

Teaching guide

IDENTIFICATION DETAILS

Degree:	Computer Engineering		
Field of Knowledge:	Engineering and Architecture		
Faculty/School:	Senior Polytechnic School		
Course:			
Type:	Compulsory	ECTS credits:	6
Year:	3	Code:	3645
Teaching period:	Fifth semester		
Area:	Software Design and Development		
Module:	IT core subject		
Teaching type:	Classroom-based		
Language:	Spanish		
Total number of student study hours:	150		

SUBJECT DESCRIPTION

The High-performance Computing course provides an overview of the techniques of parallel, concurrent, distributed and real time programming applicable to multitasking and high-performance systems.

SKILLS

Basic Skills

Students must have demonstrated knowledge and understanding in an area of study that is founded on general secondary education. Moreover, the area of study is typically at a level that includes certain aspects implying

knowledge at the forefront of its field of study, albeit supported by advanced textbooks

Students must be able to apply their knowledge to their work or vocation in a professional manner and possess skills that can typically be demonstrated by coming up with and sustaining arguments and solving problems within their field of study

Students must have the ability to gather and interpret relevant data (usually within their field of study) in order to make judgments that include reflections on pertinent social, scientific or ethical issues

Students must be able to convey information, ideas, problems and solutions to both an expert and non-expert audience

Students must have developed the learning skills needed to undertake further study with a high degree of independence

General Skills

An ability to conceive, draft, organise, plan, develop and execute projects in the field of computer engineering whose purpose is to conceive, develop or exploit computer applications, services and systems.

Knowledge for preparing measurements, calculations, valuations, appraisals, inspections, studies, reports, task planning and other similar computing work.

An ability to analyse and assess the social and environmental impact of technical solutions, understanding the ethical and professional responsibility of the activity of a technical computer engineer.

An ability to conceive, develop and maintain computer applications, services and systems using software engineering methods as an instrument to ensure quality.

An ability to conceive and develop computer systems or architectures that are centralised or distributed, integrating hardware, software and networks.

An ability to learn, understand and apply legislation needed in the professional practice of a technical computer engineer and handle specifications, regulations and mandatory rules.

Knowledge of the basic materials and technologies, giving rise to learning and the developing of new methods and technologies, and which also provide huge versatility to adapt to new contexts.

An ability to solve problems with initiative, with effective decision-making, independence and creativity. Capacity for being able to communicate and convey knowledge and skills of the technical computer engineering profession.

Specific skills

An ability to analyse, design, build and maintain applications in a robust, secure and efficient manner, choosing the most appropriate programming languages and paradigm.

Knowledge and application of the characteristics, functionalities and structure of distributed systems, computer networks and the Internet, and an ability to implement applications based on them.

Knowledge and application of the basic principles and techniques of parallel, concurrent, distributed and real-time programming.

DISTRIBUTION OF WORK TIME

CLASSROOM-BASED ACTIVITY	INDEPENDENT STUDY/OUT-OF-CLASSROOM ACTIVITY
67 hours	83 hours