Course Details

Course Department:	Department of Physics
Course Code:	PHY 115
Course Title:	Physics Laboratory II
Number of ECTS:	7
Level of Course:	1st Cycle (Bachelor's Degree)
Year of Study (if applicable):	2
Semester/Trimester when the Course Unit is Delivered:	Fall Semester
Name of Lecturer(s):	P. Razis
Lectures/Week:	--
Laboratories/week:	1 (4 hours per lecture)
Tutorials/Week:	--
Course Purpose and Objectives:	Consolidation of the material contained in the introductory course of General Physics II in the areas of Electricity, Magnetism and propagation of Electromagnetic Waves in conductive and non-conductive materials, and acquisition of the necessary skills in the design, assembly and utilization of the relevant instrumentation.
Learning Outcomes:	With the successful completion of the course, the students must: • be familiar with the concepts and knowledge of the experiment they are asked to perform, • be able to properly assemble the layout of the experiment they are called upon to process and use it to receive the data they are requested, • be able to properly process the collected data to calculate the natural quantities requested, • be able to quantify or assess the magnitude and effect of the errors resulting from the use of those instruments in the accuracy of the results they have exported, • be able to assess the advantages and disadvantages of the methodology they followed, • be able to compare the results which they exported with what the relevant theoretical models provide, • be able to propose alternative methods and/or procedures to improve the results they exported from the experiment.
Prerequisites:	Not Applicable
Co-requisites:	PHY 112 - General Physics II
Course Content:	An introductory lecture and 10 different experiments from the fields of Electricity, Magnetism, Circuits, Kinetic Theory of Gases and Thermodynamics. EXPERIMENTAL EXERCISES • Maxwell Distribution of Velocities • Heat Capacity of Gases

	• Electrolysis • Measuring the Magnetic Field of the Earth • Charging of Capacitors • Measurement of Magnetic Fields • Magnetic Moment • Magnetic Induction • RLC Circuits • Radiation - Stefan Boltzmann Law
Teaching Methodology:	One lecture in the first week of the course. Preparation and setting up of the relevant apparatus, data collection, processing of data, calculation of results and errors, extraction of conclusions and preparation of the corresponding Report.
Bibliography:	Special Notes describing the experimental exercises, the book used in the General Physics II course and the notes on error analysis from the first semester.
Assessment:	Laboratory Reports 20% Oral examinations/Quizzes 10% Midterm Examination 20% Final Examination 50%
Language of Instruction:	Greek Help provided in English for the Erasmus or foreign students.
Delivery Mode:	Face-To-Face
Work Placement(s):	Not Applicable