

## Semester 5

**Language and human Sciences - 5 ECTS - 84h**

English  
Second language (optional)  
Society and environmental responsibility  
Business organization  
Accountancy  
Sport activities

**Applied Mathematics - 5 ECTS - 81h**

Applied mathematical analysis  
Probability and Statistics  
Numerical mathematical analysis

**Automatic Control 1 - 4 ECTS - 51h**

Continuous and sampled automatic control  
Discrete automatic control

**Electronics 1 - 4 ECTS - 60h**

Electrotechnics  
Electronics

**Design and Manufacturing 1 - 6 ECTS - 81h**

Mechanical manufacturing processes 1  
Design of mechanisms 1  
Strength of materials

**Reliability, safety and maintenance of systems - 6 ECTS - 81h**

Theoretical model for reliability study  
Safety and risks management in industry  
Maintenance and diagnostic

## Semester 6

**Languages and human sciences 2 - 5 ECTS - 73,5h**

English  
Second language (optional)  
Personal communication technics  
Engineering culture  
Health and security at work  
Training by Physical Activites and Sport

**Innovation and Creativity - 3 ECTS - 42h**

Creativity and Innovation Project

**Control and monitoring systems - 6 ECTS - 90h**

Industrial and human automatics  
Industrial Internet of Things

**Information Management Systems - 6 ECTS - 112,5h**

Operating system  
Data base  
Product digital mock-up  
Product Lifecycle management

**Productions systems - 6 ECTS - 99h**

Production Management  
Performances assessment  
Computer-aided manufacturing

**Automation Systems - 4 ECTS - 60h**

Methods and models for  
Controlling an automated system  
Controllers for the control of an automated system

## Semester 7

**Internship - 30 ECTS - 700h**

## Semester 8

### Languages and Human Sciences 3 - 6 ECTS - 94,5h

English  
Second language (optional)  
Training by Physical Activities and Sport  
Group Communication technics  
Intellectual Property  
Entrepreneurship  
Humans Resources Management

### Mathematical tools for production system analysis - 6 ECTS - 120h

Operations research  
Signal processing  
Statistics  
Modelling and simulating Discrete Event System

### Data processing for digital factory and logistics 6 ECTS - 108h

Object oriented workflow modelling  
Graphical interfaces for simulation and control of flux  
Communication networks in digital factory  
Security of cyber-physical systems  
Artificial Intelligence and Big Data

### Humanities and enterprise sciences - 6 ECTS - 82,5h

Occupational psychology  
Ergonomics  
Financial project management  
Econometrics  
Lean Manufacturing

### Production systems performance - 6 ECTS - 90h

Robotics  
Prognostics and health management  
Performance indicators and Dashboard

## Semester 9

### Industrially based group project - 6 ECTS - 120h

Industrially based group project

### Foreign languages and human sciences 4 - 4 ECTS - 63h

English  
Second language (optional)  
Labour law  
Project management  
Training by Physical Activities and Sports

### Elective courses - 3 ECTS - 42h

Elective course n°1  
Elective course n°2

### Total Common Basis 3A - 13 ECTS - 225h

### Design of a flexible cell - 5 ECTS - 60h

### Production system management - 4 ECTS - 63h

Enterprise resources planning  
Planning and Scheduling  
Quality management

### Total Common basis IG - 9 ECTS - 123h

### E-logistics Axis

#### Function of the E-logistics - 4 ECTS - 69h

Procurement and distribution in supply chain  
E-supply  
Integrated management of the supply chain

#### Tools of the E-logistics - 4 ECTS - 60h

Traceability of the supply chain  
Supply chain Optimisation

### Digital Factory Axis

#### Function of the Digital Factory 4 ECTS - 60h

ERP, MES, Supervision

#### Tools of the Digital Factory - 4 ECTS - 60h

Smart machines  
Virtual Commissioning

### Total Common basis +IG+E Logistic axis -30 ECTS 477h

### Total Common basis + GI + Digital factory axis - 30 ECTS - 468h

## Semester 10

### Junior engineer training S10 - 30 ECTS - 700h

Junior engineer training