UAB
Universitat Autònoma de Barcelona

2021/2022

Introduction to Web Technology

Code: 104738
ECTS Credits: 6

Degree	Type	Year	Semester
2503873 Interactive Communication	OB	1	2

The proposed teaching and assessment methodology that appear in the guide may be subject to changes as a result of the restrictions to face-to-face class attendance imposed by the health authorities.

Contact

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Teachers

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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

Prerequisites

There are no prerequisites.

Classes will be taught in Catalan but in some cases the teaching material may be in English, therefore, students must have reading comprehension of this language.

Objectives and Contextualisation

The main objectives of the course are the following:

- Provide a general vision of Web development technologies.
- Know technologies for Web design and development considering aspects of design, usage, ethics, and technology.
- Know technologies and programming languages for the development of Web applications.

Competences

- 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.
- 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.

Learning Outcomes

1. Create basic and complex web pages.
2. Design web pages and applications that are functional in terms of technology.
3. Design web pages for all kinds of audiences on the basis of usability criteria.
4. Design web pages that are attractive and tailored to the formal characteristics of the organisation they are created for.
5. Design websites and their applications, keeping in mind the ethical qualities of non-discrimination and respect for all collectives.
6. Interpret, assess and discuss documents on internet creation and the role of web technology.
7. Plan and conduct academic studies in the field of basic and advanced programming.
8. Submit course assignments on time, showing the individual and/or group planning involved.

Content

The contents of the course are structured as follows:

1. Presentation of the subject.
2. Introduction to the Internet, the Web and the programming of Web pages.
3. HTML. Structure of a Web document.
4. CSS. Presentation format of a Web document.
5. Accessibility and responsive design.
6. JavaScript. Client-side programming.
7. Libraries (Bootstrap, jQuery).

Methodology

There are three parts: lectures, problem sessions, and laboratory sessions. The student should spend 48 hours in class and 102 hours for classes and tests preparation. The following activities are carried out during the course:

Lectures (21 hours)

Theoretical content is taught through lectures, although students are encouraged to actively participate in the resolution of examples.

Problem sessions (9 hours)

During problem sessions, a list of exercises is resolved. Students are encouraged to solve the problems on their own in advance. Students are also encouraged to present their own solutions in class.

Laboratory sessions (18 hours)

During laboratory sessions, a project is carried out with groups of 2 students. These sessions are to be prepared in advance. It is important that the project is carried by both students as a team, so the work of both will be assessed individually.

The calendar will be available on the first day of class. Students will find all information on the Virtual Campus: the description of the activities, teaching materials, and any necessary information for the proper follow-up of the subject. In case of a change of teaching modality for health reasons, teachers will make readjustments in the schedule and methodologies.

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	18	0.72	1, 5, 3, 2, 7, 8
Lectures	21	0.84	1, 5, 3, 4, 2, 6
Problem sessions	9	0.36	1, 5, 3, 4, 2
Type: Supervised			
Supervised projects	16	0.64	1, 5, 3, 4, 2, 7, 8
Type: Autonomous			
Laboratory sessions	26	1.04	1, 3, 4, 2, 7, 8
Preparing and studying	24	0.96	1, 5, 3, 4, 2, 6
Preparing tests	30	1.2	1, 5, 3, 4, 2, 6

Assessment

The proposed teaching methodology and evaluation activities may undergo some modifications depending on the health authorities' attendance restrictions.

The course consists of the following evaluation activities:

- Activity A, 20% on the final grade: progress checking in lectures and handover of problems.

- Activity B, 40% on the final grade: tests for lectures and problem sessions consisting in two individual partial tests that evaluate half the contents each. The student must pass the activity with a grade equal or greater than 5, otherwise needs to do the final re-assessment test.

- Activity C, 40% on the final grade: progress checking in each laboratory session, and technical assessment of the documentation provided at the end of the sessions.

To be able to pass the course, it is necessary to obtain a minimum grade of 5 in activities A, B, and C.

The student will be entitled to the revaluation of the course if he or she has been evaluated of the set of activities the weight of which equals a minimum of 2/3 of the total grade of the course. Activities A and B can be re-assessed in the re-assessment test. Laboratory sessions cannot be re-assessed, so they must be carried out the following year.

In the case of a second enrolment, students can do a single synthesis exam that will consist in a test assessing lectures, problems, and laboratory sessions. The grading of the course will correspond to the grade of the synthesis exam/assignment.

The student who performs any irregularity (copy, plagiarism, identity theft...) that can lead to a significant variation of the qualification of an evaluation act, will be qualified with 0 this act of evaluation. In case there are several irregularities, the final grade of the course will be 0.

Assessment Activities

Title	Weighting	Hours	ECTS	Learning Outcomes
Laboratory sessions	0.4	2	0.08	1, 5, 3, 4, 2, 7, 8
Lectures and problem sessions	0.4	2	0.08	1, 5, 3, 4, 2, 6
Progress checking in lectures and problem sessions	0.2	2	0.08	1, 5, 3, 4, 2, 6

Bibliography

- Charles M. Kozierok, *The TCP/IP Guide,* version 3.0, September 2005.
- Terry Felke-Morris, *Web development and design foundations with HTML5*, Addison-Wesley, 2012

Software

- Code editor (Visual Studio Code, Atom or similar)
- Web browser (preferably, Chrome o Firefox)