@font-face{ font-family:'Glyphicons Halflings'; src:url("/content/assets/fonts/bootstrap/glyphicons-halflings-regular.eot"); src: url("/content/assets/fonts/bootstrap/glyphicons-halflings-regular.eot?#iefix") format("embedded-opentype"), url("/content/assets/fonts/bootstrap/glyphicons-halflings-regular.woff2") format("woff2"), url("/content/assets/fonts/bootstrap/glyphicons-halflings-regular.woff") format("woff"), url("/content/assets/fonts/bootstrap/glyphicons-halflings-regular.ttf") format("truetype"), url("/content/assets/fonts/bootstrap/glyphicons-halflings-regular.svg#glyphicons_halflingsregular") format("svg") }

UNIVERSITAT POLITÈCNICA DE CATALUNYA BARCELONATECH

Master's degree in Informatics Engineering

BARCELONA SCHOOL OF INFORMATICS (FIB)

The **master's degree in Informatics Engineering** (**master's degree website**) trains students to become professionals who can give support within any kind of organisation or as part of companies that are involved in or directly provide advanced digital services. Informatics covers a wide range of disciplines, including the design of hardware and software and the services that make these useful for society. Indeed, social and economic progress cannot be understood without taking into account the role played by informatics in all spheres of society.

GENERAL DETAILS

Duration and start date

1.5 academic years, 90 ECTS credits. Starting September and February

Timetable and delivery

Afternoons. Face-to-face

Fees and grants

Approximate fees for the master's degree, **excluding other costs** (does not include non-teaching academic fees and issuing of the degree certificate):
€1,592 (€4,050 for non-EU residents).
More information about fees and payment options
More information about grants and loans

Language of instruction

Check the language of instruction for each subject in the course guide in the curriculum.

Information on language use in the classroom and students' language rights.

Location

Barcelona School of Informatics (FIB)

Official degree

Recorded in the Ministry of Education's degree register

ADMISSION

General requirements

Academic requirements for admission to master's degrees

Places

40

Pre-enrolment

Pre-enrolment for this master's degree is currently **closed**. Use the "Request information" form to ask for information on **upcoming pre-enrolment periods**.

How to pre-enrol

Enrolment

How to enrol

Legalisation of foreign documents

All documents issued in non-EU countries must be legalised and bear the corresponding apostille.

CURRICULUM

Subjects	ECTS credits	Type
FIRST SEMESTER		
Computing and Intelligent Systems	6	Compulsory
Embedded and Ubiquous Systems	6	Compulsory
High Performance Computer Architecture	6	Compulsory
Interactive Graphic Systems	6	Compulsory
Business Integration of Information Systems	3	Optional
Efqm and Quality Management	1.5	Optional
Incorporating the Know-How into the Decision Process	1.5	Optional
Interfaces and Accessibility	3	Optional
Realistic Animation of Articulated Bodies	3	Optional
Sustainability, Economy and Social Commitment	1.5	Optional
Techniques and Tools for Bioinformatics	3	Optional
SECOND SEMESTER		
Development and Management of Information Systems	6	Compulsory
Internet, Security and Multimedia Contents Distribution	6	Compulsory
Strategic Planning and IT Governance	4.5	Compulsory
Viability of Innovative Business Projects	4.5	Compulsory
Algorithms for VLSI	6	Optional
Assistive and Health-Care Technologies	4.5	Optional
Bioinformatics and Statistical Genetics	6	Optional
Cognitive Interaction with Robots	4.5	Optional
Complex and Social Networks	6	Optional
Computer Games	3	Optional
Computer Vision	6	Optional
Constraint Processing and Programming	4.5	Optional
Data Mining Techniques	3	Optional
Digital Identity	3	Optional
Financing for Innovative Business Projects	1.5	Optional
High Performance Computing for Artificial Intelligence	3	Optional
Informatic Technologies for Automation	3	Optional
Information Retrieval and Recommender Systems	6	Optional

Subjects	ECTS credits	Type
Internet of Things	3	Optional
Introduction to Quantitative Linguistics	6	Optional
Introduction to Research	3	Optional
Introduction to Research	6	Optional
Machine Learning Systems in Production (Mlops)	6	Optional
Randomized Algorithms	6	Optional
Software Development for Geographic and Spacial Information	3	Optional
THIRD SEMESTER		
Data Visualization	6	Optional
Master's Thesis	30	Project

PROFESSIONAL OPPORTUNITIES

Professional opportunities

Information systems managers
They are involved in the strategic decisions that affect information systems, ensure that communication flows between technological and business departments, take responsibility for projects to implement applications, set up technological infrastructure, draw up budgets and manage human resources in their departments.

Development managers
They are responsible for the development of applications, supervise one or more project managers, speak to users through their project managers, and devise technical and quality policies.

Production and operations managers
They are responsible for technology infrastructure and platforms, manage budgets, guarantee the availability of information systems, work in close collaboration with the development department to accurately forecast the IT infrastructure that may be required, and ensure that new applications are properly implemented in systems.

Heads of IT
They carry out most of the tasks described above in small- and medium-sized businesses. They draw up a business's systems plan, organize the IT department (equipment, programs and human resources) and work in coordination with the rest of the departments in the company.

Project managers
They are responsible for the overall management of projects in terms of technical specifications, financing and deadlines, interact with users, take part in user training programmes and oversee the implementation of applications.

Functional analysts
They take part in the functional analysis of users' needs, draw up technical specifications and take responsibility for the development of applications.

Heads of department
They ensure the coherence and progress of all IT projects, manage the deployment of new applications and their maintenance, and supervise teams of project managers, functional analysts, etc.

Consultants
They work for consultancies and/or business advisory services that assess the functional and/or technical needs of their clients, and they set up customized programs and training sessions for users.

Database architects
They devise, develop and integrate a company's database.

Heads of quality, methods and procedures

They define and implement development standards, coordinate development teams, define quality indicators and their implementation, and put testing and quality control procedures in place.

Systems architects
They devise the technical and functional architecture of information systems.

Competencies

Generic competencies

Generic competencies are the skills that graduates acquire regardless of the specific course or field of study. The generic competencies established by the UPC are capacity for innovation and entrepreneurship, sustainability and social commitment, knowledge of a foreign language (preferably English), teamwork and proper use of information resources.

QUALITY ACCREDITATION

Check the degree's main quality indicators in the University Studies in Catalonia portal of the Catalan University Quality Assurance Agency. Find information on topics such as degree evaluation results, student satisfaction and graduate employment data.
Further information

ORGANISATION: ACADEMIC CALENDAR AND REGULATIONS

UPC school
Barcelona School of Informatics (FIB)

Academic coordinator
Òscar Romero Moral

Academic calendar
General academic calendar for bachelor's, master's and doctoral degrees courses

Academic regulations
Academic regulations for master's degree courses at the UPC

MASTER'S DEGREE WEBSITE