Centre	**University College of Engineering of Vitoria-Gasteiz**
Name of subject	**26026 – Database Design**
Qualification	**Degree in Computer Management and Information Systems Engineering**
Type	**Compulsory**
Credits	**6 ECTS**
Year	**3**
Term(s)	**1st**
Department	**Computer Languages and Systems**
Language	**Spanish**

Outcomes / Objectives

Database Design stages.

Conceptual design: analysis of data requirements and design, transformation to the relational model, normalisation.

Logical design: views.

Physical design.

Integrity rule specification in DB: restrictions, triggers.

Data store design.

Syllabus

Conceptual design. The stages of DB design are presented: conceptual, logical and physical. Conceptual design and the transformation process to the relational model are explained.

Normalisation. Insertion and deletion anomalies are explained. The normal forms that consider such anomalies are explained.

Logical design: views. The notion of view is presented, including its characteristics and applications.

Physical design. Index characteristics are analysed, along with other aspects in relation to the implementation of logical schemes.

Integrity rules. The different options to define the integrity restrictions that will ensure DB integrity are explained: inter-table and intra-table restrictions, triggers

Methodology

Teaching Method

Face-to-Face Teaching Hours								
Lectures	**Seminars**	**Classroom practice**	**Lab. practice**	**Computer sessions**	**Clinical practice**	**Workshops**	**Industrial workshops**	**Field practice**
40			**20**					
Student Hours of Non Face-To-Face Activities								
Lectures	**Seminars**	**Classroom practice**	**Lab. practice**	**Computer sessions**	**Clinical practice**	**Workshops**	**Industrial workshops**	**Field practice**
60			**30**					

Assessment System

General criteria

→Written essay exam

→Practical tasks (exercises, case studies or problems)

→Individual assignments

Clarification regarding assessment

Students will be assessed on this subject by continuous assessment.

Where this is not possible for justified reasons (article 43 of the management regulations for degree studies) the student will be entitled to take a final exam on the entire content of the subject. In order to have access to this final exam, students must submit proof of incompatibility with the continuous assessment system at the beginning of the year.

The weight taken into account in the continuous assessment is the following:

-Assessment tasks associated with continuous monitoring (three midterm exams) 80%

-Assessment of written assignments (performed from time to time on non-predetermined dates) and assessment of laboratory practice: 20%

If the student takes two midterm exams in the ordinary exam session, the score achieved will be recorded in the student's transcript.

Bibliography

Basic Bibliography

- Fundamentos de Sistemas de Bases de Datos. R.A. Elmasri y S. B. Navathe. Addison-Wesley Iberoamericana, 2007.
- Fundamentos de Bases de Datos. H. Korth, A. Silberschatz y S. Sudarshan. Mc.Graw-Hill, 2002.
- Sistemas de Bases de Datos. Un enfoque práctico para Diseño, Implementación y Gestión. T. Connolly y C. Begg. Addison Wesley, 2005.
- Introducción a los Sistemas de Bases de Datos. C.J. Date. Prentice-Hall, 2001.
- Introducción a los Sistemas de Bases de Datos. J. Ullman eta J. Widom. Prentice Hall, 1999.
- Diseño y Administración de Bases de Datos. G. Hansen y J. Hansen. Prentice-Hall, 1997.