The Automation and Computer Engineering Department trains operational and versatile engineers for the fields of computer science, automated systems and innovative human-machine interfaces.

Our engineers learn to:

— **integrate information technology** in automated processes (SCADA systems, data exchanges and management, etc.) and in electronic solutions (cyberphysical and embedded systems, connected objects, intelligent sensors, etc.) complying notably with industry 4.0 and smart factories.

— **master software development** using various programming languages, environments and network communications. A specific focus is related to cybersecurity.

— **conceive, develop and assess** virtual reality applications and human, machine and environment interfaces.

Cross-disciplinary skills in human relations, organisation and project management are developed through numerous projects, collaborative work and internships.

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**SOFTWARE DEVELOPMENT**

Software Development and Study Engineer – Network, System or Databases Administrator

**AUTOMATED SYSTEMS**

Automation Engineer – SCADA and Traceability Engineer – Industrial Process Manager – Real-time Engineer – Embedded Systems Engineer

**VIRTUAL REALITY AND HUMAN MACHINE INTERACTION**

Project Engineer – Software Development Engineer – Consultant Engineer in New Technologies – Virtual Reality Environment Designer

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**IN IT SERVICES COMPANIES:** telecommunication, application provider, banking, insurance, finance, industrial computing services, augmented reality, virtual environment

**IN AUTOMATION DEPARTMENTS:** energy, mechanics, agri-food, electronics, water treatment, home automation, equipments, robotics, automobile

**IN SERVICE SECTOR COMPANIES:** consulting in computer and digital technologies

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This training has a strong international dimension and classes can be taught in **ENGLISH**

### 3rd Year

**General courses**
- English – Spanish or German – Economics – Sports – Company Environment – Communication – Management – Accounting – Integration Challenge

**Fundamentals in Engineering**

**Automated Systems**
- Industrial Automation – Modelling and Simulation – Motors and Servo-drives – Automatic Control – Microcontroller – Robotics

**Computer Engineering**

**Project and internship abroad (> 3 months)**

### 4th Year

**General courses**

**Fundamentals in Engineering**

**Automated Systems**

**Computer Engineering**

**Conferences, project and internship (3-4 months)**

### 5th Year

**General courses**
- English – Industrial Property and Patents – Innovation – Professional Integration – Liability and Risk Prevention – Projects costs management

**Computer Engineering and Sciences**

### 3 Specialisation Programmes

- **Control Systems and Industrial Computing**
  - Advanced Automation – Industrial Robotics – SCADA Systems
- **Human Machine Interface and Virtual Reality**
  - Physical Simulation – Interaction and Multi-modality – Modelling and Haptic Rendering – 3D Animation Techniques and Modelling – Behavioural Interfaces – AI
- **Cybersecurity**
  - Unix system administration – Networks and architecture – Applied criptology – Computer security – Connected devices

**Conferences, project and internship (3-4 months)**

### 3 Specialisation Programmes

- **Control Systems and Industrial Computing**
  - Provides additional knowledges in process control and industrial robotics. Industrial applications and emerging technologies are highlighted.

- **Human Machine Interface and Virtual Reality**
  - Specific knowledges related to the mastering of advanced technologies in virtual reality are investigated. Developments of HMI solutions are proposed. Applications are related to health monitoring, merchandising, collaborative robotic, ...

- **Cybersecurity**
  - Considering the increasing reliance on computer systems, the internet and wireless technologies and due to the growth of numerous devices that constitute the internet of things, cybersecurity is one of the major challenges for information technology consulting industry or in manufacturing sector.

### Companies that have recruited our engineers: