

## Delivery mode

- On Anglet Campus at STEE College and LIUPPA Laboratory for the IT Digital Transformation option.
- On Campus at ENIT and LGP Laboratory (Tarbes) for the Digital Manufacturing option.



## Contacts

### Coordinator

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### More information

<http://formation.univ-pau.fr/m-computer-science-industry>

### Admission Office

master.programs@univ-pau.fr

### How to apply

The application documents must be uploaded on the website:

<https://ri.univ-pau.fr/m-programs>

## Admission requirements

### Academic requirements

This Master degree is open to students after completion of the first year of a Master's degree or Diploma equal to bac+4 from a European university (minimum of 240 ECTS credits) in Engineering, Science or Equivalent (Bachelor of Engineering, Bachelor of Science or Equivalent).

### Admission requirements

Applicants must be fluent in English, both in writing and speaking. An applicant whose native language is not English has to take a recognized international English test. Minimum required score: CECRL B2.

This program is open to work-study and lifelong learners, and can be followed under a dual training scheme (alternance).

## Detailed Program Facts

**Academic Year:** Our full academic year runs from September to June

**Application:** Applications are open from October to April

**Program intensity:** Full-time

**Duration:** 1 year

**Credits:** 60 ECTS

**Language:** Fully taught in English

**Level:** Master's degree

### Scholarships:

- EIFFEL Scholarship of Excellence
- Region Aquitaine Scholarships for non-EU students
- E2S Talents' Academy Scholarships for all students
- Specific Master's scholarship
- Other funding possibilities : dual training (alternance)

Master's  
degree  
IN COMPUTER  
SCIENCES

Industry  
4.0

Conception - Direction de la communication - Impression : Centre de reprographie - LIUPPA - Septembre 2024



## Overview

The aim of this master is to train Computer Sciences and Information Technologies experts in order to be able to address the new challenges of current and future generations of digital societies. Current trends on digital technologies represented by the Internet of things, cyber-physical systems, social networks, cloud computing, big data, business intelligence, machine learning and artificial intelligence have provided the basis for a new industrial revolution named Industry 4.0.

Our Industry 4.0 Computer Sciences Master degree offers a 1 year, full-time postgraduate program, aimed at providing solid scientific and technological foundations in order to innovate, design and develop future digital organisations based on the new Internet of Everything (IoE) paradigm. It is suited for students planning both an academic or an industrial career and provides the theoretical basis and the practical expertise required to pursue in research or R&D organizations.

The program is carried out in close collaboration with the LIUPPA research laboratory and several R&D organisations, where scientific and experimental practicals will be performed.

Students will also benefit from the global research environment and administrative support of the University Pau & Pays Adour, the ENIT and the E2S I-site program.

## Student Learning Outcomes

At the end of this program, the students in the “Industry 4.0 Computer Sciences Master” will be able to:

- Identify and analyse the functional and non-functional requirements of digital organisations (industries and enterprises).
- Design and model multi-dimensional architectures resulting from the integration and coordination of Internet of Everything entities (IoT, Data, People, Services and Cloud Computing infrastructures) aimed at satisfying the requirements of digital organisations.
- Develop and implement a proof of concept system integrating the various Internet of Everything dimensions.
- Design and conduct experiments in order to test and evaluate Industry 4.0 systems.
- Review, analyse, and interpret the body of scientific literature, contemporary issues and innovations computer sciences and information technologies disciplines.
- Carry out a research project aimed at developing a state of the art and at identifying and solving scientific and technological challenges in the context of the Industry 4.0.

## Opportunities

### Sectors

- Computer Science
- Collaborative Robots Expert
- Information Technologies
- IT/OT Integration Manager
- Systems Engineering
- Industrial Big Data Scientist
- Digital Mentor
- Lean 4.0 Engineer

### Fields

- Research
- Research and R&D structures

### Positions

- R&D Engineer
- PhD student

**78%** of graduates are currently employed

**22%** are pursuing their studies with a PhD

*30 months after graduation  
(class of 2019)*

## Program objectives

- Prepare students at an advanced specialised level to meet present and future scientific and technological challenges in digital industries and enterprises.
- Develop research skills to engage in quality and successful research,
- Prepare students for leading positions in private and public organisations in research and development departments.

## M2 - Semester 1

### Core Curriculum

- Industry 4.0 cyber-physical Systems Engineering and Innovation
- Business Intelligence and Business Analytics
- Research Initiation
- French as a Foreign Language, English

### IT Digital Transformation option (UPPA ANGLLET Campus)

- Service and Micro-Service Oriented Architectures
- Cloud Computing Services and Technologies
- Internet of Things
- Semantic Web, Advanced Databases and Open Linked Data

### Digital Manufacturing option (ENIT Tarbes Campus)

- Advanced Robotics
- Advanced virtual environments
- Advanced Additive manufacturing
- Advanced Industrial Distributed and Embedded Systems

## M2 - Semester 2

- Research internship

