

BSc of Computer Science

YEAR ONE
FALL SEMESTER
Common Courses

Basic Mathematics 1: Mathematics Background in English	3 ECTS
Basic Physics 1: Physics Background in English	3 ECTS
Basic Chemistry 1: Chemistry Background in English	3 ECTS
Introduction to Computer Science: Systems, Algorithms and Programming 1	4 ECTS
The French Language	2 ECTS
The English Language	4 ECTS
Working Methodology	1 ECTS

SPRING SEMESTER
Common Courses

Basic Mathematics 2: Introduction to Algebra, Probability and Statistics	4 ECTS
Basic Physics 2	3 ECTS
Basic Chemistry 2	3 ECTS
Introduction to Computer Science 2: Scripts, Algorithms and Programming 2	3 ECTS
The French Language	2 ECTS
The English Language	2 ECTS
Study Project: Defining the study project	3 ECTS
Introduction to Geosciences and Petroleum Engineering	

YEAR TWO (L1)
FALL SEMESTER
Common Courses

Mathematics 1: Mathematics for Sciences 1	6 ECTS
Physics 1: Mechanics 1, Thermodynamics 1, Electrostatics	6 ECTS
Chemistry 1: Architecture of matter 1, Transformation of matter 1, Experimental chemistry 1	6 ECTS
Humanities 1: Higher Education Methodologies	2 ECTS
The French Language 2	2 ECTS
The English Language 2	2 ECTS

Specialisty Courses

Object-oriented Programming 1	3 ECTS
Computer Science 1	3 ECTS

SPRING SEMESTER

Mathematics 2: Linear Algebra	6 ECTS
Physics 2: Vibration, waves and optics 3	3 ECTS
Physics lab training/ Physics 1 & 2	3 ECTS
The French Language 2	2 ECTS
The English Language 2	2 ECTS
Humanities 2: Introduction to Business World	2 ECTS

Specialisty Courses

Data Structures and Algorithms 1	6 ECTS
Computer Architecture	3 ECTS
Computer Science 2: Databases	3 ECTS

YEAR THREE (L2)
FALL SEMESTER
Common Courses

Mathematics 3: Linear Algebra II	5 ECTS
Physics 3: Solid and fluid mechanics. Electricity	5 ECTS
The French Language 3	3 ECTS
Humanities 3: Management	2 ECTS

Specialist Courses

Data Structure and Algorithms 2	6 ECTS
Systems Programming	3 ECTS
Networks and Protocols: IP Networks	3 ECTS
Web Programming 2: Back-end web programming	3 ECTS

SPRING SEMESTER
Common Courses

Mathematics 4: Vector Analysis	4 ECTS
Physics 4: Thermodynamics 2, Electronics, Physics lab training/Physics 3 & 4	6 ECTS
The French Language 4	2 ECTS

Specialist Courses

Software Engineering	3 ECTS
Object-oriented Programming 2	3 ECTS
Signal Processing	3 ECTS
Development Techniques	3 ECTS
Operating Systems Architectures	6 ECTS

YEAR FOUR (L3)
FALL SEMESTER
Common Courses

Mathematics 5: Linear algebra, Fourier transforms and probability	2 ECTS
Computer Science for Physics and Chemistry	2 ECTS
Physics 5: Electromagnetism	4 ECTS
Humanities 4: Preparation of Internship	2 ECTS

Specialist Courses

Parallel Programming	4 ECTS
Artificial Intelligence	4 ECTS
Network Algorithms	4 ECTS
Combinatorics, Probabilities and Statistics	6 ECTS
Physics 5: Applied Electromagnetism	2 ECTS

SPRING SEMESTER
Common Courses

Humanities 5: Analysis of the Job Market	3 ECTS
BSc Internship in Company [14 weeks]	15 ECTS

Specialist Courses

Interdisciplinary Project [3 weeks]	6 ECTS
Software Certification	3 ECTS
Security	3 ECTS