

Course Details

Course Department:	Department of Physics
Course Code:	PHY 341
Course Title:	Electronic Physics
Number of ECTS:	6
Level of Course:	1st Cycle (Bachelor's Degree)
Year of Study (if applicable):	4
Semester/Trimester when the Course Unit is Delivered:	Fall Semester
Name of Lecturer(s):	A. Othonos
Lectures/Week:	1 (1.5 hours per lecture)
Laboratories/week:	1 (3.5 hours per lecture)
Tutorials/Week:	--
Course Purpose and Objectives:	The course introduces the students to modern electronics, providing a thorough, comprehensive and practical coverage of electronic devices, circuits and applications. Laboratory experience is an essential part of the course. Most of the lectures will describe how a variety of basic modern electronic elements such as diodes, bipolar junction transistors, field-effect transistors, operational amplifier and how to analyze a circuit containing these elements.
Learning Outcomes:	<p>The students will learn modern electronic elements:</p> <ul style="list-style-type: none"> • pn diodes • Bipolar junction transistors • Field-effect transistors • Operational amplifiers • Analyzing circuits containing these elements
Prerequisites:	Not Applicable
Co-requisites:	Not Applicable
Course Content:	DC and AC circuits. Semiconductors and applications to circuits. PN junction diodes, Bipolar transistors, Field-effect transistors, operational amplifiers. In parallel with these lectures there are associated experiments in the above areas, giving the student hands-on experience with electronics.
Teaching Methodology:	Each week in a four hour secession the first 1.5 hours there is a lecture followed by 2.5 hours of circuit designed and implementation.
Bibliography:	<ol style="list-style-type: none"> 1. Microelectronic circuits, Adel S. Sedra, Kenneth C. Smith 2. Microelectronic circuit design, Richard C. Jaeger, Travis N. Blalock 3. Electronic devices, Thomas L. Floyd 4. Microelectronics, Jacob Millman, Arvin Grabel 5. Schaum's Outline of Electronic, Jimmie J. Cathey 6. Courses in Electronics, Κ. Καρούμπалу και Γ. Φιλοκύπρου.

	<p>7. Electronics, Vol. A, Basic Electronic Components X. Ι. Γεωργοπούλου.</p> <p>8. Electronic Components - Circuits, Vol. A Θ. Λ. Δεληγιάννης.</p>
Assessment:	<ul style="list-style-type: none"> • 25% Midterm test • 25% Midterm test • 50% Final written exam on all material
Language of Instruction:	Greek
Delivery Mode:	Face-To-Face
Work Placement(s):	Not Applicable