

**Advanced Web Services**

Code: 104739  
ECTS Credits: 6

Degree	Type	Year	Semester
2503873 Interactive Communication	OB	2	1

### Contact

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### Use of Languages

Principal working language: spanish (spa)  
Some groups entirely in English: No  
Some groups entirely in Catalan: No  
Some groups entirely in Spanish: Yes

### Teachers

Adrià Figuerola Torrell  
Miguel Carpio Miranda

### Prerequisites

The course has no official prerequisite.

It is recommended to have taken the courses:

104728 - Information Systems

104738 - Introduction to Web Technology

since it is necessary to have basic knowledge of structured programming, HTML and CSS.

### Objectives and Contextualisation

The main objectives of the course are:

- Provide an overview of the major Web development technologies in server environments.
- Know the technologies and dynamic programming languages used in the development of Web applications.
- Know the technologies for accessing data storage and exchange used in the development of Web applications.

### Competences

- Act with ethical responsibility and respect for fundamental rights and duties, diversity and democratic values.
- Act within one's own area of knowledge, evaluating sex/gender-based inequalities.

- Apply and integrate knowledge in the fields of social sciences, humanities and engineering to generate complex products and services tailored to citizens' needs.
- Determine and plan the technological infrastructure necessary for the creation, storage, analysis and distribution of interactive multimedia and social-networking products.
- Introduce changes in the methods and processes of the field of knowledge to provide innovative responses to the needs and demands of society.
- Manage time efficiently and plan for short-, medium- and long-term tasks.
- Students must be capable of applying their knowledge to their work or vocation in a professional way and they should have building arguments and problem resolution skills within their area of study.
- Students must be capable of collecting and interpreting relevant data (usually within their area of study) in order to make statements that reflect social, scientific or ethical relevant issues.
- Students must have and understand knowledge of an area of study built on the basis of general secondary education, and while it relies on some advanced textbooks it also includes some aspects coming from the forefront of its field of study.
- Take account of social, economic and environmental impacts when operating within one's own area of knowledge.

## Learning Outcomes

1. Analyse a situation and identify its points for improvement.
2. Communicate using language that is not sexist or discriminatory.
3. Create basic and complex web pages.
4. Design web pages and applications that are functional in terms of technology.
5. Design web pages for all kinds of audiences on the basis of usability criteria.
6. Design web pages that are attractive and tailored to the formal characteristics of the organisation they are created for.
7. Design websites and their applications, keeping in mind the ethical qualities of non-discrimination and respect for all collectives.
8. Devise applications for web pages.
9. Evaluate the impact of problems, prejudices and discrimination that could be included in actions and projects in the short or medium term in relation to certain people or groups.
10. Identify situations in which a change or improvement is needed.
11. Identify the social, economic and environmental implications of academic and professional activities within one's own area of knowledge.
12. Interpret, assess and discuss documents on internet creation and the role of web technology.
13. Plan and conduct academic studies in the field of basic and advanced programming.
14. Propose new methods or well-founded alternative solutions.
15. Propose projects and actions that are in accordance with the principles of ethical responsibility and respect for fundamental rights and obligations, diversity and democratic values.
16. Propose projects and actions that incorporate the gender perspective.
17. Propose viable projects and actions to boost social, economic and environmental benefits.
18. Submit course assignments on time, showing the individual and/or group planning involved.
19. Weigh up the risks and opportunities of both one's own and other people's proposals for improvement.

## Content

1. Programming models in client / server environments.
2. Dynamic generation of web pages.
3. Programming languages in server environment.
4. Integration with web servers.
5. Programming languages in server environment.
6. Integration with brand languages.
7. Dynamic generation of web pages.

## Methodology

The course consists of a theoretical part, a practical part, and a part of the student's personal work. A total of 48 contact hours are taught. The total dedication is 150 hours, for which there is a non-contact dedication of 102 hours. Throughout the course the following activities will be carried out:

#### Theory classes and problems (15 hours)

Theory sessions, where the teacher will provide information on the knowledge of the subject and on strategies to acquire, expand and organize this knowledge. The active participation of the students during these sessions will be encouraged, for example by posing discussions in those points that admit diverse technological solutions.

#### Laboratory practices (33 hours)

Practical sessions in the laboratory, where a project related to the subjects of the subject will be proposed. This project will be carried out in groups of two people. The sessions will have been prepared, documented and scheduled by the teacher in advance and the students will have to prepare them before attending, reviewing the related theoretical knowledge and basic technical aspects of development.

The detailed calendar with the content of the different sessions will be exposed on the day of presentation of the subject. It will also be posted on the Virtual Campus where students can find the detailed description of the exercises and practices, the various teaching materials and any information necessary for the proper monitoring of the subject. In the event of a change in the teaching modality for health reasons, the teaching staff will inform of the changes that will occur in the programming of the subject and in the teaching methodologies.

During one of the classes, the teacher will provide students with 15 minutes to answer the surveys on the teaching performance and the subject or module.

Annotation: Within the schedule set by the centre or degree programme, 15 minutes of one class will be reserved for students to evaluate their lecturers and their courses or modules through questionnaires.

## Activities

Title	Hours	ECTS	Learning Outcomes
Type: Directed			
Laboratory sessions	33	1.32	1, 3, 7, 5, 6, 4, 8, 10, 13, 19, 18, 14
Theory and problems classes	15	0.6	3, 7, 5, 4, 8, 12
Type: Autonomous			
Laboratory practices preparation	36	1.44	2, 3, 5, 6, 4, 11, 15, 16, 17, 9
Personal study	52	2.08	3, 7, 5, 4, 8, 12, 13

## Assessment

The course consists of the following assessment activities:

- Activity A, 10% on the final grade: Attendance, monitoring and participation in theory classes.
- Activity B, 40% of the final grade: individual assessment tests for the theory and problem sessions. This activity will have two face-to-face tests carried out during the course to assess the degree of knowledge achieved by the student at the individual level. In each of these tests the content of the course will be partially

evaluated. Each of the tests will have a weight of 50% in the final grade of Activity B. In order to pass the course through continuous assessment, these partial tests must be passed together with an average of 5 between the two.

- Activity C, 50% of the final grade: monitoring and evaluation of the laboratory practices through a follow-up of the sessions and the technical evaluation of the documentation delivered by the student at the end of the activity.

In order to pass the course, you must have a minimum grade of 5 in activities A, B, and C.

Students will have the right to the recovery of the course if the weight of which has been evaluated is equal to a minimum of 2/3 parts of the total grade of the course. For evaluation activity B there will be a retrieval test for those students who have not reached an average of 5 between the two evaluation tests. Due to the practical nature of laboratory practices, assessment activity C will not have a recovery mechanism.

In the case of second enrollment, the students will be able to do a single synthesis test that will consist of the joint evaluation of theory, problems and laboratory sessions. The grade of the course will correspond to the grade of the synthesis test.

In the event that the student performs any irregularity that may lead to a significant variation of an evaluation act, this evaluation act will be graded with 0, regardless of the disciplinary process that could be instructed. In the event, that several irregularities occur in the evaluation acts of the same subject, the final grade for this subject will be 0.

## Assessment Activities

Title	Weighting	Hours	ECTS	Learning Outcomes
Class attendance	0.1	2	0.08	3, 7, 5, 6, 4, 8, 11, 12, 13, 15, 17, 9
Laboratory sessions	0.5	6	0.24	1, 2, 3, 5, 6, 4, 8, 10, 13, 19, 18, 14, 16
Theory and problems classes	0.4	6	0.24	3, 7, 5, 4

## Bibliography

1. Official reference on the language PHP: <https://www.php.net>
2. Web Development with PHP & MySQL. Publishing ANAYA

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## Software

Visual Studio Code

Sublime Text 3

XAMPP