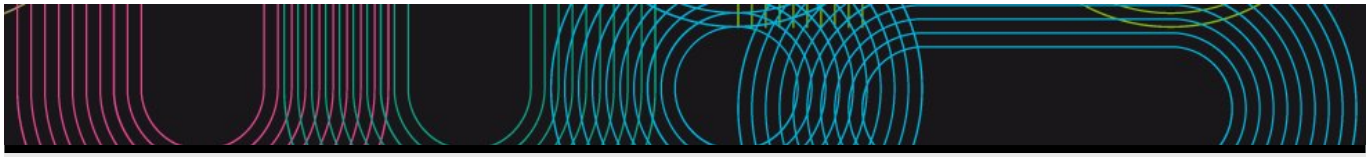

IDENTIFYING DATA				
Applications with scripting languages				
Subject	Applications with scripting languages			
Code	O06G151V01412			
Study programme	Grado en Ingeniería Informática			
Descriptors	ECTS Credits	Choose	Year	Quadmester
	6	Optional	4th	2nd
Teaching language	#EnglishFriendly Spanish			
Department				
Coordinator	García Pérez-Schofield, Baltasar			
Lecturers	García Pérez-Schofield, Baltasar			
E-mail	jbgarcia@uvigo.es			
Web	http://webs.uvigo.es/jbgarcia/			
General description	Development of applications by means of script languages. English Friendly subject: International students may request from the teachers: a) materials and bibliographic references in English, b) tutoring sessions in English, c) exams and assessments in English.			

Training and Learning Results	
Code	
A2	Students will be able to apply their knowledge and skills in their professional practice or vocation and they will show they have the required expertise through the construction and discussion of arguments and the resolution of problems within the relevant area of study.
A5	Students will acquire the learning skills that are required to pursue further studies with a high degree of independence.
B2	Ability to manage the project□s activities from the computing field in accordance with the acquired knowledge and training.
B4	Ability to define, assess and select hardware and software platforms for the development and execution of computing systems, services and applications, according to the acquired knowledge and training.
B5	Ability to conceive, develop and maintain computing systems, services and applications through use of software engineering methods as tools to ensure quality, according to the knowledge and training acquired.
B9	Ability to solve problems by taking the initiative, making decisions and acting independently and creatively. Ability to communicate the knowledge contents, skills and abilities of the Computer Science Engineer profession.
B12	Knowledge and application of basic elements of economics and human resource management, organization and planning of projects, as well as legislation, regulation and standardization in the field of computer projects, according to the knowledge acquired.
C18	Knowledge and application of the characteristics, functions and structure of data bases, allowing their appropriate use, and design, analysis and implementation of applications based on them.
C19	Knowledge and application of the necessary tools for storing, processing and accessing information Systems, including web-based ones.
C25	Ability to develop, maintain and assess software systems and services that satisfy all the demands of users and work reliably and efficiently, are easy to develop and maintain, and meet the quality standards, applying the theories, principles, methods and practices of Software Engineering.
C27	Ability to solve problems of integration according to available strategies, standards and technologies.
C28	Ability to identify and analyze problems and design, develop, implement, verify and document software solutions on the basis of sound knowledge of the theories, models and techniques available nowadays.
C29	Ability to identify, assess and deal with associated risks that could potentially arise.
C30	Ability to design appropriate solutions in one or more domains of application by using methods of software engineering that include ethical, social, legal and economic issues.
C36	Ability to design systems, applications and services based on network technologies, including the Internet, web, e-commerce, multimedia, interactive services and mobile computing.
D4	Analysis, synthesis and evaluation capacity

D5	Organizational and planning skills
D6	Ability to abstract: ability to create and use models that reflect real situations
D7	Ability to search, relate and structure information from various sources and to integrate ideas and knowledge.
D8	Ability to work in situations of lack of information and / or under pressure
D11	Critical thinking

Expected results from this subject

Expected results from this subject	Training and Learning Results			
RA3. Know practical methods for the specification of all the components during the development of a software package.	A2 A5	B5	C18 C19 C25 C27 C28 C29 C30 C36	D4 D5 D6 D7 D8 D11
RA6. Be able to apply software engineering tecnhiques leading to the obtention of high quality applications with the requested functionalities, considering the system as a group of applications.	A2 A5	B2 B4 B5 B9 B12	C18 C19 C25 C27 C28 C29 C30 C36	D4 D5 D6 D7 D8 D11
RA8. Present in an adequate way the documentation of a project to the people involved in its development: analysts, designers, programmers and customers.	A2 A5	B2 B9	C28 C29 C30	D4 D5 D6 D7 D8 D11

Contents

Topic	
Introduction	Historical review. Evolution of the languages of *script. Current tendencies.
Web programming languages.	Encapsulation. Inheritance. Polymorphism. Object model. Creation and distribution of applications.
Persistence	Simple serialization in formats like JSON and XML.

Planning

	Class hours	Hours outside the classroom	Total hours
Lecturing	18	29	47
Laboratory practical	11.5	48.5	60
Problem and/or exercise solving	3	10	13
Project	20	10	30

*The information in the planning table is for guidance only and does not take into account the heterogeneity of the students.

Methodologies

	Description
Lecturing	Lectures of the theoretical contents for each topic, by means of audiovisual resources. This method will be combined with illustrative examples of code and with the realization of exercises to motivate and increase the interest of the student.
Laboratory practical	The aim is that the student can apply the theoretical contents to the solution of simple problems of programming, that will guide the process to make a complete project. Continuous evaluation: mandatory (80% of assistance is required). Global evaluation: not mandatory.

Personalized assistance

Methodologies	Description
Lecturing	Tutorial sessions will be available by virtual means (email, videoconference, forums, ...), when needed. In that case, meeting times will be previously agreed.

Assessment

	Description	Qualification	Training and Learning Results			
Problem and/or exercise solving	Students will have to pass two partial exams, one roughly in the half of the matter, and another at the end. Those students that approve these exams will not need to present themselves to first option. Results: RA3, RA8. Each one is 30% of the final mark.	60	A5	B5 B9	C29 C30	D4 D5 D6 D7 D8 D11
Project	Students will write a project to measure their advance on the subject, taking advantage of and applying the knowledge assimilated from theoretical classes. This project is expected to be delivered at the end of the subject. Results: RA3, RA6, RA8.	40	A2	B2 B4 B5 B9 B12	C18 C19 C25 C27 C28 C29 C30 C36	D4 D5 D6 D7 D8

Other comments on the Evaluation

Continuous evaluation system

TEST 1: Partial 1.

Description: Eliminatory test, that is, in terms of the theoretical part, those students who pass these tests (Partial 1 & Partial 2), will not need to do the first option test.

Methodology(s) applied(s): Resolution of problems and/or exercises.

% Qualification: 30%

Minimum % A student must obtain a mark equal to or greater than 4 points (out of 10) in order to pass this test.

Evaluated training and learning results: A5, B5, B9, C29, C30, D4, D5, D6, D7, D8, D11.

Expected results in the subject evaluated: RA3, RA8.

TEST 2: Partial 2.

Description: Eliminatory test, that is, in terms of the theoretical part, those students who pass these tests (Partial 1 & Partial 2), will not need to do the first option test.

Methodology(s) applied(s): Resolution of problems and/or exercises.

% Qualification: 30%

Minimum % A student must obtain a mark equal to or greater than 4 points (out of 10) in order to pass this test.

Evaluated training and learning results: A5, B5, B9, C29, C30, D4, D5, D6, D7, D8, D11.

Expected results in the subject evaluated: RA3, RA8.

TEST 3: Project.

Description: Students will carry out a project as the subject progresses, taking advantage of and applying the theoretical knowledge assimilated in the theoretical session. The student will need to deliver in this project at the end of the course.

Methodology(s) applied: Project.

% Qualification: 40%

Minimum % A student must obtain a grade equal to or greater than 4 points (out of 10)) in order to pass this test.

Evaluated training and learning results: A2, B2, B4, B5, B9, B12, C18, C19, C25, C27, C28, C29, C30, C36, D4, D5, D6, D7, D8.

Expected results in the subject evaluated: RA3, RA6, RA8.

 All students who take any of the tests are understood to accept the continuous assessment procedure described above.

 If a student does not take any of the tests, they will be assigned, at most, a mark of 4 in it, according to the rest of the marks.

Global evaluation system

Procedure for choosing the global evaluation modality: during a period of one month from the beginning of the semester, the enrolled students can formally state their intention to take advantage of the continuous evaluation system.

TEST 1: First opportunity.

Description: Resolution of exercises.

Methodology(s) applied(s): Resolution of problems and/or exercises.

% Rating: 100%.

Minimum %: A student must obtain a grade equal to or greater than 5 points (out of 10)) in order to pass this test.

Evaluated training and learning results: A2, A5, B2, B4, B5, B9, B12, C18, C19, C25, C27, C28, C29, C30, C26, D4, D5, D6, D7, D8, D11.

Expected results in the subject evaluated: RA3, RA6, RA8.

Evaluation criteria for second opportunity and end of degree

The continuous and global evaluation systems described above will be used.

Record qualification process

Regardless of the evaluation system and the option, if any part of the evaluation is not passed, but the overall score is greater than 4 (out of 10), the final qualification will be 4.

Evaluation dates

The dates of the tests corresponding to the continuous assessment system will be published in the calendar of activities, available on the ESEI website https://esei.uvigo.es/docencia/horarios/.

The official exam dates of the different opportunity, officially approved by the Xunta de Centro of the ESEI, are published on the ESEI website https://esei.uvigo.es/docencia/horarios/.

Use of mobile devices

All students are reminded of the prohibition of the use of mobile devices in exercises and practices, in compliance with article 13.2.d) of the University Student Statute, regarding the duties of the university student, which establishes the duty to "Refrain from using or cooperation in fraudulent procedures in the evaluation tests, in the works that are carried out or in official documents of the university."

Inquiry/request for tutorials

Tutorial schedules can be consulted through the personal page of the teaching staff, accessible through https://esei.uvigo.es/docencia/profesorado/

Sources of information

Basic Bibliography

García Perez-Schofield, Baltasar, **Introducción a la programación con Python**, 1, Bubok.es, 2018

Complementary Bibliography

http://es.diveintopython.net/, **Sumérgete en Python**, 2001

Miguel Grinberg, **Flask Web Development 2e: Developing Web Applications with Python**, 978-1491991732, 2, O'Reilly Media, Inc, 2018

Recommendations