UAB
Universitat Autònoma de Barcelona

2022/2023

Mobile Applications Programming

Code: 104554
ECTS Credits: 6

Degree	Type	Year	Semester
2503743 Management of Smart and Sustainable Cities	OT	3	2

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

Prerequisites

There are no prerequisites. However, for a good understanding of the subject, knowledge of the fundamentals of programming languages is recomended.

Objectives and Contextualisation

We will work with the different web technologies and we will see different ways to introduce ourselves in web design, to create attractive websites, visualizable from different browsers / devices and using search engine positioning techniques. We will also work on low level programming with HTML, CSS and PHP languages to create websites with dynamic content with access to databases using SQL sentences.

Competences

- Conceive, design and manage the implementation of smart applications for geospatial information for urban and regional management.
- Critically analyse work carried out and demonstrate a desire to improve.
- Generate innovative and competitive proposals in professional activity.
- Prevent and solve problems, adapt to unforeseen situations and take decisions.
- Solve urban management problems using knowledge, methodology and procedures for the design and implementation of computer applications for different types of environment (web, mobile, cloud) and different paradigms.
- 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 be capable of communicating information, ideas, problems and solutions to both specialised and non-specialised audiences.
- Students must develop the necessary learning skills to undertake further training with a high degree of autonomy.
- Work cooperatively in complex and uncertain environments and with limited resources in a multidisciplinary context, assuming and respecting the role of the different members of the group.

Learning Outcomes

1. Critically analyse work carried out and demonstrate a desire to improve.

2. Develop computer applications that process and extract information from geospatial data.
3. Develop mobile applications using mobile-phone resources and manage these through the most significant modules in development environments.
4. Generate innovative and competitive proposals in professional activity.
5. Prevent and solve problems, adapt to unforeseen situations and take decisions.
6. 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.
7. Students must be capable of communicating information, ideas, problems and solutions to both specialised and non-specialised audiences.
8. Students must develop the necessary learning skills to undertake further training with a high degree of autonomy.
9. Work cooperatively in complex and uncertain environments and with limited resources in a multidisciplinary context, assuming and respecting the role of the different members of the group.

Content

The contents to be covered are the following:

1: HTML structures to Angular components.
2: Additional pages, routes, and constants
3: Services, Constants and HTTP
4: Using Firebase for our automation
5: Firebase Automation
6: Product display and search
7: WebApp to GitHub Pages

Methodology

The teaching methodology of the subject focuses on project-based learning. To achieve this goal, the subject will be structured in theory classes and supervised projects aimed at consolidating the contents of the subject. This approach requires a special involvement of students both in the development of face-to-face sessions and in the course's directed activites. Teamwork and collaborative exchange will be encouraged. However, the final learning process must be individual, highlighted by the autonomous activity of each student, who will have to complement and enrich the work initiated in the course's directed sessions. The supervised activity, around regular tutorials and sporadic consultations carried out during the course, is also an indispensable tool in acquiring the knowledge that the subject provides.

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.

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Activities

Title	Hours	ECTS	Learning Outcomes
Type: Directed			
Developing mobile applications	150	6	1, 2, 3, 4, 5, 8, 7, 6, 9

Assessment

The final qualification of the subject will be obtained based on the valuations of the different evidences, taking into account that each one of the parts has a different specific weight:

20% (project1) + 20% (project2) + 20% (project3) + 20% (project4) + 20% (FinalProject)

The grade of the subject will be calculated from this weighted sum.

A student who performs at least one of the components of the continuous evaluation can no longer be considered as NOT Evaluable.

Calendar of evaluation activities

The dates of the evaluation activities (midterm exams, exercises, assignments ...) will be announced well in advance during the semester.

The date of the final exam is scheduled in the assessment calendar of the Faculty.

"The dates of evaluation activities cannot be modified, unless there is an exceptional and duly justified reason why an evaluation activity cannot be carried out. In this case, the degree coordinator will contact both the teaching staff and the affected student, and a new date will be scheduled within the same academic period to make up for the missed evaluation activity." Section 1 of Article 115. Calendar of evaluation activities (Academic Regulations UAB). Students, who in accordance with the previous paragraph need to change an evaluation activity date must process the request by filling out an Application for exams' reschedule at

https://eformularis.uab.cat/group/deganat_feie/application-for-exams-reschedule Grade revision process

After all grading activities have ended students will be informed of the date and way in which the course grades will be published. Students will be also be informed of the procedure, place, date and time of grade revision following University regulations.

Retake Process

"To be eligible to participate in the retake process, it is required for students to have been previously been evaluated for at least two thirds of the total evaluation activities of the subject." Section 3 of Article 112 ter. The recovery (UAB Academic Regulations). Additionally, it is required that the student to have achieved an average grade of the subject between 3.5 and 4.9.

The date of the retake exam is posted in the calendar of evaluation activities of the Faculty. Students taking this exam and passing will get a grade of 5 for the subject. For the students that do not pass the retake, the grade will remain unchanged, and hence, will fail the course.

Irregularities in evaluation activities

Despite other disciplinary measures deemed appropriate, and in accordance with current academic regulations, *"whenever a student makes any irregularity that could lead to a significant variation in the grade of an evaluation activity, it will be graded with a 0, regardless of the disciplinary process that can be instructed. In case of occurrence of various irregularities in the evaluation of the same subject, the final grade of this subject will be 0".* **Section 10 of Article 116. Results of the evaluation. (UAB Academic Regulations).**

Assessment Activities

Title	Weighting	Hours	ECTS	Learning Outcomes
Develop computer applications	100	0	0	1, 2, 3, 4, 5, 8, 7, 6, 9

Bibliography

HTML Tutorial (w3schools.com) Copyright 1999-2021 by Refsnes Data

Software

The following programs will be used in the practices of the course: Nodejs, angular, ionic and bootstrap.

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