



Teaching Guide Advanced web programming

PCA-27-F-01 Ed.00

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**TEACHING GUIDE**  
**ADVANCED WEB PROGRAMMING**  
Multimedia and Digital Arts  
**Catholic University of Valencia**

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Course 2024/25

## GUÍA DOCENTE DE LA MATERIA Y/O ASIGNATURA

		ECTS
<b>SUBJECT:</b> Advanced web programming		6
<b>Subject :</b> Web Design		18
<b>Module:</b> Web Design and Multimedia		30
<b>Type of Training</b> <sup>1</sup> : Basic	<b>COURSE:</b> 4th <b>Semester:</b> 1st	
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### ORGANIZATION OF THE MODULE

AUDIOVISUAL CREATION				ECTS No. 12
<b>Duration and temporal location within the study plan:</b>				
<b>Subjects and Subjects</b>				
Subject	ECTS	SUBJECT	ECTS	Course / semester
<b>Business initiatives</b>	6	Development of business initiatives	6	4/1
<b>Animation in 3 Dimensions</b>	6	Animation in 3 Dimensions	6	4/1
<b>Web</b>	6	ProgrammingAdvanced Web Programming	6	4/1
<b>Storyboard and Graphic Narration</b>	6	Storyboard and Graphic Narration	6	4/1

<sup>1</sup> Basic training (common subject), Compulsory, Electives, External practices, Final Degree Project.

**COURSE GUIDE SUBJECT / SUBJECT:** Programming of Interactive / Web Projects

**Prerequisites:** They have not been established.

**GENERAL OBJECTIVES**

1. Mastering the different languages and media specific to the field of web programming and access to data.
2. Analyze and design workflows in web application programming environments.
3. Know the different technical options available for the development of web projects.
4. Obtain criteria to identify the technical needs of the client.
5. Acquire knowledge of the different phases of launching a dynamic website.
6. Know the different parts that make up a dynamic website.
7. Acquire knowledge about advanced web development techniques.
8. Understand and design data containers and communication between them.

**BASIC COMPETENCES**

	1	2	3	4
CB1 That students have demonstrated that they possess and understand knowledge in an area of study that starts from the base of general secondary education, and is usually found at a level that, although supported by advanced textbooks , also includes some aspects that involve knowledge from the forefront of their field of study		x		
CB2 That students know how to apply their knowledge to their work or vocation in a professional way and possess the competencies that are usually demonstrated through the elaboration and defense of arguments and problem solving within their study area				x
CB3 That students have the ability to gather and interpret relevant data (usually within their study area) to make judgments that include a reflection on relevant issues of a social, scientific nature o ethics		x		
CB4 That students can transmit information, ideas, problems and solutions to a highly specialized audience or as non-specialized			x	
CB5 That students have developed those learning skills necessary to undertake further studies with a high degree of autonomy.				x

GENERAL COMPETENCES	Weighting of competence			
	1	2	3	4
1. Capacity for analysis and synthesis.			x	
2. Capacity for organization and planning.		x		
5. Computer skills related to the field of study.				x
6. Information management capacity. Know how to obtain information effectively from books and specialized magazines, and other documentation.				
10. Teamwork.			x	
11. I work in an interdisciplinary team.				x
18. Independent learning and motivation for training throughout your professional life				
19. Adaptation to new situations			x	
22. Ability to collaborate with other professions and especially with professionals from other fields. Identify the appropriate professionals to adequately develop creative work.			x	

SPECIFIC COMPETENCES <sup>3</sup>				
Conceptual	1	2	3	4
E8. Ability to organize and process the information that will later be included in the project.			x	
E9. Ability to plan and direct projects and developments of technological content, in particular related to art, multimedia design and communication.		x		
E17 Understanding of the characteristics of the digital production sector and its operation and the trends that mark its current and future evolution.		x		

E18. Know, assess and understand the deontological obligations of the multimedia creation professional and the implications of adjusting to them in professional performance.		x		
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LEARNING OUTCOMES <sup>4</sup>	COMPETENCES
R-1 Mastery of object programming and vector animations.	CB: 1, 2, 3, 4, 5 CG: 1,2,3,4,5,9,10,11,12, CE: E17, E18
R-2 Knowledge of object-oriented programming and procedural	CB : 1, 2, 3, 4, 5 CG: 1,2,3,4,6,7,8,11, CE: E8, E9, E17, E18
R-3 Skill in advanced server programming	CB: 1, 2, 3, 4, 5 CG: 1,2,3,4,5,9,10,11, CE: E17
R-4 Mastery of techniques in content managers	CB: 1, 2, 3, 4, 5 CG: 1,2,3,4,5,6,7,8,9,10,12, CE: E8, E18
R-5 Installation of the project on the corresponding servers.	CB: 1, 2, 3, 4, 5 CG3,6,9Correlatively list CE: E17

<sup>4</sup> the learning outcomes following the proposed nomenclature.

**Important note:** The competences are expressed in a generic sense, so it is necessary to include the learning results in the teaching guide. These results constitute a specification of one or more competencies, making explicit the degree of mastery or performance that the student must acquire and contain in their formulation the criteria with which they will be evaluated. The learning results show what the student will be able to demonstrate at the end of the subject or subject and also reflect the degree of acquisition of the competence or set of competencies.

WORK TRAINING ACTIVITIES			
ACTIVITY	Teaching-Learning Methodology Learning	Relationship with Results of the subject	ECTS <sup>5</sup>
PRESENTIAL CLASS Presentation	of contents by the teacher, analysis of competences, explanation and demonstration of abilities, skills and knowledge in the classroom.	R1, R2, R3, R4, R5	1
PRACTICAL CLASSES	Group work sessions supervised by the teacher. Case studies, diagnostic analysis, problems, field study, computer room, visits, data search, libraries, network, Internet, etc. Meaningful construction of knowledge through the interaction and activity of the student.	R1, R2, R3, R4, R5	1
TUTORING	Personalized attention in a small group. Period of instruction and / or orientation carried out by a tutor in order to review and discuss the materials and topics presented in classes, seminars, readings, completion of work, etc.	R1, R2, R3, R4, R5	0.15
EVALUATION	Set of oral and / or written tests used in the initial, formative or additive evaluation of the student.	R1, R2, R3, R4, R5	0.25
Total			(2.4 *)

<sup>5</sup> The subject and / or subject is organized in **TRAINING ACTIVITIES OF IN-HOUSE WORK** and in **TRAINING ACTIVITIES OF SELF-EMPLOYED STUDENT WORK**, with an estimated percentage in ECTS. An **adequate distribution** is as follows: **35-40%** for Face-to-Face Training Activities and **65-60%** for Self-Employment. (For a 6 ECTS subject: 2.4 and 3.6 respectively).

The teaching-learning methodology is described in this guide in a generic way, being specified in the didactic units in which the subject and / or subject are organized

TRAINING ACTIVITIES OF WORK SELF-EMPLOYED STUDENT			
ACTIVITY	Teaching-Learning Methodology Learning	Relationship with Results of the subject	ECT S
SELF-EMPLOYED WORK	<p>Student study: Individual preparation of readings, essays, problem solving, seminars, work, reports, etc. To expose or deliver in the theoretical classes, practical classes and / or small group tutorials.</p> <p>Work carried out on the university platform (<a href="http://www.plataforma.ucv.es">www.plataforma.ucv.es</a>)</p>	R1, R2, R4, R5, R6	3.6
Total			(3.6*)
ASSESSMENT SYSTEM FOR THE ACQUISITION OF SKILLS AND GRADING SYSTEM			
Assessment instrument <sup>6</sup>	EVALUATED LEARNING OUTCOMES	Percent age awarded	
Written tests. (It will be essential to pass these tests to average the rest of the evaluation instruments)	R1, R2, R4, R5, R6	50%	
Delivery of individual works. (It will be essential to deliver it on an agreed date and time to average the rest)	R1, R2, R4, R5, R6	40%	
Active participation in class. (Presence, interventions in debates, practical sessions)	R1, R2, R3, R4, R5, R6	10%	

A minimum of passing (50% of the grade in said test) must be obtained in the final exam of 1st or 2nd call and averaging scores for practices and attendance.



<sup>6</sup> Assessment techniques and instruments: oral exam-presentation, written tests (objective tests, development tests, concept maps...), supervised works, projects, case studies, observation notebooks, portfolio, etc.

## ATTENDANCE

In accordance with the development guidelines of the General Regulations for the Evaluation and Qualification of Official Teachings and Own Degrees of the UCV, in face-to-face degrees, class attendance with a minimum of 80% of the sessions of each subject will be required as a requirement to be evaluated. This means that, if a student does not attend the sessions of each subject, in a percentage greater than 20%, he/she will not be able to be evaluated, neither in the first nor in the second call, unless the person responsible for the subject, with the approval of the person responsible for degree, in view of duly justified exceptional circumstances, exempt from the minimum attendance percentage.

The same criterion will be applicable for hybrid or virtual degrees in which teachers must maintain the same percentage in the requirement of "presence" in the different training activities, if any, even if these are carried out in virtual environments.

**CRITERIA FOR THE GRANTING OF HONOR REGISTRATION:**

*The mention of "Honors" may be awarded to students who have obtained a grade equal to or greater than 9.0. Their number may not exceed five percent of the students enrolled in a group in the corresponding academic year, unless the number of students enrolled is lower.*

## SINGLE EVALUATION

*According to article 9 of the General Regulations for the Evaluation and Qualification of Official Teachings and Own Degrees of the UCV, the continuous evaluation system is the preferred evaluation system at the UCV. The art. 10 allows, however, for those students who in a justified and accredited manner express their inability to attend in person (or to synchronous communication activities for virtual and/or hybrid teaching modalities), their evaluation on an extraordinary basis in the so-called single evaluation. Said single evaluation must be requested within the first month of each semester to the Dean of Faculty through the Vice-Deaneries or Master's Directorates, with the express decision on the admission of said request from the student concerned being the responsibility of the latter.*

*The evidence to be presented and/or the test/s to be carried out in the single evaluation by the student that are established are: Completion of theoretical-practical activities 60% and Final exam 40%.*

DESCRIPTION OF CONTENTS	COMPETENCES
server languages	CB: 1, 2, 3, 4, 5 CG: 1,2,3,4,5,6,7,8,9,10,12, CE: E8, E18
1. Client concepts /server 2. PHP 3. Forms 4. Sending / receiving data with PHP	
Databases	CB: 1, 2, 3, 4, 5 CG: 1,2,3,4,5,6,7,8,9,10,12, CE: E8, E18

5. Databases 6. SQL language 7. Queries from PHP	
Charts	CB: 1, 2, 3, 4, 5 CG: 1,2,3,4,5,6,7,8,9,10,12, CE: E8 , E18
8. Graphics on web	

TEMPORARY LEARNING ORGANIZATION (First-time students):		
	CONTENT BLOCK / DIDACTIC UNIT	NUMBER OF SESSIONS
1	Client / server concepts	1
2	PHP	8
3	Forms	2
4	Sending / receiving data with PHP	2
5	Databases	6
6	SQL Language	4
7	Queries from PHP	1
8	Graphics on the web	1

BIBLIOGRAFÍA
<p>BERNERS-LEE, MARK FISCHETTI: "Weaving the Web : The Original Design and Ultimate Destiny of the World Wide Web by its Inventor". Paw Prints.</p> <p>THY BORONCZYK, MARTIN E. PSINAS: "PHP y MySql". Anaya Multimedia/Wrox. Enero 2009. I.S.B.N: 978-84-415-2516-0</p> <p>SKLAR: "Introducción a PHP 5". Anaya Multimedia/O'reilly. Enero 2005. I.S.B.N: 978- 84-415-1803-2</p> <p>WELLING, LAURA THOMSON: "Desarrollo web con PHP y MySql". Anaya/Programación. Abril 2009. I.S.B.N: 978-84-415-2553-5</p> <p>press</p> <p>TOPHE AUBRY: "WordPress 3 un CMS para crear su sitio Web". ENI Editorial. ISBN :</p>

978-2-7460-6849-0

- CARAZO GIL, FRANCISCO JAVIER: "*Domine wordpress. Manual practico*". Ra-ma editorial. 2011. ISBN 978-84-9964-063-1
- YOANI SÁNCHEZ: "*Wordpress. Un blog para hablar al mundo*". Anaya/Títulos Especiales. Mayo 2011. I.S.B.N: 978-84-415-2892-5
- <http://codex.wordpress.org/>

### ADDITIONAL INFORMATION:

### COURSE OF THE SUBJECT IN SECOND AND SUBSEQUENT ENROLLMENTS:

There will be a specific group for students who are not first enrollment and a teacher in charge of that group.

In this group there will be a number established by the UCV of monitoring and tutoring sessions (6 of 2 hours each) in which the work on the competencies that the students of the group need to acquire to pass the course will be reinforced.

These sessions are included in the attached schedule in this guide and are detailed in the description of the Didactic Units of the subject.

TEMPORARY ORGANIZATION OF LEARNING (Second or successive enrollment students):		
	CONTENT BLOCK / DIDACTIC UNIT	NUMBER OF SESSIONS (they must add up to 6)
1	Norms for the delivery of practices related to units 4 and 12	1
2	Review of theoretical contents of units 1 -3	1
3	Review of theoretical content of units 4-9	1
4	Review of theoretical content of unit 10	1
5	Assessment of units 11-14	1