Pla docent
Universitat d'Andorra

122040053 - Bachelor of Computer Science (face to face and online) (2020)

0053008 - Data Analysis and Project Management

Dades generals

Codi: 0053008

Tipus: OB

Semestre: 4

Crèdits: 15.0

Llengua d'impartició: Anglès

Llengua de suport: Anglès

Professorat

Professorat responsable

Alba Soler, Gerardo (Titulació: MSc Matemàtiques; Àrea de coneixement: Matemàtiques)

Sau Batlle, Jan (Titulació: Grau en Enginyeria Informàtica i Màster en Educació i TIC; Àrea de coneixement: Ciències tecnològiques; Grup de recerca: Grup de recerca en tecnologia)

Informació

Presentació del mòdul:

This module, together with the Distributed Programming module, includes the methods, techniques, and tools needed to manage a computer science project.

Like any other engineering, you need to be able to keep track of a project. This involves a series of activities, such as the application of a methodology for planning, organizing and developing a project, combined with the analysis of data in order to specify, design a software system and also extract information relevant to organizations.

Metodologia:

The module is based on a methodology that differentiates between two types of learning that complement each other. The first is related to the acquisition of knowledge and the second to its application.

This methodology combines a theoretical approach with a practice-oriented approach in to guide and provide the student with the necessary skills for the development of the different activities of the module and, more specifically, towards the resolution of the challenge.

The application of this methodology requires a permanent collaboration between the teacher staff and the student. Consequently, each week, this module has associated in the calendar of the course 6 face-to-face teaching sessions that are destined to seminars and, on the other hand, 1 session of guided work.

Alternatively, for students who follow their training in virtual modality and, complementary for face-to-face students, the seminars and guided work sessions will be monitored through the virtual campus and online consultations and tutorials. In addition, students who follow the virtual modality have the opportunity to attend face-to-face sessions, aimed at seminars or guided work, as they consider appropriate.

In the sessions for the seminars, the teaching staff provides students with the contents and tools necessary to develop the activities and the challenge of the module.

In the guided work sessions, the tutor teacher guides and monitors the students in the development of the challenge.

In addition, it should be added, the personal work that, although it is present throughout the semester, intensifies in the last weeks for the resolution of the final activity and, above all, of the challenge of the module.

Avaluació continuada:

The different assessment activities, including the challenge, are set by the teaching staff and will be available in the calendar of seminars and the challenge.

See the comments section.

Avaluació final:

Students who have not followed or who have not passed the continuous assessment will have the opportunity of recovering the pending seminars and the challenge during the recovery period planned according to the module schedule.

See the comments section.

Bibliografia bàsica:

Each seminar will detail the basic bibliography.

Bibliografia complementària:

Each seminar will detail the complementary bibliography.

Observacions:

The module has associated learning outcomes that are described in the syllabus. These

learning outcomes are assessed using a numerical scale from 0 to 10 (per tenths).

To pass the module it is necessary that the grade of all these learning outcomes is greater than or equal to 3 and that the value of the arithmetic mean of all of them is greater than or equal to 5.

In addition, the learning outcomes of the module, each one at its level of competence, contribute to the evaluation of the specific and transversal competences that the student will have at the end of his studies.

Competències / Resultats d'aprenentatge específics (9)

	Codi - Competències (C) / Resultat d'aprenentatge específic (RA)	Nivell
C	BInfo-E001 - Develop and coordinate computer applications: analysis, specifications, development, integration and implementation.	
RA	BInfo-E001-15 - Explains the different stages and activities involved in software engineering.	2
RA	BInfo-E001-16 - Gives the diagrams corresponding to the software systems specification.	2
RA	BInfo-E001-17 - Design the case described following the guidelines given in the methodology respecting the initial requirements and other specifications of the system.	3
RA	BInfo-E001-18 - Knows a general methodology for project management in a company, the strategic plan and the standards for the modeling of business processes.	2
RA	BInfo-E001-19 - Specifies and plans the various phases of a project and manages the project life cycle following a reference guide.	2
RA	BInfo-E001-20 - Apply and use the knowledge acquired for project management participating in a specific project.	3
C	BInfo-E005 - Manage databases and computer systems.	
RA	BInfo-E005-04 - Understands the particularities of database management systems beyond relational models.	2
RA	BInfo-E005-05 - Applies machine learning algorithms on heterogeneous data sets to extract information relevant to organizations.	3
RA	BInfo-E005-06 - Knows the ecosystem of mass data processing and knows how to apply workflows on them.	3

Competències / Resultats d'aprenentatge transversals (4)

	Codi - Competències (C) / Resultat d'aprenentatge transversal (RA)	Àrea	Nivell
C	BInfo-T002 - Interpersonal competences: includes the competences of providing information tailored to the needs of the listener, establishing smooth communication and being able to work in interdisciplinary teams and in networks.	Responsabilitat personal	
RA	BInfo-T002-02 - Identifies the objectives, plans and develops the tasks associated with his/her role, respecting the rules of the team in an interdisciplinary environment.		2

C	BInfo-T004 - Information management competence, which involves knowing how to acquire the ability to search, discriminate, manage and use information autonomously in a professional environment.	Gestió del coneixement i autonomia en el treball	
RA	BInfo-T004-04 - Chooses the most convenient sources of information.		3
C	BInfo-T010 - Orientation towards quality.	Responsabilitat personal	
RA	BInfo-T010-02 - Acknowledges the outstanding results in its field of study and improves personal work systematically.		2
C	BInfo-T011 - Commitment to the culture of democracy and the Sustainable Development Goals.	Responsabilitat personal	
RA	BInfo-T011-02 - Introduces the sustainable development goals in their works and projects.		2

Continguts (16)

1. Seminar: Database Design and Data Processing. (Més informació)
   - 1.1. Non-relational databases.
   - 1.2. Data mining.
   - 1.3. Big Data.
2. Seminar: Software Engineering. (Més informació)
   - 2.1. Principles of software engineering.
   - 2.2. The specification of software systems. The static model.
   - 2.3. The specification of software systems. The dynamic model.
   - 2.4. The design of software systems.
   - 2.5. The design of software systems. The static model.
   - 2.6. The design of software systems. The dynamic model.
3. Seminari: Project Management. (Més informació)
   - 3.1. Concepts on project management.
   - 3.2. Definition of projects.
   - 3.3. Project planning.
   - 3.4. Project organization.