

Programming for Web Technology Applications

Code: 104740
ECTS Credits: 6

Degree	Type	Year	Semester
2503873 Interactive Communication	OB	3	1

Contact

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Use of Languages

Principal working language: catalan (cat)
Some groups entirely in English: No
Some groups entirely in Catalan: Yes
Some groups entirely in Spanish: No

Teachers

Ramon Voces Merayo

Prerequisites

To be able 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 104738 "Introduction to Web Technology" and 2503873 "Advanced Web Services".

Objectives and Contextualisation

Undersand the technologies available for webapp development.

Recognize the technical requirements necessary for the development of web applications and their implementation.

Design and prototype web applications for development.

Plan the execution of web application development.

Familiarize with deploying web applications on local and cloud servers.

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. Design web pages and applications that are functional in terms of technology.
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. 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.
7. Identify situations in which a change or improvement is needed.
8. Identify the social, economic and environmental implications of academic and professional activities within one's own area of knowledge.
9. Interpret, assess and discuss documents on internet creation and the role of web technology.
10. Plan and conduct academic studies in the field of basic and advanced programming.
11. Propose new methods or well-founded alternative solutions.
12. 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.
13. Propose projects and actions that incorporate the gender perspective.
14. Propose viable projects and actions to boost social, economic and environmental benefits.
15. Submit course assignments on time, showing the individual and/or group planning involved.
16. Weigh up the risks and opportunities of both one's own and other people's proposals for improvement.

Content

Subject 1: Introduction to web applications.

Subject 2: Technological ecosystem of web applications.

Subject 3: Implementation of web projects

Methodology

The subject 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, so there is a non-face-to-face dedication of 102 hours. The following activities will be carried out throughout the course:

Theory and problem classes (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 students will be encouraged during these sessions, for example by raising discussions on those points that support various technological solutions.

Laboratory practices (33 hours)

Internship sessions in the laboratory, where group practical activities related to the topics of the subject will be proposed.

Students will be able to find in the Virtual Campus the detailed description of the exercises and practices, the diverse educational materials and any necessary information for the suitable follow-up of the asignatura. In case of change of teaching modality for health reasons, the teachers will inform of the changes that will take place in the programming of the subject and in the teaching methodologies.

In one of the sessions of the subject, about 15 minutes will be allocated so that the students can answer the surveys for the evaluation of the teaching performance and for the evaluation of the subject or module.

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.

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 practice	33	1.32	4, 3, 5, 10
Lectures	15	0.6	9
Type: Autonomous			
Preparation of laboratory practices	57	2.28	
personal study	30	1.2	4, 3, 5, 10

Assessment

The competencies of this subject are evaluated with different activities:

- ACTIVITY A, 40% on the final grade. Monitoring and evaluation of the skills acquired in the theoretical sessions.
- ACTIVITY B, 60% on the final grade. Monitoring and evaluation of the skills acquired in laboratory practices.
- ACTIVITY C, 10% on the final grade. Monitoring and evaluation of the skills acquired in classroom practices.

The final grade will be the sum of the score obtained in each of these parts. Please note that in order to pass the course, a minimum of 4/10 points must be obtained in each of the parts.

The evaluation system of this subject corresponds to continuous evaluation.

OPTIONAL RECOVERY SYSTEM:

Students will be entitled to retake the subject only if they have been assessed in the set of activities. Therefore, all activities not submitted are excluded from recovery.

The grade obtained in the recovery of the type B assessment activities will be limited to 5/10 points.

The grade obtained in the recovery of type A assessment activities will be the final grade of this section, regardless of whether it is better or worse than the first.

The proposed teaching methodology and assessment may be subject to change depending on the attendance restrictions imposed by the health authorities.

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.

The proposed teaching methodology and assessment may be subject to change depending on the attendance restrictions imposed by the health authorities.

Assessment Activities

Title	Weighting	Hours	ECTS	Learning Outcomes
Classroom practices	10%	2	0.08	1, 7, 10, 15
Laboratory practices	50%	10	0.4	1, 2, 4, 3, 5, 8, 7, 9, 10, 16, 15, 11, 12, 13, 14, 6
Theoretical test and problems	40%	3	0.12	9

Bibliography

The basic bibliography is composed of scientific articles and books from the field of study

1. Northwood, Chris (2018). *The Full Stack Developer*. Apress
2. Luján-Mora, S. (2011). Accesibilidad en el diseño de aplicaciones web.
3. Hassan, Y., Martín Fernández, F. J., & Iazza, G. (2004). Diseño web centrado en el usuario: usabilidad y arquitectura de la información. Hipertext. net, (2).
4. Allanwood, G., & Beare, P. (2015). *Diseño de experiencias de usuario: cómo crear diseños que gustan realmente a los usuarios*. Parramón Paidotribo.

In the introductory session of the subject, students will be provided with a collection of articles and complementary texts necessary to carry out the different activities of the subject.

Software

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