Programming for Web Technology Applications

2023/2024

Code: 104740
ECTS Credits: 6

Degree	Type	Year	Semester
2503873 Interactive Communication	OB	3	1

Contact

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Teaching groups languages

You can check it through this link. To consult the language you will need to enter the CODE of the subject. Please note that this information is provisional until 30 November 2023.

Teachers

Ramon Voces Merayo

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 and Contextualisation

- 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.
- Design and prototype web applications for further development.
- Plan the execution for the development and/or implementation of web applications.
- Deploy web applications on local servers 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

Topic 1: Introduction to web applications.

Topic 2: Special purpose web applications.

Topic 3: General purpose web applications.

Methodology

This course 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.

The training activities will be divided as follows:

- Theory classes (10h): Sessions where the teaching staff will provide information on the knowledge of the subject and resources and strategies to acquire, expand and organize this knowledge.
- Directed workshops (5h): Sessions where the teaching staff will pose practical challenges that will be analyzed in a group, evaluating the difficulties and seeking the most appropriate solutions.
- Laboratory practices (33h): Sessions in which group practical activities related to the contents of the subject will be considered.
- Challenges (20h): Proposals of a practical nature with the aim of complementing and/or deepening certain contents of the subject and, at the same time, fostering the student's capacity for autonomy.

Students will be able to find in the Virtual Campus the detailed description of all the training proposals, the different teaching materials and any information necessary for the proper monitoring of 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.

Activities

Title	Hours	ECTS	Learning Outcomes
Type: Directed			
Guided workshops	5	0.2	1, 2, 7, 10, 16, 15, 11
Laboratory practice	33	1.32	1, 2, 4, 3, 5, 8, 7, 10, 16, 15, 11, 12, 13, 14, 6
Lectures	10	0.4	2, 4, 8, 9, 6
Type: Autonomous			
Challenges	10	0.4	1, 2, 4, 8, 7, 10, 16, 15, 11, 6
Laboratory practices	57	2.28	1, 2, 4, 3, 5, 8, 7, 10, 16, 15, 11, 12, 13, 14, 6
Personal study	30	1.2	1, 2, 4, 3, 5, 8, 7, 9, 16, 12, 13, 14, 6

Assessment

The competences 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 and guided workshops.
- ACTIVITY B, 50% of 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 the challenges.

The final grade will be the weighted sum of the score obtained in each of these parts. It must be borne in mind that:

- To pass the subject, it will be necessary to obtain a minimum of 4/10 points in type A and B activities.
- The note for activity A will come from the weighted average of a theoretical test and the evaluation of the guided workshops.

- The mark for activity B will come from the weighted average of the evaluations of the practices carried out, as long as a final validation test is passed with a mark greater than or equal to 4/10.
- The grade for activity C will come directly from the weighted average of the evaluations of the challenges presented.

The evaluation system of this subject corresponds to continuous evaluation.

REEVALUATION SYSTEM

1. According to regulations, to be able to participate in the reevaluation process, the student must have previously been assessed for at least 2/3 of the subject's total assessable activities.
2. TYPE A ACTIVITIES: The theory test can only be retaken if the student has taken the theory test set in the continuous assessment and obtained a grade lower than 4.9. Regarding guided workshops, all those workshops that have not been presented during the continuous evaluation are excluded from reevaluation (unless there is a creditable reason for force majeure).
3. TYPE B ACTIVITIES: All those activities not presented during the continuous evaluation are excluded from reevaluation (unless there is a verifiable reason of force majeure). On the other hand, the grade obtained will be limited to 6/10 points.
4. TYPE C ACTIVITIES: All those activities not presented during the continuous evaluation are excluded from reevaluation (unless there is a verifiable reason of force majeure). On the other hand, the grade obtained will be limited to 6/10 points.

This subject does not provide for the single assessment system.

Assessment Activities

Title	Weighting	Hours	ECTS	Learning Outcomes
Challenges	10%	1	0.04	1, 2, 4, 8, 7, 10, 16, 15, 11, 6
Laboratory practices	50%	2	0.08	1, 2, 4, 3, 5, 8, 7, 10, 16, 15, 11, 12, 13, 14, 6
Theoretical test and workshops	40%	2	0.08	1, 2, 3, 8, 7, 9, 10, 16, 15, 11

Bibliography

1. Burgués, Xavier. et al. (2015). *Diseño de bases de datos*. Barcelona: UOC. Disponible: http://cv.uoc.edu/annotation/cb826b689abc472d8fb5b2519840058b/699689/PID_00223656/PID_0022365
2. Busuioc, Alexandru et al. The PHP Workshop: Learn to Build Interactive Applications and Kickstart Your Career As a Web Developer. Birmingham: Packt Publishing, Limited, 2019. Disponible: https://bibcercador.uab.cat/permalink/34CSUC_UAB/1c3utr0/cdi_proquest_ebookcentral_EBC5969589
3. Northwood, Chris (2018). The Full Stack Developer. Apress
4. 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_9781484267912

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...)