

Degree	Type	Year
2503852 Applied Statistics	FB	1

Contact

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Teaching groups languages

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

Prerequisites

None

Objectives and Contextualisation

Learn to develop a computer program.

Create and design computer algorithms that allow the resolution of problems with structured programming.

Use the Python programming language as the language used to develop the exercises.

Learning Outcomes

1. CM02 (Competence) Solve problems using structured programming, designing suitable algorithms.
2. CM04 (Competence) Programme algorithmic solutions to solve problems within a context linked to statistics.
3. KM05 (Knowledge) Recognise typical structures of advanced programming languages (variables, loops, arrays, lists, dictionaries, tuples, etc.), functions and classes.

Content

1. Introduction: variables, instructions, data types and algorithms
2. Conditionals and operators
3. Loops
4. Unidimensional and n-dimensional arrays: lists, dictionaries, sets and tuples in Python
5. Functions and their parameters
6. Files
7. Classes
8. Design and development of an application

**Unless the requirements enforced by the health authorities demand a prioritization or reduction of these contents.*

Activities and Methodology

Title	Hours	ECTS	Learning Outcomes
Type: Directed			
Lectures of problems	15	0.6	
Lectures of theory	15	0.6	
Type: Supervised			
Lectures of practices	30	1.2	
Type: Autonomous			
Personal work	77	3.08	

Each theory session will have its practical session, where the students will be proposed to apply the concepts learnt developing some computer programs in Python.

The student will be provided of some notes with solved exercises that will help him/her follow the syllabus every week.

**The proposed teaching methodology may experience some modifications depending on the restrictions to face-to-face activities enforced by health authorities.*

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	Weighting	Hours	ECTS	Learning Outcomes
Mid-Term exam	50%	4	0.16	CM02, CM04, KM05
Resit exam	100%	5	0.2	CM02, CM04, KM05
Second Exam	50%	4	0.16	CM02, CM04, KM05

The assessment is done through two partial exams: a mid-term exam and another at the end. To pass the subject, an average of 5 of the two exams must be taken.

If the subject is not passed, you can go to a resit exam.

Whoever has not passed the subject by partial exams and has to go to the resit exam, will not be able to obtain more than a 7 as a final grade.

Both Mid-Term and Second exams are written. Resit exam is done with a computer, except that the university cannot have the appropriate facilities.

Single assessment

Students who have accepted the single assessment modality will have to take a final exam which will consist of a written exam where they will have to solve some programming exercises, as is done in the exams of the subject

The student's grade will be the exam grade.

If the exam grade does not reach 5, the student has another opportunity to pass the subject through the computer-based make-up exam that will be held on the date set by the degree coordinator. In this retake exam, the student will not be able to obtain more than a 7 as a final grade.

**Student's assessment may experience some modifications depending on the restrictions to face-to-face activities enforced by health authorities.*

Bibliography

- Mark Lutz, "Learning Python", Ed. O'Reilly

- "Python tutorial", <https://www.tutorialspoint.com/python/>

Software

Visual Studio Code: <https://code.visualstudio.com/download>

Language list

Name	Group	Language	Semester	Turn
(PLAB) Practical laboratories	1	Catalan	second semester	afternoon
(PLAB) Practical laboratories	2	Catalan	second semester	afternoon
(SEM) Seminars	1	Catalan	second semester	afternoon
(SEM) Seminars	2	Catalan	second semester	afternoon
(TE) Theory	1	Catalan	second semester	morning-mixed