

BSc. of Physics

Year One

Fall Semester

Basic Mathematics 1

ECTS 6

Basic Maths 1

Working Methodology - Basic Maths 1

Basic Physics 1

ECTS 6

Basic Physics 1

Working methodology - Basic Physics 1

Basic Chemistry 1

ECTS 6

Basic Chemistry 1

Working methodology - Basic Chemistry 1

Introduction to Computer Science 1

ECTS 6

System, Algorithms and Programming 1

Working methodology - Intro to Computer Sciences 1

Languages 01

ECTS 6

English or French

Year One

Spring Semester

Basic Mathematics 2

ECTS 7

Algebra, Probability, Statistics

Analysis

Basic Physics 2

ECTS 6

Basic Physics 2

BSc. of Physics

Basic Chemistry 2

ECTS 6

Basic Chemistry 2

Introduction to Computer Sciences 2

ECTS 6

Systems, algorithms, programming 2

Basic Geosciences

ECTS 2

Introduction to Geosciences

Working methodology

Languages 02

ECTS 3

English or French

Year Two

Fall Semester

Mathematics 1

ECTS 6

Physics 1

ECTS 8

Point mechanics

Fluid mechanics

Thermodynamics 1

Electrostatics

Physical Engineering 1

ECTS 6

Electricity (with L2S3 CS and CE)

Phys. Eng. Lab 1. (Chem. Eng)

Fundamental Physics 1

ECTS 6

Collisions and introduction to relativity

BSc. of Physics

Chemistry 1

ECTS 4

Architecture of matter 1

Transformation of matter 1

Computer sciences 1

ECTS 3

Computer Science for Physics and Chemistry

Languages 1

ECTS 3

English or French

Year Two

Spring Semester

Mathematics 2

ECTS 6

Physics 2

ECTS 6

Oscillators / waves / optics

Physics Lab 1

Physical Engineering 2

ECTS 6

Study of an amplification chain

Electronics (with L2S4 CS and G3)

Electrotechnical engineering

Fundamental Physics 2

ECTS 6

Lagrangian and Hamiltonian analytical mechanics

Magnetostatics

BSc. of Physics

Chemistry 2

ECTS 6

Architecture of matter 2

Transformation of matter 2

Computer sciences 2

ECTS 3

Object oriented programming 1

Languages 2

ECTS 3

English or French

Year Three

Fall Semester

Mathematics 3

ECTS 5

Physics 3

ECTS 8

Electromagnetism

Thermodynamics 2

Electricity for CS and CE and LISIEE

Solid mechanics GGG

Physical Engineering 3

ECTS 14

Heat transfer and renewable energy

Material design

Electrical Energy

Electro-mechanical converters

Analog Electronics

BSc. of Physics

Fundamental Physics 3

ECTS 14

Kinetics of gaz, Brownian motion, non-equilibrium thermodynamics

Physics PW

Languages 3

ECTS 3

English or French

Year Three

Spring Semester

Mathematics 4

ECTS 5

Physics 4

ECTS 6

Fluid mechanics 2

Electronics

Physics Lab 2

Physical Engineering 4

ECTS 7

Signal processing and systems

Fundamental Physics 4

ECTS 7

Relativity, relativistic electromagnetism, wave mechanics

Artificial intelligence

ECTS 3

Languages 4

ECTS 3

English or French

BSc. of Physics

Professional preparation 1

ECTS 3

Soft skills

Student-led project

ECTS 3

Year Four

Fall Semester

Mathematics 5

ECTS 3

Mathematics 6

ECTS 3

Complex mathematical analysis, distributions, Green functions

Physical Engineering 5

ECTS 15

Digital electronics

Fundamental Physics 5

ECTS 15

Physical optics, diffraction and interference

Quantum Mechanics

Statistical physics

Computer sciences 5a

ECTS 3

Parallel programming

Languages 5

ECTS 3

English or French

Professional preparation 2

ECTS 3

Scientific writing

BSc. of Physics

Year Four
Spring Semester

Fundamental Physics 6

ECTS 12

Light matter interaction, spectroscopy

Soft matter physics

Subatomic physics

Introduction to condensed matter physics

Professional preparation 3

ECTS 3

Management and entrepreneurship

Internship

ECTS 15

Internship (8 weeks)