

Full Curriculum for Bachelor's Degree in Fundamental Physics

1st year (Science of matter)

Semester	title of the unit	title of the subject
1st	fundamental	Mathematics 1: Analysis & Algebra 1
		Physics 1: Mechanics
		Chemistry 1: Structure of Matter
	methodology	Practical Mechanics
		Practical Chemistry 1
		Computer Science 1: Office Tools and Web Technologies
	discovery (one subjects of choice)	Discovering University Work Methods
		Biotechnolgy
		environment
		Simple physical systems
	transversal	English 1
2nd	fundamental	Mathematics 2: Analysis & Algebra 2
		Physics 2: Electricity
		Chemistry 2: Thermodynamics and Chemical Kinetics
	methodology	Practical Electricity
		Practical Chemistry 2
		Computer Science 2: Programming Language
	discovery (one subjects of choice)	renewable energy
		Chemistry through basic applications
		Business Economics
		history of sciences
	transversal	English 2

2nd year (physics)

Semester	title of the unit	title of the subject
3rd	fundamental	Series & Differential Equations
		Analytical Mechanics
		Vibrations & Waves
		Geometric Optics & Physics
	methodology	Practical Vibrations & Waves
		Practical Geometric Optics & Physics
		Numerical Methods and Programming
	discovery (one subjects of choice)	crystallography
		history of physics
		mineral chemistry
		Probability & Statistics
	transversal	English 3

4th	fundamental	Thermodynamics
		Function of the Complex Variable
		Quantum Mechanics
		Electromagnetism
	methodology	Practical Thermodynamics
		Fluid Mechanics
		General Electronics
	discovery (one subjects of choice)	spectroscopy
		Physicochemical Analysis Techniques
		Concept of Astronomy and Astrophysics
		Atomic & Nuclear Physics
	transversal	English 4

3rd year (fundamental physics)

Semester	title of the unit	title of the subject
5th	fundamental	Quantum Mechanics II
		Statistical Physics
		Special Relativity
		Special Functions of Physics
	methodology (two subjects of choice)	Electromagnetic Waves
		Semiconductor Physics
		Experimental Methods
		Numerical Physics
		Data Analysis
	discovery (one subjects of choice)	Energies
		Biophysics
		Particle Physics
		Differential Geometry
		Acoustics
		Didactic Processes
	transversale	Entrepreneurship
6th	fundamental	Solid State Physics
		Nuclear Physics
		Heat Transfer
		Atomic Physics
	methodology (two subjects of choice)	Practical Atomic Physics
		Practical Nuclear Physics
		Practical Solid State Physics
		Practical Optics
	discovery (one subjects of choice)	Laser
		Plasma Physics
		Nanotechnology
		Optoelectronics
		Solar Cells
		New Materials
	transversal	Scientific English