

University of Puerto Rico
 Mayagüez Campus
 College of Engineering
 Department of Electrical and Computer Engineering
 Bachelor of Science in Electrical Engineering

Course Syllabus

1. General Information:		
Alpha-numeric codification: INEL 4211 Course Title: ELECTRONICS LABORATORY 1 Number of credits: 3 Contact Period: One credit hour. One three-hour laboratory per week Required in INEL and ICOM		
2. Course Description:		
English: Experiments with basic amplifiers and digital circuits. Design and testing of simple electronic circuits.		
Spanish: Experimentos con amplificadores y circuitos digitales básicos. Diseño y prueba de circuitos electrónicos simples.		
3. Pre/Co-requisites and other requirements:		
Prerequisites: INEL 4115 and INEL 4205. Co requisite: INEL 4201		
4. Course Objectives:		
This course is designed to provide students with hands-on experience in the design, assembly, and test of electronic circuits. As part of the course activities, the written and graphical technical communications skills will be further developed.		
5. Instructional Strategies:		
<input checked="" type="checkbox"/> conference <input checked="" type="checkbox"/> discussion <input type="checkbox"/> computation <input type="checkbox"/> laboratory <input checked="" type="checkbox"/> seminar with formal presentation <input type="checkbox"/> seminar without formal presentation <input checked="" type="checkbox"/> workshop <input type="checkbox"/> art workshop <input type="checkbox"/> practice <input type="checkbox"/> trip <input type="checkbox"/> thesis <input type="checkbox"/> special problems <input type="checkbox"/> tutoring <input type="checkbox"/> research <input type="checkbox"/> other, please specify:		
6. Minimum or Required Resources Available:		
7. Course time frame and thematic outline		
	Outline	Contact Hours
	Zener diodes and voltage regulator	1
	Bipolar Transistors	1
	Basic amplifier circuits	2
	Logic Families and circuits	2
	Seven Segment LED's	1
	Multiplexers, decoders and memories	1
	Adder binary circuit	1
	Combinational digital circuits	1
	Flip-Flops	1
	Digital Clocks	1
	Project	2
	Test	1
	Total hours: (equivalent to contact period)	15
8. Grading System		
<input checked="" type="checkbox"/> Quantifiable (letters) <input type="checkbox"/> Not Quantifiable		
9. Evaluation Strategies (Suggested): The faculty member teaching the course will provide the student with the evaluation strategy he/she will be using throughout the semester. This will be done within the first week of classes.		
<input type="checkbox"/> Exams	Quantity	Percent

<input type="checkbox"/> Final Exam		
<input type="checkbox"/> Short Quizzes		
<input type="checkbox"/> Oral Reports		
<input type="checkbox"/> Monographs		
<input type="checkbox"/> Portfolio		
<input type="checkbox"/> Projects		
<input type="checkbox"/> Journals		
<input type="checkbox"/> Other, specify: Homework		
TOTAL:		100%

10. Bibliography:

Electronics Laboratory Manual, RUM.

11. According to Law 51

Students will identify themselves with the Institution and the instructor of the course for purposes of assessment (exams) accommodations. For more information please call the Student with Disabilities Office which is part of the Dean of Students office (Chemistry Building, room 019) at (787)265-3862 or (787)832-4040 extensions 3250 or 3258.

12. Contribution of Course to meeting the requirements of Criterion 5:

Math	Basic Science	General	Engineering Topic
			√

13. Course Outcomes

Map to Program Outcomes

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|--|---|
| <ol style="list-style-type: none"> 1. Apply circuit analysis techniques to understand the physical operation of an electrical circuit system. 2. Be able to set up and safely perform basic electrical laboratory procedures. 3. Be able to graphically and verbally represent or describe experimental data sets. 4. Be able to analyze, interpret, and draw conclusions based on experimental data. 5. Be able to work in teams to complete laboratory work and assignment. 6. Be able to interpret and draw electrical schematic diagrams. 7. Simulate electrical circuits using commercially available software for circuit analysis. | <ol style="list-style-type: none"> a b b b d g k |
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Person(s) who prepared this description and date of preparation: Raúl E. Torres
 Submitted by: Dr. Raúl E. Torres 2007. Revised by: Academic Affairs Committee, May 15, 2008.