



1. General information

Course: INFORMATION SYSTEMS

Type: CORE COURSE

Degree: 406 - UNDERGRADUATE DEGREE IN COMPUTER SCIENCE AND ENGINEERING (AB)

Center: 604 - SCHOOL OF COMPUTER SCIENCE AND ENGINEERING (AB)

Year: 1

Main language: Spanish

Use of additional languages:

Web site:

Code: 42309

ECTS credits: 6

Academic year: 2023-24

Group(s): 14 10 11 12 13

Duration: C2

Second language: English

English Friendly: N

Bilingual: Y

Lecturer: JOSÉ LUIS DE LA VARA GONZÁLEZ - Group(s): 13				
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ESII / 1.C.12	SISTEMAS INFORMÁTICOS	926 05 32 75	jose Luis.delavara@uclm.es	https://www.esiiaab.uclm.es/tutorias.php?por=prof&dep=1&curso=2023-24
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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).

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 view 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. The student will also acquire some conceptual and practical basis for other courses of the Degree related to information systems, such as information systems management, enterprise information systems, information systems audit, and security of software systems. In this sense, the course is propaedeutic.

4. Degree competences achieved in this course

Course competences

Code	Description
BA04	Basic knowledge about the uses and programming of computers, operating systems, data bases, and digital programmes with applications in engineering.
CO05	Knowledge, administration, and maintenance of systems, services and digital systems.
CO13	Knowledge and application of the required tools for the storage, process, and access to informational systems, even web based ones.
INS03	Ability to manage information and data.
PER01	Team work abilities.
SIS05	Creativity.

5. Objectives or Learning Outcomes

Course learning outcomes

Description

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

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

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

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

6. Units / Contents

Unit 1: The information society

Unit 2: Information

Unit 3: The data process and Information Systems (IS)

Unit 4: Main IS of organizations

Unit 5: Analysis and modelling of business requirements

Unit 6: Administration and management of IS

Unit 7: E-business systems

Unit 8: Other aspects related to IS (ethics, legislation, big data, etc.)

7. Activities, Units/Modules and Methodology

Training Activity	Methodology	Related Competences (only degrees before RD 822/2021)	ECTS	Hours	As	Com	Description
Writing of reports or projects [OFF-SITE]	Group Work	PER01 SIS05	1.4	35	Y	N	PLAB - The students will prepare a report with solutions to problems and situations proposed in practice activities. The qualification of this training activity will be PASS or FAIL. It is necessary that the qualification is PASS to have the final practice mark calculated. The students will also have to perform individually the evaluation activities corresponding to the practical part of the course.
Study and Exam Preparation [OFF-SITE]	Self-study	CO13 INS03	2.2	55	N	-	EST - The students will perform autonomous activities to prepare the theory and practice evaluation tests. These activities can be combined with tutoring (TUT) with the lecturers assigned to each course group.
Problem solving and/or case studies [ON-SITE]	Lectures	PER01	0.12	3	Y	N	PRO RES - The students will solve exercises that contribute to consolidate the theoretical knowledge presented at on-site classes. This activity may be recovered in the ordinary and extraordinary calls exams, since the mark will be accumulated from the evaluation tests taken.
Class Attendance (theory) [ON-SITE]	Lectures	CO13	1.36	34	N	-	MAG - Although the traditional master class is referred to, this training activity will actually combine methods for presentation of both theoretical and practical contents of the course units.
Computer room practice [ON-SITE]	Self-study	CO05	0.78	19.5	Y	N	LAB - The students will perform practical activities linked to the contents of the course. Carrying out this training activity is necessary, although it can also be passed by performing individual evaluation activities that are equivalent in difficulty and required effort.
Progress test [ON-SITE]		BA04	0.14	3.5	Y	N	EVA - Evaluation sessions associated with the contents of the course. The students can take two midterm exams (continuous assessment) with which they can demonstrate the acquired skills. In case a student, individually, opts for the non-continuous evaluation, the student can take the ordinary and extraordinary calls exams to pass the course.
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 (It will be essential to overcome both continuous and non-continuous assessment).

8. Evaluation criteria and Grading System			
Evaluation System	Continuous assessment	Non-continuous evaluation*	Description
Mid-term tests	30.00%	0.00%	First theory exam of the course for continuous assessment. It will be a midterm exam. The mark must be equal to or greater than 4 to pass the exam.
Mid-term tests	30.00%	0.00%	Second theory exam of the course for continuous assessment. It will be taken on the same date as the ordinary call exam. The mark must be equal to or greater than 4 to pass the exam.
Theoretical exam	0.00%	60.00%	Ordinary or extraordinary call exam of the course. In non-continuous evaluation, the students need to demonstrate the acquired competences. This exam can be compensated with the evaluation of the practice activities. A mark equal to or greater than 4 is required.
Practical exam	0.00%	40.00%	Practical exam associated with the practical contents of the course. This exam can be compensated with the theoretical part as long as the mark is equal to or greater than 4. The exam can be taken by students in non-continuous evaluation and by those who do not pass the practice part in continuous assessment. The students will have two chances to pass the practice part per course.
Practicum and practical activities reports assessment	0.00%	0.00%	Preparation of a report about the practice activities. Its qualification will be PASS or FAIL. It must be prepared both for continuous and non-continuous evaluation. The qualification must be PASS to pass the practice part of the course.
Mid-term tests	20.00%	0.00%	In continuous assessment, the students can take individual practice evaluation tests to demonstrate their practical skills. These partial evaluation activities can be compensated between them with no minimum mark. When opting for non-continuous evaluation, there will be a single test to assess the skills acquired in a practical way.
Mid-term tests	20.00%	0.00%	In continuous assessment, the students can take individual practice evaluation tests to demonstrate their practical skills. These partial evaluation activities can be compensated between them with no minimum mark. When opting for non-continuous evaluation, there will be a single test to assess the skills acquired in a practical way.
Total:	100.00%	100.00%	

According to art. 4 of the UCLM Student Evaluation Regulations, it must be provided to students who cannot regularly attend face-to-face training activities the passing of the subject, having the right (art. 12.2) to be globally graded, in 2 annual calls per subject, an ordinary and an extraordinary one (evaluating 100% of the competences).

Evaluation criteria for the final exam:

Continuous assessment:

In this type of evaluation, the students will have two theory exams and two practice exams. In addition, the students will have to submit the practice reports, which will be prepared in groups. To pass the course, the following formula will be considered:

Mark = (first theory exam (30%) + second theory exam (30%) + first practice exam (20%) + second practice exam (20%)) * positive evaluation of the practice report

The mark can be compensated between the theory and practice parts, as long as the marks of the parts are equal to or greater than 4.

The date of the second exams will be the same as the date of the ordinary call exam.

To pass the course, the total mark must be equal to or greater than 5.

By default, the students will be assessed by continuous assessment. If a student wishes to change to non-continuous evaluation, the student must notify so via the following link: <https://www.esiab.uclm.es/alumnos/evaluacion.php> before the end of the term.

Non-continuous evaluation:

In this type of evaluation, the student will take the ordinary call exam. To pass the course, the following formula will be considered:

Mark = (theory exam (60%) + practice exam (40%)) * positive evaluation of the practice report

The mark can be compensated between the theory and practice parts, as long as the marks of the parts are equal to or greater than 4.

To pass the course, the total mark must be equal to or greater than 5.

By default, the students will be assessed by continuous assessment. If a student wishes to change to non-continuous evaluation, the student must notify so via the following link: <https://www.esiab.uclm.es/alumnos/evaluacion.php> before the end of the term.

Specifications for the resit/retake exam:

The students can take the theory part, the practice part, or both parts of the extraordinary call exam. It will not be necessary to retake those parts passed through

continuous or non-continuous evaluation or that can be compensated, in both cases as a whole (i.e., whole theory part or whole practice part passed or can be compensated). To pass the course, the following formula will be considered:

Mark = (theory exam (60%) + practice exam (40%)) * positive evaluation of the practice report

The theory part and the practice part can be compensated if their individual marks are equal to or greater than 4. The mark for the theory part or of the practical part can correspond to the outcome of the continuous assessment, i.e., the parts might have been passed or might have reached a mark that can be compensated in this type of assessment.

To pass the course, the total mark must be equal to or greater than 5.

The marks of the theory and practice parts can only be kept between exams and calls of the same academic year. The marks will not be kept between different academic years.

Specifications for the second resit / retake exam:

The same criteria as for the extraordinary call will be used.

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. Evaluation activities or catch-up classes may exceptionally be scheduled in the afternoon.	
Unit 1 (de 8): The information society	
Activities	Hours
Writing of reports or projects [AUTÓNOMA][Group Work]	3
Study and Exam Preparation [AUTÓNOMA][Self-study]	3
Problem solving and/or case studies [PRESENCIAL][Lectures]	1.5
Class Attendance (theory) [PRESENCIAL][Lectures]	4.5
Computer room practice [PRESENCIAL][Self-study]	1.5
Teaching period: weeks 1 & 2	
Unit 2 (de 8): Information	
Activities	Hours
Writing of reports or projects [AUTÓNOMA][Group Work]	3
Study and Exam Preparation [AUTÓNOMA][Self-study]	3
Problem solving and/or case studies [PRESENCIAL][Lectures]	1.5
Class Attendance (theory) [PRESENCIAL][Lectures]	3
Computer room practice [PRESENCIAL][Self-study]	1.5
Teaching period: weeks 2 & 3	
Unit 3 (de 8): The data process and Information Systems (IS)	
Activities	Hours
Writing of reports or projects [AUTÓNOMA][Group Work]	3
Study and Exam Preparation [AUTÓNOMA][Self-study]	3
Problem solving and/or case studies [PRESENCIAL][Lectures]	1.5
Class Attendance (theory) [PRESENCIAL][Lectures]	1.5
Computer room practice [PRESENCIAL][Self-study]	1.5
Teaching period: week 3	
Unit 4 (de 8): Main IS of organizations	
Activities	Hours
Writing of reports or projects [AUTÓNOMA][Group Work]	3
Study and Exam Preparation [AUTÓNOMA][Self-study]	3
Problem solving and/or case studies [PRESENCIAL][Lectures]	1.5
Class Attendance (theory) [PRESENCIAL][Lectures]	3
Computer room practice [PRESENCIAL][Self-study]	1.5
Teaching period: week 4	
Unit 5 (de 8): Analysis and modelling of business requirements	
Activities	Hours
Writing of reports or projects [AUTÓNOMA][Group Work]	6
Study and Exam Preparation [AUTÓNOMA][Self-study]	12
Problem solving and/or case studies [PRESENCIAL][Lectures]	12
Class Attendance (theory) [PRESENCIAL][Lectures]	9
Computer room practice [PRESENCIAL][Self-study]	3
Progress test [PRESENCIAL][]	3
Teaching period: weeks 5 to 8	
Unit 6 (de 8): Administration and management of IS	
Activities	Hours
Writing of reports or projects [AUTÓNOMA][Group Work]	3
Study and Exam Preparation [AUTÓNOMA][Self-study]	3
Problem solving and/or case studies [PRESENCIAL][Lectures]	4
Class Attendance (theory) [PRESENCIAL][Lectures]	6
Computer room practice [PRESENCIAL][Self-study]	6
Teaching period: weeks 10 & 11	

Comment: Easter is in week 9 (holidays)

Unit 7 (de 8): E-business systems

Activities	Hours
Writing of reports or projects [AUTÓNOMA][Group Work]	3
Study and Exam Preparation [AUTÓNOMA][Self-study]	3
Problem solving and/or case studies [PRESENCIAL][Lectures]	4
Class Attendance (theory) [PRESENCIAL][Lectures]	4.5
Computer room practice [PRESENCIAL][Self-study]	1.5
Teaching period: weeks 12 & 13	

Unit 8 (de 8): Other aspects related to IS (ethics, legislation, big data, etc.)

Activities	Hours
Writing of reports or projects [AUTÓNOMA][Group Work]	3
Study and Exam Preparation [AUTÓNOMA][Self-study]	3
Problem solving and/or case studies [PRESENCIAL][Lectures]	4
Class Attendance (theory) [PRESENCIAL][Lectures]	3
Progress test [PRESENCIAL][]	6
Teaching period: weeks 13 & 14	

Global activity

Activities	hours
Writing of reports or projects [AUTÓNOMA][Group Work]	27
Computer room practice [PRESENCIAL][Self-study]	16.5
Problem solving and/or case studies [PRESENCIAL][Lectures]	30
Study and Exam Preparation [AUTÓNOMA][Self-study]	33
Progress test [PRESENCIAL][]	9
Class Attendance (theory) [PRESENCIAL][Lectures]	34.5
Total horas: 150	

10. Bibliography and Sources

Author(s)	Title/Link	Publishing house	Citv	ISBN	Year	Description
Amador Durán	Un Entorno Metodológico de Ingeniería de Requisitos para Sistemas de Información	Universidad de Sevilla			2000	Tesis doctoral.
Jill Nicola, Mark Mayfield & Mike Abney	Streamlined object modeling. Patterns, Rules, and Implementation	Prentice Hall			2001	
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		9780131889187	2007	
Kenneth C. Laudon & Jane P. Laudon	Management Information Systems: Managing the Digital Firm	Pearson			2022	
Ram Charan y Julia Yang.	The Amazon Management System	Ideapress Publishing			2022	