Course guide
330247 - BD - Databases

Unit in charge: Manresa School of Engineering
Teaching unit: 750 - EMIT - Department of Mining, Industrial and ICT Engineering.
Degree: BACHELOR’S DEGREE IN ICT SYSTEMS ENGINEERING (Syllabus 2010). (Optional subject).
Academic year: 2022 ECTS Credits: 6.0 Languages: Catalan

LECTURER
Coordinating lecturer: MARTA ISABEL TARRÉS PUERTAS

Others:

DEGREE COMPETENCES TO WHICH THE SUBJECT CONTRIBUTES

Specific:
1. Know the architecture of database management systems
2. Know the basics of the relational data model
3. Know the theory of normalization and deepen the quality design of relational databases
4. Ability to design and implement relational databases. Application of integrity constraints to the design of a system and implementation based on an enterprise-level database management system
5. Ability to define and manipulate databases through SQL language statements
6. Know the concept of transaction and its implications.
7. Develop skills to carry out the functional modeling of the processes and data of a business problem.

Transversal:
8. EFFECTIVE USE OF INFORMATION RESOURCES - Level 3. Planning and using the information necessary for an academic assignment (a final thesis, for example) based on a critical appraisal of the information resources used.
9. SELF-DIRECTED LEARNING - Level 3. Applying the knowledge gained in completing a task according to its relevance and importance. Deciding how to carry out a task, the amount of time to be devoted to it and the most suitable information sources.
10. TEAMWORK - Level 3. Managing and making work groups effective. Resolving possible conflicts, valuing working with others, assessing the effectiveness of a team and presenting the final results.

TEACHING METHODOLOGY

LEARNING OBJECTIVES OF THE SUBJECT

STUDY LOAD

<table>
<thead>
<tr>
<th>Type</th>
<th>Hours</th>
<th>Percentage</th>
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</thead>
<tbody>
<tr>
<td>Self study</td>
<td>90,0</td>
<td>60.00</td>
</tr>
<tr>
<td>Hours large group</td>
<td>30,0</td>
<td>20.00</td>
</tr>
<tr>
<td>Hours small group</td>
<td>30,0</td>
<td>20.00</td>
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</tbody>
</table>

Total learning time: 150 h
CONTENTS

(ENG) TEMA 1: INTRODUCCIÓ A LES BD I ARQUITECTURA DELS SGBD
Full-or-part-time: 30h
Theory classes: 6h
Laboratory classes: 6h
Self study: 18h

(ENG) TEMA 2: EL MODEL RELACIONAL I L'ÀLGEBRA RELACIONAL
Full-or-part-time: 30h
Theory classes: 6h
Laboratory classes: 6h
Self study: 18h

(ENG) TEMA 3: EL LLENGUATGE SQL
Full-or-part-time: 30h
Theory classes: 6h
Laboratory classes: 6h
Self study: 18h

(ENG) TEMA 4: DISSENY DE BASES DE DADES
Full-or-part-time: 30h
Theory classes: 6h
Laboratory classes: 6h
Self study: 18h

(ENG) TEMA 5: BD AVANÇADES
Full-or-part-time: 30h
Theory classes: 6h
Laboratory classes: 6h
Self study: 18h

ACTIVITIES

(ENG) ACTIVITAT 1: CLASSE MAGISTRALS I PARTICIPATIVES
Full-or-part-time: 12h
Theory classes: 12h

(ENG) ACTIVITAT 2: CLASSE DE PROBLEMES
Full-or-part-time: 12h
Theory classes: 12h
### (ENG) ACTIVITAT 3: CLASSE DE LABORATORI

**Full-or-part-time:** 41h  
Laboratory classes: 26h  
Self study: 15h

### (ENG) ACTIVITAT 4: ESTUDI DE CONTINGUTS

**Full-or-part-time:** 20h  
Self study: 20h

### (ENG) ACTIVITAT 5: REALITZACIÓ D'EXERCICIS

**Full-or-part-time:** 25h  
Self study: 25h

### (ENG) ACTIVITAT 6: PROJECTE

**Full-or-part-time:** 28h  
Theory classes: 4h  
Laboratory classes: 4h  
Self study: 20h

### (ENG) ACTIVITAT 7: EXAMEN

**Full-or-part-time:** 12h  
Theory classes: 2h  
Self study: 10h

### GRADING SYSTEM

### BIBLIOGRAPHY

**Basic:**