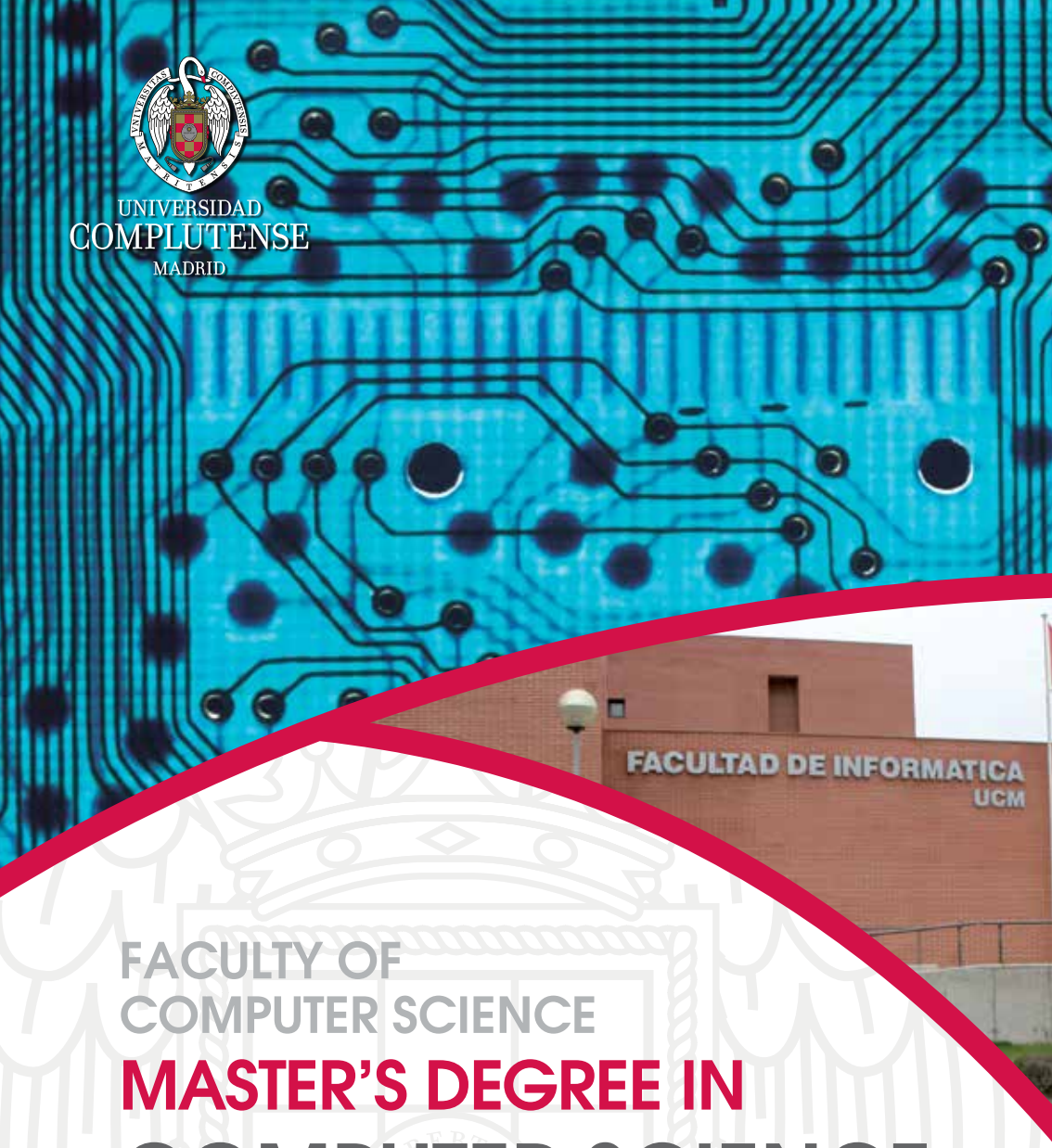
UNIVERSIDAD
COMPLUTENSE
MADRID



FACULTY OF
COMPUTER SCIENCE

MASTER'S DEGREE IN
COMPUTER SCIENCE ENGINEERING

Master's Degree in Computer Science Engineering

Branch of Knowledge
Engineering
Centre Responsible
Faculty of Computer Science. UCM

Orientation: academic-professional
Credits: 90 ECTS
Duration: 1'5 academic years (3 semesters)
Mode: classrom learning
N° of places: 90

https://informatica.ucm.es/master-en-ingenieria-informatica

Objectives

The Master's in Computer Science Engineering qualifies graduate students to work as Computer Science Engineers since it is entirely adapted to the recommendations for confirmation of official degrees for Engineers in Computer Science, from the Secretariat General of Universities (BOE 4 august 2009).

The purpose of the Master's is to complete graduate student education in the area of computer science with advanced elements of computer project administration and management, and deeper knowledge of information technology associated to many of the more common profiles in this field.

The Master's aims to train project managers in technology companies and centres to integrate technologies, applications and services related to computer science engineering through strategic and financial planning and to coordinate and manage all elements of a project.

In short, the Master's enables graduates to acquire additional skills to take on greater responsibilities in the information technology departments of companies, providing innovative technology solutions to highly complex issues.

Target

The Master's is the natural continuation of a Bachelor's Degree in computer science. It may be accessed by graduates in Computer Science Engineering, Software Engineering, Computer Engineering, Information Technology and Information Systems, as well as Computer Science Engineers from a previous syllabus or equivalent degree. With supplementary training, it may also be accessed by graduates in Technical Engineering for Management or Systems Computing, or science or technology degrees.

Why study this Master's?

The Master's is aimed at computer science professionals who wish to obtain high level and academically rigorous official training to improve their employment opportunities in the information technology industry, one of the most dynamic ones and with the greatest demand for highly skilled professionals.

There are many reports noting the significant lack of computer science engineers, which is expected to continue in the near future. Furthermore, the field of information technology is continuously evolving and changing, and therefore continued education for employees is a must, which this Master's can help address.

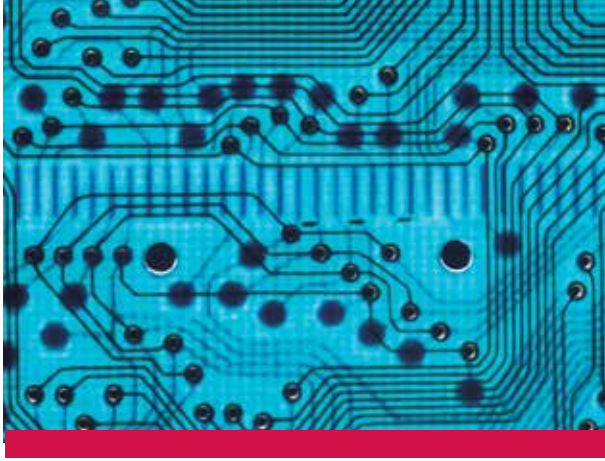
Structure

Since the Master's in Computer Science Engineering follows the recommendations of the Resolution of 8 june 2009, of the Secretariat General of Universities (BOE 4 August 2009), its modular structure is entirely based on the same.

The Master's consists of:

- Administration and Management Module:
  12 compulsory ECTS
- Information Technology Module:
  48 compulsory ECTS
- Computer Science Engineering Supplements Module:
  18 elective ECTS
- Final Project:
  12 compulsory ECTS

Each module consists of two areas based on subjects with 6 ECTS. The Computer Science Engineering Supplements module includes 9 elective subjects with 6 ECTS each plus an additional subject consisting of a company internship; out of these 10 subjects (including internship), students shall complete 3 to achieve the 18 credits required for the module.



Syllabus

TYPE OF SUBJECT	ECTS
Compulsory	60
Elective	18
Final Project	12
Total	**90**

Year One

Compulsory Subjects	ECTS	Semester
Administration and Management Module		
Project and Computer System Administration and Management	6	1º
Corporate Implementation of Technology, Services and Computer Systems	6	2º
Information Technology Module		
Computer Audits, Quality and Reliability	6	1º
High Performance Computing and Applications	6	1º
New Generation Networks and the Internet	6	1º
Data and Information Management Systems	6	1º
Development of Smart Applications and Services	6	2º
Computer Graphics	6	2º
Distributed Embedded Systems	6	2º
Multimedia and Interactive Technology	6	2º

Year Two

Elective Subjects	ECTS	Semester
Computer Science Engineering Supplements Module		
Database Administration	6	3º
Processor Architecture	6	3º
Hardware-Software Co-Design	6	3º
Video Game Development	6	3º
System-on-Chip Design	6	3º
E-Learning	6	3º
Model-Based Software Engineering	6	3º
Company Internship	6	3º
Applied Declarative Programming	6	3º
Advanced Visualisation	6	3º

Final Project	ECTS	Semester
Final Project	12	3º

Departamento de Estudios e Imagen Corporativa. UCM

UNIVERSIDAD
COMPLUTENSE
MADRID

www.ucm.es

Másteres U C M

Campus de Excelencia Internacional

Faculty of Computer Science

Campus Moncloa
http://informatica.ucm.es/

Contents of this brochure is subject to changes
For further information: http://informatica.ucm.es/master-en-ingenieria-informatica