UNIVERSIDAD DE CASTILLA - LA MANCHA

GUÍA DOCENTE

1. General information

Course: WEB SYSTEM DEVELOPMENT
Code: 42386
Type: ELECTIVE
ECTS credits: 6
Degree: 347 - DEGREE PROGRAMME IN COMPUTER SCIENCE ENGINEERING (CR)
Academic year: 2022-23
Center: 108 - SCHOOL OF COMPUTER SCIENCE OF C. REAL
Group(s): 20
Year: 4
Duration: C2
Main language: English
Second language:
Use of additional languages:
English Friendly: N
Web site: http://campusvirtual.uclm.es
Bilingual: Y

Lecturer: **FERNANDO GUALO CEJUDO** - Group(s): **20**

Building/Office	Department	Phone number	Email	Office hours
	TECNOLOGÍAS Y SISTEMAS DE INFORMACIÓN		Fernando.Gualo@uclm.es	

Lecturer: **MANUEL ANGEL SERRANO MARTIN** - Group(s): **20**

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Fermín Caballero / 3.11	TECNOLOGÍAS Y SISTEMAS DE INFORMACIÓN	6475	manuel.serrano@uclm.es	Available at https://esi.uclm.es/index.php/grado-en-ingenieria-informatica/profesorado/

2. Pre-Requisites

- Programming Fundamentals
- Software Engineering
- Computer - Human Interaction

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

Web systems are a large part of computer applications today. The development of these systems, in many cases, does not follow an adequate methodological approach, so the applications suffer from sufficient quality to satisfy the huge number of potential customers. In this subject, and in order to alleviate the problems described, we offer an approach based on web development methodologies, according to the principles of web engineering. The agenda is completed with the use of content managers and specific applications for the development of social networks and related topics.

4. Degree competences achieved in this course

Course competences

Code	Description
INS01	Analysis, synthesis, and assessment skills.
INS02	Organising and planning skills.
INS03	Ability to manage information and data.
INS04	Problem solving skills by the application of engineering techniques.
INS05	Argumentative skills to logically justify and explain decisions and opinions.
PER01	Team work abilities.
PER02	Ability to work in multidisciplinary teams.
PER03	Ability to work in an international context.
PER04	Interpersonal relationship skills.
PER05	Acknowledgement of human diversity, equal rights, and cultural variety.
SI01	Ability to integrate information and communiction technology solutions and entrepeneurial process so as to fulfil the needs for information in organisation, allowing them to meet their goals in an effective and efficient manner, providing them with competitive benefits.
SI02	Ability to determine the needs of information and communication systems in an organisation, following security aspects and complying with current laws and regulations.
SI03	Ability to actively take part in the specification, design, implementation, and maintenance of informaiton and communication systems.
SIS01	Critical thinking.
SIS03	Autonomous learning.
SIS04	Adaptation to new scenarios.
SIS05	Creativity.
SIS06	Leadership skills.
SIS07	Knowledge about other cultures and customs.
SIS08	Initiative and entrepreneurial abilities.
SIS09	Care for quality.
UCLM01	Command of a second language at a B1 level within the Common European Framework of Reference for Languages

UCLM04 Professional ethics.

5. Objectives or Learning Outcomes

Course learning outcomes

Description

Knowledge and skills in the use of the main Web programming languages.

Ability to develop advanced applications with database management systems including web-based systems.

6. Units / Contents

Unit 1: Web architectures and frameworks

Unit 2: Web systems development languages

- **Unit 2.1** Server-side languages
- **Unit 2.2** Client-side languages
- **Unit 2.3** Database access

Unit 3: Web engineering and development methodologies

- **Unit 3.1** Web engineering
- **Unit 3.2** Web systems development methodologies

7. Activities, Units/Modules and Methodology

Training Activity	Methodology	Related Competences (only degrees before RD 822/2021)	ECTS	Hours	As	Com	Description
Class Attendance (theory) [ON-SITE]	Lectures	INS01 INS02 INS04 INS05 SI01 SI02 SI03 SIS01 SIS09 UCLM01 UCLM04	0.72	18	N	-	Teaching of the subject matter by lecturer (MAG)
Problem solving and/or case studies [ON-SITE]	Problem solving and exercises	INS01 INS02 INS04 INS05 PER01 PER03 PER04 PER05 SI01 SI02 SI03 SIS04 SIS05 SIS06 SIS07 SIS08 SIS09 UCLM01 UCLM04	0.6	15	Y	Y	Worked example problems and cases resolution by the lecturer and the students (PRO)
Laboratory practice or sessions [ON-SITE]	Practical or hands-on activities	INS01 INS02 INS03 INS04 INS05 PER01 PER02 PER03 PER04 SI01 SI02 SI03 SIS04 SIS05 SIS06 SIS07 SIS08 SIS09 UCLM01 UCLM04	0.6	15	Y	N	Realization of practicals in laboratory /computing room (LAB)
Individual tutoring sessions [ON-SITE]		INS01 INS02 INS04 INS05 SI01 SI02 SI03 SIS09	0.18	4.5	N	-	Individual or small group tutoring in lecturer's office, classroom or laboratory (TUT)
Study and Exam Preparation [OFF-SITE]	Self-study	INS01 INS02 INS04 INS05 SI01 SI02 SI03 SIS03 SIS08 SIS09	2.1	52.5	N	-	Self-study (EST)
Writing of reports or projects [OFF-SITE]	Self-study	INS01 INS02 INS04 INS05 PER01 PER03 PER04 SI01 SI02 SI03 SIS01 SIS03 SIS04 SIS05 SIS06 SIS07 SIS08 SIS09	0.9	22.5	Y	N	Lab practical preparation (PLAB)
Other off-site activity [OFF-SITE]	Practical or hands-on activities	INS01 INS02 INS03 INS04 INS05 PER01 PER02 PER03 PER04 SI01 SI02 SI03 SIS01 SIS03 SIS04 SIS05 SIS06 SIS07 SIS08 SIS09	0.6	15	N	-	Lab practical preparation (PLAB)
Final test [ON-SITE]	Assessment tests	INS01 INS02 INS04 INS05 SI01 SI02 SI03 UCLM01 UCLM04	0.3	7.5	Y	Y	Final test of the complete syllabus of the subject (EVA)
		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
Laboratory sessions	25.00%	25.00%	Compulsory activity that can be retaken. To be carried out during lab sessions
Oral presentations assessment	10.00%	10.00%	Non-compulsory activity that can be retaken. To be carried out during the theory/lab sessions for students in the continuous assessment modality. The students of non-continuous modality will be evaluated of this activity through an alternative system in

			the final exam call (convocatoria ordinaria).
Final test	50.00%	50.00%	Compulsory activity that can be retaken (rescheduling) to be carried out within the planned exam dates of the final exam call (convocatoria ordinaria).
Theoretical papers assessment	15.00%	15.00%	Non-compulsory activity that can be retaken. To be carried out before end of teaching period
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 compulsory activities, a minimum mark of 40% is required in order to pass that activity and have the possibility to therefore pass the entire subject. The evaluation of the activities will be global and therefore must be quantified by means of a single mark. In the case of the activities that may be retaken (i.e., rescheduling), an alternative activity or test will be offered in the resit/retake exam call (convocatoria extraordinaria).

The final exam will be common for all the theory/laboratory groups of the subject and will be evaluated by the lecturers of the subject in a serial way, i.e., each part of the final exam will be evaluated by the same lecturer for all the students.

A student is considered to pass the subject if she/he obtains a minimum of 50 points out of 100, taking into account the points obtained in all the evaluable activities, and also has passed all the compulsory activities.

For students who do not pass the subject in the final exam call (convocatoria ordinaria), the marks of activities already passed will be conserved for the resit/retake examcall (convocatoria extraordinaria). If an activity is not recoverable, its assessment will be preserved for the resit/retake exam call (convocatoria extraordinaria) even if it has not been passed. In the case of the passed recoverable activities, the student will have the opportunity to receive an alternative evaluation of those activities in the resit/retake exam call and, in that case, the final grade of the activity will correspond to the latter grade obtained.

The mark of the passed activities in any call, except for the final exam, will be conserved for the subsequent academic year at the request of the student, provided that mark is equal or greater than 50% and that the activities and evaluation criteria of the subject remain unchanged prior to the beginning of that academic year.

The failure of a student to attend the final exam will automatically result in her/him receiving a "Failure to attend" (no presentado). If the student has not passed any compulsory evaluation activity, the maximum final grade will be 40%.

Non-continuous evaluation:

Students may apply at the beginning of the semester for the non-continuous assessment mode. In the same way, the student may change to the non-continuous evaluation mode as long as she/he has not participated during the teaching period in evaluable activities that together account for at least 50% of the total mark of the subject. If a student has reached this 50% of the total obtainable mark or the teaching period is over, she/he will be considered in continuous assessment without the possibility of changing to non-continuous evaluation mode.

Students who take the non-continuous evaluation mode will be globally graded, in 2 annual calls per subject, an ordinary and an extraordinary one (evaluating 100% of the competences), through the assessment systems indicated in the column "Non-continuous evaluation".

In the "non-continuous evaluation" mode, it is not compulsory to keep the mark obtained by the student in the activities or tests (progress test or partial test) taken in the continuous assessment mode.

Specifications for the resit/retake exam:

Evaluation tests will be conducted for all recoverable activities.

Specifications for the second resit / retake exam:

Same characteristics as the resit/retake exam call.

9. Assignments, course calendar and important dates

Not related to the syllabus/contents

Hours **hours**

General comments about the planning: The subject is taught in 3 x 1,5 hour sessions per week.

10. Bibliography and Sources

Author(s)	Title/Link	Publishing house	Citv	ISBN	Year	Description
Pressman, Roger S.	Web engineering : a practitioner's approach	McGraw-Hill		978-007-126377-1	2009	
Theodor Richardson	Multimedia Web Design and Development: Using Languages to Build Dynamic Web Pages	Mercury Learning & Information		978-1936420384	2013	
JESUS FONTECHA DIEZMA, MANUEL ÁNGEL SERRANO MARTÍN, RAMÓN HERVÁS LUCAS, IVÁN GONZÁLEZ DÍAZ	MERN Guía Práctica de Aplicaciones Web	Ra-ma		978-84-18551-05-5	2020	
Daniel M. Brandon	Software Engineering for Modern Web Applications	IGI Global		978-1-59904-492-7	2008	