

Master's degree in Computer Sciences

Industry 4.0



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

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 and cognitive computing 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.

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.

Prospects for employment or further study

SECTORS:

- Computer Science
- Information Technologies
- Software and Systems Engineering
- Data Science
- Data Engineering

FIELDS:

- Research
- R&D structures

POSITIONS:

- R&D Engineer
- PhD student

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.

MASTER 2 - COMPUTER SCIENCES: INDUSTRY 4.0

ACADEMIC SEMESTER

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|---|--------|
| • Industry 4.0 cyber-physical Systems Engineering | 4 ECTS |
| • Business Intelligence and Business Analytics | 4 ECTS |
| • Service and Micro-Service Oriented Architectures | 4 ECTS |
| • Cloud Computing Services and Technologies | 4 ECTS |
| • Internet of Things | 4 ECTS |
| • Semantic Web, Advanced Databases and Open Linked Data | 4 ECTS |
| • Research Initiation | 3 ECTS |
| • French as a Foreign Language, English | 3 ECTS |

INTERNSHIP

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| • Research internship | 30 ECTS |
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Detailed Program Facts

ACADEMIC YEAR : Our full academic year runs from September to June

APPLICATION DEADLINE :
Applications are opened from November to April

HOW TO APPLY : The application documents must be uploaded on the website : <https://aap-e2s.univ-pau.fr>

PROGRAM INTENSITY: Full-time

DURATION: 1 year

CREDITS: 60 ECTS

LANGUAGE: Fully taught in English

LEVEL OBTAINED: Master

HEAD OF THE MASTER PROGRAM:
Professor Ernesto EXPOSITO

LOCATION: College of Sciences and Technology for Energy and Environment on the Basque coast campus (Anglet, France)



Admission requirements

ENGLISH LANGUAGE REQUIREMENTS

Minimum required score: CECRL B2 level in English

ACADEMIC REQUIREMENTS

Applicants must hold a 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.

Contact

For any supplementary information or questions related to application, please contact:
ernesto.exposito@univ-pau.fr

More information :

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

International Welcome Desk :

<http://univ-pau.fr/en/welcome-desk>