

Information Storage and Recovery

Code: 104746
ECTS Credits: 6

Degree	Type	Year	Semester
2503873 Interactive Communication	OB	2	2

The proposed teaching and assessment methodology that appear in the guide may be subject to changes as a result of the restrictions to face-to-face class attendance imposed by the health authorities.

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

Teachers

Angels Jimenez Lopez

Prerequisites

There are no prerequisites.

Objectives and Contextualisation

The main objectives of the course are the following:

- Know the evolution of technologies for information storage and retrieval.
- Distinguish the characteristics of the main database management systems.
- Know how to select the appropriate database management system according to the needs of its users.
- Know the methodology for the design and creation of relational databases.
- Apply knowledge about databases in the field of interactive communication.

Competences

- Determine and plan the technological infrastructure necessary for the creation, storage, analysis and distribution of interactive multimedia and social-networking products.
- Manage time efficiently and plan for short-, medium- and long-term tasks.
- Promote and launch new products and services based on massive-scale mining and analysis of data from the Media.
- Search for, select and rank any type of source and document that is useful for creating messages, academic papers, presentations, etc.
- 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 develop the necessary learning skills to undertake further training with a high degree of autonomy.

Learning Outcomes

1. Apply knowledge of technology to data protection.
2. Cross-check information to establish its veracity, using evaluation criteria.
3. Distinguish the most suitable software for designing and creating a database on the basis of an organisation's needs.
4. Distinguish the salient features in all types of documents within the subject.
5. Extract content for storage in databases and recover it when needed.
6. Plan and perform document search and management work.
7. Recognise and master the technological infrastructure for storing information.
8. Submit high-quality coursework on time, which requires attention to both individual and group work.
9. Work individually to progress further in analysing and creating databases for their own sake.

Content

The contents that will be worked on in the course are structured in the following topics:

1. Technological evolution in information storage and retrieval.
2. Databases: concept and typologies.
3. Database management systems.
4. Databases design methodology.
5. The textual model.
6. The entity-relationship model.
7. The relational model.
8. Databases and data security.
9. Databases as sources of information for interactive communication.

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 course. In case of a change of teaching modality for health reasons, teachers will make readjustments in the schedule and methodologies.

Methodology

The practical exercises are aimed at:

- Show the different types of databases and database management systems.
- Apply the methodology of database design and creation.
- Know the structure of the text model.
- Know and apply the principles of information search in databases.
- Apply the entity-relationship model.
- To know the relational model.

The course work is a group work in which an interactive communication project is proposed. The work has a double objective: a) to increase the knowledge of information retrieval; b) to provide artistic and cultural references through the use of a wide selection of databases.

The results of both practical exercises and coursework will be presented in oral presentations.

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

Activities

Title	Hours	ECTS	Learning Outcomes
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Type: Directed

Oral presentations	4	0.16	9, 8
Practical exercises	28	1.12	1, 3, 9, 5, 8, 7
Theory classes	14	0.56	4, 3, 7

Type: Supervised

Elaboration of coursework	8	0.32	1, 2, 9, 5, 6, 8, 7
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Type: Autonomous

Bibliography reading	15	0.6	2, 4, 9
Elaboration of coursework	47	1.88	1, 2, 9, 5, 6, 8, 7
Personal study	30	1.2	2, 4, 3, 9, 7

Assessment

The evaluation is continuous. Following continuous assessment means that the student has done:

- 70% of the practical exercises
- 2 partial exams
- Coursework

The final grade is obtained from the sum of the qualifications of the four evaluation activities according to their percentage weight. The course is passed if the sum of the four grades is not less than 5 and none of the partial exams have been scored less than 3.

Students who have taken the continuous assessment, but their final grade is less than a 5 or some partial exams have obtained a qualification of less than 3, can reevaluate the course. The evaluation activities excluded from the reevaluation are practical exercises and coursework.

The student who performs any irregularity (copy, plagiarism, identity theft...) will be qualified with 0 in this assignment or exam. In case there are several irregularities, the final grade of the course will be 0.

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

Assessment Activities

Title	Weighting	Hours	ECTS	Learning Outcomes
Coursework	35%	1	0.04	1, 2, 9, 5, 6, 8, 7
Monitoring of practical exercises	15%	1	0.04	1, 2, 3, 9, 5, 6, 8, 7
Partial exam 1	25%	1	0.04	1, 2, 4, 3, 5, 7
Partial exam 2	25%	1	0.04	1, 2, 4, 3, 5, 7

Bibliography

Basic bibliography. A supplementary bibliography will be provided at the end of each topic.

Abadal, Ernest; Codina, Lluís. (2005). *Bases de datos documentales : características, funciones y método*. Madrid: Síntesis.

Burgués, Xavier. et al. (2015). *Diseño de bases de datos*. Barcelona: UOC. Disponible: <https://cutt.ly/qo6KvTM>

Celma, Matilde; Casamayor, Juan Carlos; Mota, Laura. (2003). *Bases de datos relacionales*. Madrid: Pearson Educación.

Codina, Lluís. (2015). *Sistemas de gestión de bases de datos documentales: características principales y metodologías de diseño*. Barcelona: UPF. Disponible: <https://repositori.upf.edu/handle/10230/24625>

Codina, Lluís. (1993). *Sistemes d'informació documental: concepció, anàlisi i disseny de sistemes de gestió documental amb microordinadors*. Barcelona: Pòrtic.

Ferran, Núria; Pérez-Montoro, Mario. (2013). *Búsqueda y recuperación de la información*. [Recurs electrònic]. Barcelona: UOC.

Luque, Irene. et al. (2001). *Bases de datos: desde Chen hasta Codd con Oracle*. Madrid: Ra-Ma.

Moya, Félix de. (2002). "Técnicas avanzadas de recuperación documental". En: López Yepes, J. *Manual de ciencias de la documentación*. Madrid: Pirámide.

Silberschatz, Abraham; Korth, Henry; Sudarshan, Sundararajao. (2014). *Fundamentos de bases de datos*. Madrid: McGraw-Hill.