4.1. Compulsory Courses

1st SEMESTER	Physics I (Mechanics)	
	Mathematics I	
	Applied Mathematics I	
	Chemistry	
	Applied Informatics Laboratory*	
2nd SEMESTER	Physics II (Heat - Thermodynamics)	
	Physics III (Electricity - Magnetism)	
	Mathematics II	
	Computer Programming & Computational Physics	
	Introductory Physics Laboratory*	
3rd SEMESTER	Physics IV (Optics-Waves)	
	Mathematics III	
	Applied Mathematics II	
	Atmospheric and Environmental Physics	
	Electric Circuits Laboratory*	
4th SEMESTER	Mathematical Methods in Physics	
	Electronics	
	Optics Laboratory*	
	Physics V (Modern Physics)	
	Theoretical Mechanics	
5th SEMESTER	Nuclear Physics and Elementary Particle Physics	
	Quantum Mechanics I	
	Astronomy - Astrophysics	
	Εργαστήριο Ατομικής Physicsς*	
	Laboratory on Electronics	
6th SEMESTER	Statistical Physics	
	Electromagnetism	
	Quantum Mechanics II	
	Nuclear Physics: Laboratory Course I*	
	Structure of Materials.:Laboratory Course *	
7th SEMESTER	Solid State Physics	
8th SEMESTER		

** All Laboratory courses are also available in the next semester (winter or summer).*

4.2. Elective Courses

Students must succeed in examinations in all Compulsory and a total of 12 Elective courses, which should be distributed as follows:

- **4 Basic Elective courses**
- **3 Generic Elective courses**
- **3 Specialized Elective courses**
- **2 courses from Specialized and/or Generic groups Students may select from the corresponding tables of basic, generic, and specialized elective courses.**

7th SEMESTER	Elective Course – 1	**8th SEMESTER**	Elective Course – 6
	Elective Course – 2		Elective Course – 7
	Elective Course – 3		Elective Course – 8
	Elective Course – 4		Elective Course – 9
	Elective Course – 5		Elective Course – 10
			Elective Course – 11
			Elective Course – 12

** In each semester, students may attend one lesson normally offered in higher semester. Students are recommended to attend one generic elective course in the 5th and 6th semester.*

4.2.1. Basic elective courses

7th SEMESTER	Astrophysics	8th SEMESTER	Observational Astronomy
	Particle Physics		Nuclear Physics
	Renewable Energy Sources		Communications Systems
	Electronic Circuits		Solid State Physics II
	Structural Properties of Materials		Physics of Nanostructures and Surfaces
	Atmospheric Enviroment		Hamiltonian mechanics
	Non-Linear Dynamical Systems		Introduction to the Didactic of Physics
	Computational Physics & Applications		
	Introduction to the Didactic of Physics		

4.2.2. Specialized elective courses

7th SEMESTER	8th SEMESTER
Biophysics	Cosmology
Planetary Systems and Space Exploration	Introduction to Physics ionized gas (Plasma Physics)
Galactic and Extragalactic Astronomy	Radio astronomy - Astronomy in Non Optical wavelengths
Nuclear Physics: Laboratory Course II	Nuclear theory Issues
Physics and Technology of Semiconductor Devices	Experimental Foundations of Particle Physics
Theoretical Statistic Solid State Physics	Accelerators and Detectors in Nuclear and Particle Physics
Propagation of Electromagnetic Waves-Antennas-Microwaves and Applications	Radiation Physics and Applications of Radioisotopes
Non-Linear Circuits	Quantum Optics - Laser
Crystal Structure and Applications	Atmospheric Diffusion and Dispersion
Magnetic Materials and Applications	Atmospheric Technology
Microelectronics	Global Environmental Changes
Quantum Mechanics III	Laboratory on Electronic Circuits
Mathematical Methods in Physics II	Quantum Physics Exercises
Digital systems	Linear Circuits
Teaching Laboratory of Physics	General Theory of Relativity
Fluid Mechanics	Computer Architecture
Thesis for Barchelor-Intoduction to resea methodology	Solid State Physics Laboratory
	Thesis for Barchelor-Intoduction to research methodology

4.2.3. Generic elective courses

WINTER SEMESTER	SUMMER SEMESTER
Bioelectromagnetics	Numerical Analysis
Physics of Liquids and Applications to Materials Science	Biology
Medical Physics-Dosimetry	Geometrical Optics - Applications
History and Evolution of Concepts in Physics	Geophysics - Seismology
Cosmic Radiation	Educational Technology Laboratory
Metrology - Quality Systems	Laboratory in Communications and Networks
Foreign Language (English)	Methodology, Presentation of Physics matter
Internship	Meteorology
Characterization Techniques and Materials in Preservation of Cultural Heritages	Foreign Language (English)
Physics of Metals	Energy Production from nuclear and Fossil Fuels
Physical Chemistry	Probability and Statistics
Chaotic Dynamics	Internship
	Enviromental radioactivity
	Technology-Materials and Social-Economic Environment
	Physics and Philosophy
	Physics of the Human Body
	Physics of Materials
	Photonic Technologies and Applications