Information Systems

Code: 104728
ECTS Credits: 12

Degree	Type	Year	Semester
2503873 Interactive Communication	FB	1	A

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.

Prerequisites

Fist certificate English level. It is recommended have learned any programming language before.

Objectives and Contextualisation

1. That students attain a knowledge about Information technology infraestructure.
2. Knowledge about network infraestructure.
3. Understand the Computer architecture.
4. Understand the how the Opetating System works.
5. Knowledge about the different progamming languages.
6. Understand Internet as basic infraestructure for data transmission.
7. Learn to value IT security infraestructure.
8. Value virtual systems and cloud.
9. Learn to value Big Data and Open Data.

Competences

- Act with ethical responsibility and respect for fundamental rights and duties, diversity and democratic values.
- 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.
- Identify the characteristics of information systems from both a conceptual and a practical perspective.

- 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 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. Adopt the internal logics of scientific thought when putting the theoretical and practical content of this subject area into practice.
2. Analyse a situation and identify its points for improvement.
3. Apply knowledge of the humanities and social sciences to the creation of technological products aimed at communication.
4. Differentiate between the capacities, architectures, applications and performance of information services, both conceptually and in practice.
5. Distinguish the services and storage systems of information systems, both conceptually and in practice.
6. Distinguish the theory of the network actor from that of social networks.
7. 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.
8. Explain the concepts of programming, transmission and protocols of information systems, both conceptually and in practice.
9. Explain the explicit or implicit deontological code in your area of knowledge.
10. Explain the rules of social networks, their direct influence and the 6-degree rule.
11. Identify the features specific to information systems, both conceptually and in practice.
12. Plan and conduct academic studies in the field of information systems.
13. Plan projects in the field of information structure and transmission.
14. Propose new methods or well-founded alternative solutions.
15. 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.
16. Study and analyse the theory of complex systems applied to society.
17. Submit course assignments on time, showing the individual and/or group planning involved.
18. Use technological knowledge of the subject area to create communication services for the general public.

Content

1. Python programming language
2. Hardware and Data Centers.
3. Introduction to operating systems.
4. Network fundamentals.
5. Network security.
6. Introduction to Big Data and Open Data.

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.

Methodology

The methodology used at class wil be:

MD1: Master Class.

MD4: Specific task designated.

MD6: Oral presentations.

MD9: Laboratories practices.

MD10: Personal study.

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 practices	36	1.44	1, 5, 8, 10, 13, 17, 18
Master class	42	1.68	3, 1, 4, 5, 6, 16, 8, 10, 11, 13, 12, 17, 18
Oral presentations	10	0.4	3, 1, 4, 5, 6, 16, 8, 10, 11, 13, 12, 17, 18
Specific task designated	18	0.72	3, 1, 4, 5, 6, 16, 8, 10, 11, 13, 12, 17, 18
Type: Autonomous			
Personal study	162	6.48	3, 11, 17, 18

Assessment

The objective is to establish a continuous evaluations mechanism. This subject has at least three evaluative activities. But none of these could represent up more 50% of the final grade.

Evaluative activities:

AE8: Theorical exams.	30%
AE1: Delivery of works.	20%
AE3: Lab practices.	40%
AE9: Class attendance.	10%

To pass the subject its necessary to pass all parts (minimum pass grade is 5). Virtual campus is a main tool in this subject. There will be uploaded the main resources and works. The theorical exams and lab practices can be retaken in a final retake exam. If anyone want to do this exam it's necessary to deliver unpass lab practices before.

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

In the case of a second enrolment we use a special evaluative metholodology.

This subject doesn't provide for the single assessment system

In the event that the student performs any irregularity that may lead to a significant variation of an evaluation act, this evaluation act will be graded with 0, regardless of the disciplinary process that could be instructed. In the event, that several irregularities occur in the evaluation acts of the same subject, the final grade for this subject will be 0.

Assessment Activities

Title	Weighting	Hours	ECTS	Learning Outcomes
Class Attendance	10%	2	0.08	12, 17
Delivery of works	20%	10	0.4	3, 1, 4, 5, 6, 16, 8, 10, 11, 13, 12, 17, 18
Lab practices	40%	10	0.4	2, 4, 5, 6, 9, 8, 14, 15, 18, 7
Theorical exams	30%	10	0.4	3, 1, 4, 5, 6, 16, 8, 10, 11, 13, 12, 17, 18

Bibliography

1. Python Institute. (2022). Programming Essentials in Python. 2022, de Python Institute web site: https://pythoninstitute.org/

Software

1. Visual Studio Code