Computer Science and Networks Engineering Degree

Specialization : **Networks and Internet of Things**

1st Year

27% **Mathematics for computer science**
Graph theory, Language theory
Logic and logic programming
Matrix analysis
Probability
Signal processing / Data processing

30% **Computer and optimization**
Algorithmic problem solving, analysis, and programming (C, Python)
Relational databases (SQL)
Object-oriented programming (C++, Java)
Optimization
Computer science project

23% **Architecture, systems and networks**
Operating systems
Hardware architecture
Electronics basis
TCP/IP networking
System programming

5% **Computer science and networks project**

13% **Humanities and social sciences**
Communication
Professional project (project management, writing resumes and cover letters)
Foreign language 1 : English
Foreign language 2 : German, Spanish, Japanese, Chinese

2% **Internship (4 weeks)**

2nd Year

28% **Services, robotics and communications**
Robotics and automation communication protocols
Global internet services
Distributed algorithms
Digital communications / Signal processing

28% **Networks**
Networks services
Routing protocols
Wireless networks
Cloud and virtualization

20% **Security and systems**
Compilers
Operating systems design
Cybersecurity
Embedded systems

7% **Engineering project**
Team of 3-4 students

13% **Humanities and social sciences**
Financial management
Team management
Professional project
Foreign language 1 : English
Foreign language 2 : German, Spanish, Japanese, Chinese

4% **Internship (12 weeks)**

3rd Year

20% **Next generation networks**
Internet of things
Software-defined networks

30% **Security and core networks**
Cellular networks
Advanced IT Security

20% **Engineering project**
Team of 3-4 students

30% **Humanities and social sciences**
Entrepreneurship
Economic intelligence
Quality insurance
Intellectual property and patents
Foreign language 1 : English
Foreign language 2 : German, Spanish, Japanese, Chinese

3rd Year
Graduation project

Industry or research internship (5-6 months)