Universitat de Lleida

DEGREE CURRICULUM
COMPUTER SCIENCE

Coordination: Josep Lluís Lérida

Academic year 2014-15

Subject's general information

Subject name	Computer Science
Code	101409
Semester	1r Q
Typology	Continuous assesment
ECTS credits	6
Theoretical credits	3
Practical credits	2
Coordination	Josep Lluís Lérida
Office and hour of attention	jlerida@diei.udl.cat, despatx 3.17 - Escola Politècnica Superior ismael.arroyo@udl.cat despatx 3.08 - Escola Politècnica Superior
Department	Computer Science and Industrial Engineering
Teaching load distribution between lectures and independent student work	(40%) 60 h presencials (60%) 90 h treball autònom
Modality	Presencial
Important information on data processing	Consult this link for more information.
Language	Català
Degree	Degree in Architectural Technology
Office and hour of attention	jlerida@diei.udl.cat, despatx 3.17 - Escola Politècnica Superior ismael.arroyo@udl.cat despatx 3.08 - Escola Politècnica Superior
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Josep Lluis Lérida Monso
Ismael Arroyo Campos

Subject's extra information

This course is essentially practical based on solving exercises recommended and required. The individual work is essential for obtaining the competences and acquiring the skills to properly use the tools taught during the course. You can find collections of these materials in Campus Virtual: http://cv.udl.cat
1. Introduction to the Computer Science applied to Architecture
2. Introduction to Database Management
3. Collection of exercises and bibliography

The use of Virtual Campus is essential to access the resources of the subject, the scheduling and notifications generated during the course.

Learning objectives

The practical nature of the subject makes it very useful in many areas and professional fields. The aim is to provide students with knowledge of the area those that are useful and applicable to their qualification profile.

The main objectives of the course are:

1. Identify the basic components of the current computer and its main features.
2. Identify the software tools to develop their professional work.
3. Identify tools and procedures to keep information secure in their workplace.
4. Identify the advantages and disadvantages in using free/propietary software and learn to choose the most appropriate depending on the SW characteristics, user requirements and cost.
5. Clearly identify the necessary tools to meet the ICT requirements arising from their profession.
6. Use advanced document editing techniques: Styles, numbering schemes, cross-references and tables of contents.
7. Use advanced data processing techniques: Performing statistical calculations, dynamic filtering tools and graphical representation of information.
8. Acquiring skills in using a drawing tool for drawing 2D shapes.
9. Solve two-dimensional shapes and represent bodies in space from a data set provided.
10. Acquire skills in the use of a database management system.
11. Design and develop a database according to the requirements of an organization and considering storage issues.
12. Query a database and display the information based on established requirements.
13. Develop properly and efficient quality technical documents.
14. Successfully integrate information from different applications.
15. Acquire the habit of working in an orderly, organized and precise.
16. Express information in an orderly and accurate way.

Competences

University of Lleida strategic competences

- **UdL3.** Mastering ICT's.

Degree-transversal competences

- **EPS5.** Capacity of abstraction and of critical, logical and mathematical thinking.

Subject contents

1 Database Management and information processing

- Database Management Systems. Concepts and components.
- Structure of a Relational DBMS. Basic concepts.
- Interrogation of a Database
- Creating Reports

2. Computer-Aided design

- Working environment
- Data entry. Coordinates system
- Basic Drawing commands
- Drawing aid tools
- Editing commands
- Function Keys
- Visualization control
- Layers and object properties
- Creating and editing blocks
- Adding Text
- Creating and editing dimensions.

3. Advanced Editing for the development of technical documentation

- Advanced reporting
- Advanced use of spreadsheets
- Information Integration
- Use and exploitation of collaborative work environments

Development plan

Dates (Weeks)	Description	Face-to-Face Activity	FH (2) (Hours)	Autonomous Activity	AH (3) (Hours)
Week 1	Welcome day				
Week 2	Course Presentation (GG) T1. RDBMS Concepts T1. Relational Model	Exhibition events and methodology Lecture and participatory classes Lecture and participatory classes	1 1 2	Teaching Plan Review Study Exercises and Study	1 2 2
Week 3	No Lecture				
Week 4	T1. Relational model T1. Case of Study	Lecture and participatory classes Problem Based Learning	2 2	Exercises and Study Exercises resolution and study	2 4
Week 5	DB Design Activity DB Queries Activity	Troubleshooting and classroom practices Troubleshooting and classroom practices	2 2	Exercises resolution and study Exercises resolution and study	3 4
Week 6	T1. Case of Study PR1. DB Design	Problem Based Learning Solving exercises and participatory classes	2 2	Exercises and Study Exercises resolution and study	4 4
Week 7	CP1. Avaluable Case of Study PR1. DB Interrogation	Problem Based Learning Solving exercises and participatory classes	2 2	Exercises and Study Exercises resolution and study	3 4

2014-15

Dates (Weeks)	Description	Face-to-Face Activity	FH (2) (Hours)	Autonomous Activity	AH (3) (Hours)
Week 8	T3. DB Reporting PR2. DB Reporting	Lecture and participatory classes Participatory classes and classroom practices	2 2	Study Exercises and Study	2 4
Week 9	PA1. Evaluation Test - 1	Written exam	2	Resolution and Exam Review	2
Week 10	T3. Spreadsheets Elaboration PR3. Spreadsheets Elaboration	Lecture and participatory classes Case Study and Resolution	2 2	Study Case Study resolution	2 3
Week 11	T3. CAD I. PR4. CADI.	Participatory classes and classroom practices Solving exercises	2 2	Study Case Study resolution	4 2
Week 12	T3. CAD II. PR5. CADII.	Participatory classes and classroom practices Solving exercises	2 2	Study Exercises and Study	4 3
Week 13	No Lecture				
Week 14	T3. CAD III. PR6. CADIII.	Participatory classes and classroom practices Solving exercises	2 2	Study Exercises and Study	4 3
Week 15	No Lecture				
Week 16 Week 17	PA2. Evaluation Test - 2	Individual written exam	2	Resolution and Exam Review	2
Week 18	Qualifications and Tutoring sessions				
Week 19	Recovery Test	Individual written exam	2	Resolution and Exam Review	2

(2)FH = Face-to-Face Hours

(3)AH = Autonomous Hours

Evaluation

Objectives	Assesment Activities	%	Dates	O/V (1)	I/G (2)	Remarks
Unit 1	CP1. Classroom Exercice (BD)	10	Week 7	O	I	
Unit 1	PR3	10	Setmana 8	O	I	
Unit 1	Assesment Test 1	30	Week 9	O	I	
Unit 2	PR5. Classroom Practice (CAD)	10	Week 12	O	I	
Unit 2 i 3	Assesment Test 2	50	Week 16 o 17	O	I	
Units 1, 2, 3	Recovery assesment	80	Week 19	V	I	Recoveries Week

(1) Mandatory / Voluntary
(2) Individual / Group

Final Marks:
In the weeks 9th and 16th / 17th will be performed the evaluation tests: PA1 and PA2. Each of these tests has a weight of 30% and 40% respectively of the final mark.

The final grade is calculated by the sum of the results of the assessment test (PA1 + PA2) plus the classroom practices during the course (CP1 + CP2): **Final Mark = Test + Classroom Practices**. As long as, they meet the following conditions:

The mark obtained in the **classroom practices**, will be added to the calculation of the final when the score **is 1.5 or higher about three**.
The mark obtained in the classroom practices, will be added to the calculation of the final grade when the score in the **assesment tests** is equal to or greater than 3.5 about 7.

(*) On the 19th week the grade of the course can be recovered by a final exam. This test can also be done by all those students having passed the ongoing assessment and want to modify their grade, assuming that the obtained score in the recovery test is the only score that will be considered for the calculation of the final mark.

Bibliography

Main Bibliography

- Prieto A., Lloris P., Torres J.C. Introducción a la Informática. 4a Edición. McGraw-Hill. ISBN8448146247
- Tickoo S. (2000). AutoCAD básico. Paraninfo. ISBN 8428326673
- Luque I., Gómez M.A. (1997). Diseño y uso de Bases de datos relacionales. Ra-ma. ISBN 847897279X

Extended Bibliography

- Groff J.R., Winberg P.N. (2003). SQL. Manual de referencia. Mc GrawHill. ISBN 8448139305
- Wilson J.E. (2002). Modelado 3D con AutoCAD. Anaya. ISBN 8441514054