

Degree programme	Type	Course
Interactive Communication	OB	3

Contact lecturer

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Teaching staff

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Group languages

You can consult this information at the [end](#) of the document.

Prerequisites

- To study this subject it is necessary to have basic knowledge of English to face the reading of the bibliography.
- Have assumed the basic knowledge of the subjects 104728 "Information Systems", 104738 "Introduction to web technology" 104746 "Information Storage and Retrieval" and 2503873 "Advanced web services".

Objectives

- Know the methodologies, techniques, technologies and tools available for the development of web applications.
- Recognize the technical requirements necessary for the development of web applications and their implementation.
- Plan the execution for the development and/or implementation of web applications.
- Design and prototype web applications for further development.
- Develop web applications following the established quality criteria and requirements.
- Deploy web applications on on-premises and cloud servers.

Learning outcomes

1. Submit course assignments on time, showing the individual and/or group planning involved.
2. Interpret, assess and discuss documents on internet creation and the role of web technology.

3. Plan and conduct academic studies in the field of basic and advanced programming.
4. Design websites and their applications, keeping in mind the ethical qualities of non-discrimination and respect for all collectives.
5. Devise applications for web pages.
6. Design web pages and applications that are functional in terms of technology.
7. Identify situations in which a change or improvement is needed.
8. Propose new methods or well-founded alternative solutions.
9. Identify the social, economic and environmental implications of academic and professional activities within one's own area of knowledge.
10. Propose viable projects and actions to boost social, economic and environmental benefits.
11. 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.
12. Propose projects and actions that incorporate the gender perspective.
13. Communicate using language that is not sexist or discriminatory.
14. 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.
15. Analyse a situation and identify its points for improvement.
16. Weigh up the risks and opportunities of both one's own and other people's proposals for improvement.

Contents

1. Course introduction
2. Deploying general-purpose applications
3. Information systems for organizations
4. Quality requirements and criteria
5. Analysis, development and deployment of purpose-built web applications
6. Introduction
7. Ecosystem for web application analysis and development
8. Managing a Web Project
9. Effective use of AI
10. Version Control
11. Good practices
12. Architectures and Design Patterns in Web Applications
13. The 3-Layer Architecture
14. The presentation layer
15. The Business Layer
16. The Persistence Layer
17. Web Application Deployment

Learning activities and methodology

Title	Hours	ECTS	Learning outcomes
Workshops	5	0.2	1, 3, 7, 8, 13, 15, 16
Lectures	10	0.4	2, 4, 9, 13, 14
Practical tasks	67	2.68	1, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16
Laboratory practice	33	1.32	1, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16
Personal study	30	1.2	2, 4, 5, 6, 7, 9, 10, 11, 12, 13, 14, 15, 16

This subject requires a total of 150 hours of dedication, of which 48 hours will be in face-to-face format and 102 hours in non-face-to-face format. As for the list of contents, it should be noted that this is an eminently practical

subject where only 30 hours (20%) are related to theoretical components.

The training activities will be divided as follows:

1. Theory classes (10h): Directed sessions where the teacher will provide information on the theoretical concepts of the subject and provide resources and strategies so that the student can acquire, expand and organize their knowledge.
2. Workshops (5h): Space where the teacher will propose practical scenarios, specific and limited, of a basic and exploratory nature that aim to introduce the student to the technologies necessary to successfully face the practical content of the subject.
3. Laboratory practices (33h): Directed sessions where group practical activities related to the contents of the subject will be proposed.

As for autonomous training activities, they will be divided as follows:

1. Personal study (30 hours): Hours intended for the assimilation of the theoretical contents of the subject.
2. Practical work (72 hours): Hours allocated to the following practical activities:
3. Personal activities: These are specified in the *workshops* and are *mandatory*.
4. Group activities: They take the form of *laboratory practices* and are *mandatory*.
5. Challenges: Proposals of a personal, practical and *optional* nature with the aim of complementing and/or deepening certain contents of the subject and, at the same time, promoting the students' capacity for autonomy.

A detailed schedule outlining the content of each session will be presented on the first day of the course and will be available on the course's Virtual Campus, where students will find the various teaching materials deemed appropriate by the instructors and necessary information for effective course monitoring.

Should the teaching modality change for reasons of force majeure according to the competent authorities, the teaching staff will inform students of any modifications to the course schedule and teaching methodologies.

Note: This course will use various active learning methodologies, especially the flipped classroom.

Note: The content of the subject is sensitive to aspects related to the gender perspective and the use of inclusive language. If you detected any content that could be improved, if you like it, notify the teacher for correction.

Note: 15 minutes of a class will be reserved, within the calendar established by the centre/degree, for students to complete the surveys to evaluate the performance of the teaching staff and to evaluate the subject.

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.

Assessment

Continuous assessment activities

Title	Weight	Hours	ECTS	Learning outcomes
Theoretical assessment	20%	1	0.04	2, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16
Group activities validation test	0	1	0.04	3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16
Personal workshops	30%	0	0	1, 3, 5, 6, 7, 8, 13, 15, 16
Practical group activities	40%	2	0.08	1, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16
Personal challenges	10%	1	0.04	1, 3, 4, 7, 8, 9, 13, 14, 15, 16

This course has a competency-based approach that requires, on the one hand, the acquisition of *knowledge* (knowledge) and, on the other, of *competencies* (know-how). In this way, the factors that will be taken into account when calculating the final grade are the following:

- THEORY (20%). The *knowledge* acquired during the theory sessions and the proposed workshops will be evaluated.
- WORKSHOPS (30%). The *skills* acquired in the personal workshops will be assessed.
- GROUP ACTIVITIES (40%). The *skills* acquired in group activities will be assessed.
- CHALLENGES (10%). The *knowledge* and/or *skills* acquired from the challenges presented will be assessed.

The final grade will be the weighted sum of the score obtained in each of these parts, provided that:

- The grade of the theory part is greater than or equal to 4/10 points.
- The grade of the personal workshops is greater than or equal to 4/10 points.
- The grade of the group activities is greater than or equal to 4/10 points as long as the validation test of the group activities has been passed with a grade greater than or equal to 4/10 points. In the event that the validation test is not passed, the grade of the group activities will be 0.

The evaluation system of this subject corresponds to continuous evaluation.

REEVALUATION SYSTEM

1. Students will be entitled to reassessment in the course if they have been evaluated on a set of activities accounting for at least two-thirds of the total course grade.
2. The retakes are structured around the evaluable components of the subject. Namely:
3. THEORETICAL PART. The theoretical part can only be retaken if the student has taken the theoretical test set in the continuous assessment and has obtained a grade lower than 5. On the other hand, the grade obtained will be limited to 7/10 points.
4. PERSONAL WORKSHOPS. Personal workshops can only be retaken if a grade of less than 5 has been obtained. All those workshops that have not been presented throughout the continuous evaluation are excluded from recovery (unless there is a proven reason of force majeure). On the other hand, the grade obtained will be limited to 7/10 points.
5. GROUP ACTIVITIES. Group activities can only be retaken if the student has obtained a grade lower than 5. All those activities not presented throughout the continuous evaluation are excluded from recovery (unless there is a proven reason of force majeure). On the other hand, the grade obtained will be limited to 7/10 points.
6. CHALLENGES. They are not recoverable.
7. For second and subsequent enrolments, this subject does not include the possibility of a synthesis test given its eminently practical nature.

SINGLE ASSESSMENT

This course does not provide for a single-assessment system.

PLAGIARISM

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

IRREGULARITIES

The performance of any irregularity in an evaluation act (academic fraud, plagiarism or improper use of AI, unless this use is expressly authorized by the teaching guide), which may lead to a significant variation in the grade, assumes that this act will be graded with a 0. In the event that the teaching guide foresees that in order to pass the subject it is an essential requirement to have obtained a minimum grade in this evaluation act or that there are several irregularities in the evaluation acts of the same subject, the final grade of this subject is 0. Apart from this, a disciplinary process may be instructed to the student that incurs any of these irregularities

SUSPICIONS OF IRREGULARITIES

Any student suspected of submitting assignments that have been generated by AI, written by others or copied; include unattributed AI-generated content, or fall outside the permitted scope, may be asked to provide the preliminary work or other materials that can demonstrate it is original work and the result of their own authorship. They may also be asked to separately explain or justify their work. Teachers may also use AI detection systems or carry out any verification tasks they deem appropriate. If, after review, the instructor detects irregularities, the assignment may be graded zero, and the student may be subject to further disciplinary action..

CONSIDERATION OF *NOT EVALUABLE*

According to point 9 of article 266 of the UAB Academic Regulations, "*when it is considered that the student has not been able to provide sufficient assessment evidence, this subject must be classified as non-assessable*".

In this subject, the *person who* has not delivered 80% of the group activities and/or 80% of the directed workshops will *be considered as Not-Evaluable*.

ARTIFICIAL INTELLIGENCE

In this course, the use of Artificial Intelligence (AI) technologies is permitted as an integral part of assignment development, provided that the final outcome demonstrates a significant contribution from the student in terms of analysis and personal reflection. Students must clearly identify any content generated using AI, specify the tools employed, and include a critical reflection on how these technologies have influenced both the process and the final result of the assignment. Failure to disclose the use of AI in this assessed activity will be considered a breach of academic integrity and may result in a partial or total penalty to the assignment grade, or more serious sanctions in severe cases.

Bibliography

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7. Zandstra, M. (2021). *Enterprise Patterns*. In: *PHP 8 Objects, Patterns, and Practice*. Apress, Berkeley, CA. https://doi-org.are.uab.cat/10.1007/978-1-4842-6791-2_12. Disponible: https://bibcercador.uab.cat/permalink/34CSUC_UAB/1c3utr0/cdi_askewsholts_vlebooks_978148426791

In the introductory session of the subject, students will be provided with a collection of complementary resources.

Software

IDE (Visual Studio Code, Sublime Text, NetBeans...)

Git

MySQL Workbench

Course groups and languages

The information provided is provisional until November 30. After this date, you will be able to consult the language of each group through this [link](#). To access the information, you will need to enter the course CODE

Type of teaching	Group	Language	Semester	Shift
(TE) Theory	6	Catalan	first semester	afternoon
(PLAB) Practical laboratories	61	Catalan	first semester	afternoon
(PLAB) Practical laboratories	62	Catalan	first semester	afternoon