BACHELOR'S DEGREE

INFORMATION TECHNOLOGIES, WEB AND MULTIMEDIA

2017/2018 ACADEMIC YEAR

INSTITUTO
POLITÉCNICO
DA MAIA **IPMAIA**

INFORMATION TECHNOLOGIES, WEB AND MULTIMEDIA

COORDINATOR

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The field of Information and Communication Technologies is currently one of the most important worldwide and has seen unrivalled development in some of its subfields in Portugal. This degree in Information Technologies, Web and Multimedia aims to provide students with sound skills for devising, developing and implementing IT systems with particular emphasis on those that include multimedia components to be made available on the internet and mobile devices.

The subjects taught on this course, which is particularly aimed at people who wish to work on developing products and services for mobile devices and the web, covers seven main areas:

- Databases and information systems, including mobile computing, data mining, big data and cloud computing (35 ECTS);
- Programming, including algorithms and data structures, agile software development methods and software project management (30 ECTS);
- Operating systems and networking including configuration, administration and management (30 ECTS);
- Internet technologies, including back-end, front-end and geographical components, location-based services, to be developed particularly with mobile devices in mind (25 ECTS);
- Multimedia, including content production, web design, usability and development of multimedia interfaces (20 ECTS);
- Security and privacy, including the security of networks and IT systems and safe computing (15 ECTS);
- Discrete mathematics, probability and statistics (10 ECTS).

Professional opportunities and employability

Graduates in Information Technologies, Web and Multimedia will be able to work as:

- Multimedia content producers;
- Software developers;
- Network and IT systems administrators and managers, including cloud-based systems;
- Information systems developers for the web and mobile devices.

What makes this course different?

The course covers the main topics and technologies currently used to develop products and services for mobile devices and for the web. Seeking to enhance these skills in terms of practical knowledge and not only theory and concepts, the course uses specialised laboratories and, thanks to existing partnerships, next-generation telecommunications networks, preparing students for multidisciplinary teams in business settings.

1) Students who do not hold a pass in Mathematics A (19) in secondary education will need to take a 'Complements of Mathematics' course unit, which is free to attend.

YEAR 1

SEMESTER 1 • 30 ECTS

5	Databases
5	Discrete Mathematics
5	Introduction to Programming
5	Computer Architecture
5	Operating Systems I
5	Internet Technologies

SEMESTER 2 • 30 ECTS

5	Information Systems
5	Probabilities and Statistics
5	Object-Oriented Programming
5	Security and Privacy
5	Networks and Data Communication I
5	Operating Systems II

YEAR 2

SEMESTER 1 • 30 ECTS

5	Systems Analysis and Modelling
5	Information Architecture for the Web and Mobile Devices
5	Multimedia Content Production
5	Algorithms and Data Structures
5	Administration and Management of IT Networks and Systems
5	Networks and Data Communication II

SEMESTER 2 • 30 ECTS

5	Data Mining and Big Data
5	Usability and Web Design
5	Agile Software Development Methods
5	Systems Programming
5	Networks and Systems Security
5	Web Programming (Back End)

YEAR 3

SEMESTER 1 • 30 ECTS

5	Mobile Computing
5	Cloud Computing
5	Development of Multimedia Interfaces
5	Project Management and Software Engineering
5	Web Programming (Front End)
5	Game Development (Optional) [1]
5	Development of Enterprise Information Systems (Optional) [1]
5	Managing Information Systems (Optional) [1]
5	Innovation and Entrepreneurship (Optional)1
5	Operational Research (Optional) [1]
5	Digital Communication and Marketing (Optional) [1]
5	Virtual and Augmented Reality (Optional) [1]
5	Sensor Networks and the Internet of Things (Optional) [1]
5	Distributed Systems (Optional) [1]

SEMESTER 2 • 30 ECTS

5	Systems Integration
5	Multimedia Systems
5	Safe Computing
5	Geospatial Web and Location-Based Systems
10	Project	Internship

1) Choose one unit from the options in group 1

FOR FURTHER INFORMATION

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Exclusive conditions

- Extensive parking on campus.
- A comfortable, welcoming environment throughout the campus.
- Easy access by public transport, particularly the metro at ISMAI station.
- An environment with new technologies and sport, improved with the construction of a new, state-of-the-art sports complex.

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