POLYTECH ANGERS

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.

POSİTİONS

— **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

FİELDS OF ACTİVİTTY

— **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

More information on www.polytech-angers.fr

3 — 3RD YEAR

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

Fundamentals in Engineering
Mechanical Engineering – Operational Research – Industrial Instrumentation – Signal Processing -Introduction to Quality and Innovation - Project

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

Computer Engineering
C language – Unix – Python – Human Machine Interface – Databases – C# Object Oriented Programming – Virtual Reality – Computer Networks - PHP Web

Project and internship abroad (> 3 months)

4 — 4TH YEAR

General courses
English – Spanish or German –Sports – Communication – Team Management – Liability and risk prevention Law – Financial Analysis – Project Operational Planning

Fundamentals in Engineering
Digital Electronics – Industrial Vision – Image Processing – Data Structure – Enterprise Resource Planning

Automated Systems
Industrial Networks - Scada systems – Traceability – Optimization – Mobile Robotics – Process Control – Real Time – Embedded Electronics

Computer Engineering
Software Engineering – Virtual Reality – Unix Server Administration – Database Administration – JAVA and JAVA EE Programming – C++ Programming – IT Security

Conferences, project and internship (3-4 months)

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

ENGLİSH

5 — 5TH YEAR

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

Computer Engineering and Sciences
Computer Project Management – Digital challenges, IOT – Software Engineering – Mobile Programming – WEB HTML5 Programming

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 (5-6 months)

3 SPECİALİSATİON PROGRAMMES

An engineer having SAGI qualifications masters a double competence: specialist in automation (control engineering) and in computer engineering. They are immediately operational in information technology consulting industry or in manufacturing. sector.

➔ **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.

COMPANİES THAT HAVE RECRUİTED OUR ENGİNEERS:

Thalès – Capgemini Lab'Innovation – Parrot – Actémium – Boccard – Renault – PACK'R – Atos Integration – Eiffage Energy – Ubisoft – Apollo Ssc- Allociné – Worldline, etc.