UNIVERSIDAD DE CASTILLA - LA MANCHA
GUÍA DOCENTE

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1. General information

Course: INFORMATION SYSTEMS
Type: CORE COURSE
Degree: 346 - DEGREE IN COMPUTER SCIENCE AND ENGINEERING
Center: 604 - SCHOOL OF COMPUTER SCIENCE AND ENGINEERING (AB)
Year: 1
Main language: Spanish
Use of additional languages: English in Group I (Bilingual Group)
Web site:

Code: 42309
ECTS credits: 6
Academic year: 2019-20
Group(s): 10 11 12 14 13
Duration: C2
Second language: English
English Friendly: N
Bilingual: Y

Lecturer: JOAQUIN FERNANDEZ MARTINEZ - Group(s): **10 11 12 13**

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ESII / 1.A.6	SISTEMAS INFORMÁTICOS	2436	joaquin.fdez@uclm.es	Consultar: http://esiiab.uclm.es/tutorias.php

Lecturer: ANA AMELIA GONZALEZ LOPEZ - Group(s): **10 11 12**

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ESII / 1.C.4	SISTEMAS INFORMÁTICOS	2459	ana.gonzalez@uclm.es	Consultar https://www.esiiab.uclm.es/tutorias.php

Lecturer: VICTOR MANUEL LOPEZ JAQUERO - Group(s): **13**

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ESII / 0.B.8	SISTEMAS INFORMÁTICOS	2461	victormanuel.lopez@uclm.es	http://esiiab.uclm.es/pers.php?codpers=134&curso=2016-17

Lecturer: ELENA MARIA NAVARRO MARTINEZ - Group(s): **13**

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ESII / 0.B.9	SISTEMAS INFORMÁTICOS	2365	elena.navarro@uclm.es	Check: http://esiiab.uclm.es/tutorias.php

Lecturer: FRANCISCO JOSE VIGO BUSTOS - Group(s): **10 11 12**

Building/Office	Department	Phone number	Email	Office hours
ESII /1.C.12	SISTEMAS INFORMÁTICOS		fco.vigo@uclm.es	Disponible Campusvirtual/ Available on campusvirtual.uclm.es

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2. Pre-Requisites

This course is based on the competences and knowledge acquired in:

- Fundamentals of Programming I (*Fundamentos de Programación I*; to have the basis in the software field).
- Fundamentals of Business Management (*Fundamentos de Gestión Empresarial*; to have the basis in the business field).

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3. Justification in the curriculum, relation to other subjects and to the profession

This course is integrated in the area of "Software Engineering, Information Systems, and Intelligent Systems" of the curriculum and provides a transversal and integrative vision of the Computer Science context, relating the business and organisational aspects with the specific objectives of IT (Information Technology) systems. To this end, the basic concepts managed in IT (engineering, abstraction, model, system, project, process, information) are introduced, to then come up with the idea of a computer system (hardware + software + data). From this basis, the more global vision of an information system is developed as a special type of socio-technical system (with technological, human, social, and organizational elements) whose objective is to satisfy the information needs of an organization.

Thanks to the horizontal vision of the computing activity that the course contributes to, the student can better understand the role that each aspect of Computer Science plays in the whole.

Likewise, the student will know, from the first year, some of the key concepts that will be addressed in detail throughout the different courses of the degree.

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4. Degree competences achieved in this course

Course competences

Code	Description
BA4	Basic knowledge about the uses and programming of computers, operating systems, data bases, and digital programmes with applications in engineering.
CO13	Knowledge and application of the required tools for the storage, process, and access to informational systems, even web based ones.
CO5	Knowledge, administration, and maintenance of systems, services and digital systems.
INS3	Ability to manage information and data.
PER1	Team work abilities.
SIS5	Creativity.

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5. Objectives or Learning Outcomes

Course learning outcomes

Description

Knowledge of the role of information systems in companies, as well as the main types and characteristics.

Knowledge and use of the technologies that support the construction and use of information systems.

Knowledge of security problems in information systems, as well as the main techniques to solve them.

Identification, modelling, and specifications of software and business requirements for the construction of software systems that implement them.

6. Units / Contents

Unit 1: Introduction to information systems
- **Unit 1.1** What is an information system?
- **Unit 1.2** Information system model
- **Unit 1.3** Classification of information systems

Unit 2: Information management
- **Unit 2.1** What is a database?
- **Unit 2.2** Database management systems
- **Unit 2.3** Relational databases: The relational model
- **Unit 2.4** Data models: The entity/relationship model
- **Unit 2.5** Relational languages: Introduction to SQL

Unit 3: Development of computer systems
- **Unit 3.1** Introduction: Fundamental concepts
- **Unit 3.2** Software process models

Unit 4: Security in information systems
- **Unit 4.1** Introduction to computer security
- **Unit 4.2** Types of encryption
- **Unit 4.3** Basic protection measures

7. Activities, Units/Modules and Methodology

Training Activity	Methodology	Related Competences (only degrees before RD 822/2021)	ECTS	Hours	As	Com	R	Description
Writing of reports or projects [OFF-SITE]	Group Work	CO5 INS3 PER1 SIS5	1.4	35	Y	N	N	Supervised team work
Study and Exam Preparation [OFF-SITE]	Self-study	BA4 CO13 CO5 INS3	2.2	55	N	-	-	
Project or Topic Presentations [ON-SITE]	Lectures	INS3 PER1 SIS5	0.12	3	Y	N	N	
Class Attendance (theory) [ON-SITE]	Lectures	BA4 CO13 CO5 INS3	1.36	34	N	-	-	
Computer room practice [ON-SITE]	Self-study	BA4 CO13 CO5 INS3 PER1	0.78	19.5	Y	N	N	Lab sessions guided by the lecturer
Progress test [ON-SITE]			0.14	3.5	Y	N	Y	
Total:			**6**	**150**				
Total credits of in-class work: 2.4			Total class time hours: 60					
Total credits of out of class work: 3.6			Total hours of out of class work: 90					

As: Assessable training activity

Com: Training activity of compulsory overcoming

R: Rescheduling training activity

8. Evaluation criteria and Grading System

Evaluation System	Grading System		Description
	Face-to-Face	Self-Study Student	
Test	80.00%	0.00%	Tests (online or on paper) about: - Unit I - Unit II - Unit III - SQL - Unit IV
Assessment of activities done in the computer labs	15.00%	0.00%	Lab activities about Unit III
Other methods of assessment	5.00%	0.00%	Presentation about Unit I
Total:	**100.00%**	**0.00%**	

Evaluation criteria for the final exam:

The qualification for the ordinary call will be obtained through continuous evaluation throughout the semester, so there is no final exam for the ordinary call. The tests during the continuous evaluation can be taken both in theoretical hours and in lab hours, according to the lecturer.

The course consists of four units whose weight in the evaluation is as follows:
- Unit I: Introduction to information systems: 10%
- Unit II: Information management: 40%
- Unit III: Development of computer systems: 30%
- Unit IV: Security in information systems: 20%

Each module will be evaluated by means activities and tests. The student will pass the subject if the sum of the scores of the different tests in the different modules results in a score greater than or equal to 5 points.

Specifications for the resit/retake exam:

The students who during the continuous evaluation of the course did not pass any of the tests considered recoverable, will be able to recover them in this call, being able to obtain up to 80% of the global grade. The remaining 20% will be obtained from the marks obtained in the continuous evaluation in the tests considered non-recoverable.

Specifications for the second resit / retake exam:

In this call, the contents of the course will be evaluated in a global written test.

9. Assignments, course calendar and important dates

Not related to the syllabus/contents

Hours	hours

General comments about the planning: This course schedule is APPROXIMATE. It could vary throughout the academic course due to teaching needs, bank holidays, etc. A weekly schedule will be properly detailed and updated on the online platform (Virtual Campus). Note that all the lectures, practice sessions, exams and related activities performed in the bilingual groups will be entirely taught and assessed in English. Classes will be scheduled in 3 sessions of one hour and a half per week. The assessment activities could be performed in the afternoon, in case of necessity.

Unit 1 (de 4): Introduction to information systems

Activities	Hours
Writing of reports or projects [AUTÓNOMA][Group Work]	15
Study and Exam Preparation [AUTÓNOMA][Self-study]	6
Project or Topic Presentations [PRESENCIAL][Lectures]	3
Class Attendance (theory) [PRESENCIAL][Lectures]	7
Computer room practice [PRESENCIAL][Self-study]	4.5
Progress test [PRESENCIAL][]	.5

Unit 2 (de 4): Information management

Activities	Hours
Study and Exam Preparation [AUTÓNOMA][Self-study]	23
Class Attendance (theory) [PRESENCIAL][Lectures]	10
Computer room practice [PRESENCIAL][Self-study]	6
Progress test [PRESENCIAL][]	2

Unit 3 (de 4): Development of computer systems

Activities	Hours
Writing of reports or projects [AUTÓNOMA][Group Work]	20
Study and Exam Preparation [AUTÓNOMA][Self-study]	22
Class Attendance (theory) [PRESENCIAL][Lectures]	8.5
Computer room practice [PRESENCIAL][Self-study]	4.5
Progress test [PRESENCIAL][]	.5

Unit 4 (de 4): Security in information systems

Activities	Hours
Study and Exam Preparation [AUTÓNOMA][Self-study]	4
Class Attendance (theory) [PRESENCIAL][Lectures]	8.5
Computer room practice [PRESENCIAL][Self-study]	4.5
Progress test [PRESENCIAL][]	.5

Global activity

Activities	hours
Writing of reports or projects [AUTÓNOMA][Group Work]	35
Study and Exam Preparation [AUTÓNOMA][Self-study]	55
Project or Topic Presentations [PRESENCIAL][Lectures]	3
Class Attendance (theory) [PRESENCIAL][Lectures]	34
Computer room practice [PRESENCIAL][Self-study]	19.5
Progress test [PRESENCIAL][]	3.5
Total horas:	150

10. Bibliography and Sources

Author(s)	Title/Link	Publishing house	Citv	ISBN	Year	Description
Elena Ruiz Larocha	Nuevas tendencias en los sistemas de información	Editorial Universitaria Ramón Areces		9788499612690	2017	
Rod Stephens	Beginning Software Engineering	Wrox		B00UANX0E0	2015	
Raymond McLeod, Jr-	Management Information Systems (10th Edition)	Prentice Hall			2007	
Pere Chardi García	SQL Fácil	Marcombo		978-8426721006	2014	