copy of the course syllabus containing: Objectives, Learning Outcomes, Major Topics and Textbooks.

Syllabus

EEE 3303 - ELECTRONICS I - Spring 2012

Schedule Section U01: Tu & Th 5:00 - 6:15 PM Room: EC-1104

Schedule Section U02: Tu & Th 12:30 - 1:45 PM Room: EC-2420

INSTRUCTOR INFORMATION:

Professor: Prof. Carlos E. Angulo

Department/Office: Electrical and Computer Engineering / EC-3142

Office Hours: Tu & Th 12:00AM-12:30PM, 3:15-5:00PM, 6:15-7:15PM or by appointment.

Telephone: Dpmt: (305) 348-7371 or (954) 292-8695

Email: ceangulo@fiu.edu

Course Website: ecampus.fiu.edu (Moodle)

COURSE DESCRIPTION:

Introductory electronics course dealing with basic electronic devices such as Op-Amps, diodes, transistors,

FETs, SCR etc., and their circuit applications. (3 Credits)

Prerequisites: EEL3110 or EEL3110L Corequisite: EEE3303L

TEXTBOOK:

Microelectronic Circuits, Sedra & Smith, Oxford University Press, 6th Ed., 2010 (ISBN: 9780195323030)

TOPICS COVERED:

1. Operational Amplifiers - Chapters 1 and 2 (some topics of Chapters 16 and 17)
2. Diodes - Chapter 4
3. MOS Field-Effect transistors (MOSFETs) - Chapter 5 (some topics of Chapter 7)
4. Bipolar Junction Transistors (BJT) - Chapter 6 (some topics of Chapter 7)

Note: The course outlines and objectives are a guideline for the material intended to be covered during the term. The order or content

of the material may be changed as needed. Student is responsible to keep up with class activities and attend class every lecture.

LEARNING OUTCOMES:

1. Understand the concept of the ideal Op-Amp and Analyze circuits containing ideal Op-Amps
2. Understand the effect of finite open-loop gain on circuit performance
3. Understand the concept of the ideal diode. Understand the terminal characteristics of junction diodes
4. Analyze and synthesize piece-wise linear circuits consisting of resistors, independent current and voltage sources, and ideal diodes
5. Perform the analysis of diode circuits. Derive and understand the small-signal diode model and its application
6. Understand the operation in the reverse breakdown region and Zener diodes
7. Analyze and design rectifiers, peak detectors, etc.
8. Discuss the structure and physical operation of the enhancement type MOSFET
9. Analyze MOSFET circuits at DC. Bias the MOSFET for discrete-circuit and IC design
10. Derive and understand the small-signal model and its parameters
11. Understand the operation of the BJT and its modes of operation
12. Sketch the pertinent voltage-current characteristics of the BJT

13. Perform the dc analysis of transistors circuits
14. Derive and understand the hybrid-model and its parameters
15. Bias the BJT for discrete-circuit and IC design

GRADING POLICY/COURSE EVALUATION:

Grading

Test 1	20%
Test 2	25%
Design Project	15%
Final Exam (Comprehensive)	40%

Grade Distribution

95 - 100	A	77 - 79	C+
90 - 94	A-	73 - 76	C
87 - 89	B+	70 - 72	C-
83 - 86	B	60 - 69	D
80 - 82	B-	0 - 59	F

Tests and Final Exam:

1. There will be 2 tests and 1 Final Exam. Tests will cover all topics we discuss until last day before Test.
2. The Final Exam will be comprehensive and will cover all topics we discuss during the semester.
3. Design Project will be selected by student and proposed to professor for approval on or before the 8th week of semester (before Spring Brake). Use of P-Spice or MultiSim is highly encouraged and recommended.

Design Project Final Report will be submitted two weeks before Final Exam (Before last class-week).

4. The Instructor will verbally announce Test Dates at least two weeks in advance.
5. Unless changed by instructor, Tests will be close book and close notes. One double side hand written letter size formula sheet will be allowed.
6. Test extra credits will be assigned at the instructor's discretion, but no extra-credit homework, test or assignments will be issued for grades substitution, unless special circumstances occur.
7. This course has no "Attendance Grade", so attendance is the sole responsibility of students.
8. Academic Honesty: The school policy will be adhered to. Evidence of cheating directly or indirectly will result in an "F" for the given test.

Missed Test Regulations:

1. Notify Instructor or secretary (348-2807, Pat) BEFORE class, bring written proof to instructor
2. Make-up test will be harder, and will include all material up to the date of the make-up.
3. Make-up test BEFORE next class meeting. See instructor before next class.

Department Regulations Concerning Incomplete Grades:

To qualify for an Incomplete, a student:

1. Must contact (e.g., phone, e-mail, etc.) the instructor or secretary before or during missed portion of class.
2. Must be passing the course prior to that part of the course that is not completed.
3. Must have documented circumstances beyond his/her control.
4. Must make up the incomplete work through the instructor of the course.
5. Must see the Instructor. All missed work must be finished before last two weeks of the following term.

Contribution of course to meeting the professional component:

Engineering Science

Engineering Design

Relationship of course to program outcomes:

In the course EEL 3303 and EEL 3303L the student will have to show

- (a) An ability to apply knowledge of mathematics, science and engineering
- (c) An ability to design a system, component, or process to meet desired need within realistic constraints such as economic, environmental, social, political, ethical, health and safety, manufacturability, and sustainability
- (e) An ability to identify, formulate, and solve engineering problems
- (k) an ability to use the techniques, skills, and modern engineering tools necessary for engineering practice