Universidad Carlos III de Madrid
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COURSE: DATABASE DESIGN AND ADMINISTRATION		
DEGREE: BACHELOR'S DEGREE IN INFORMATICS ENGINEERING	YEAR: 2013-2014	TERM: 1st

La asignatura tiene 29 sesiones que se distribuyen a lo largo de 14 semanas. Los laboratorios pueden situarse en cualquiera de ellas.
Semanalmente el alumnos tendrá dos sesiones, excepto en un caso que serán tres

WEEKLY PLANNING								
			GROUPS (mark X)		**SPECIAL ROOM FOR SESSION (Computer class room, audio-visual class room)**	**Indicate YES/NO If the session needs 2 teachers**	**WEEKLY PROGRAMMING FOR STUDENT**	
WEEK	**SESSION**	**DESCRIPTION**	LECTURES	SEMINARS			DESCRIPTION	CLASS HOURS	HOMEWORK HOURS (Max. 7h week)
1	1	• Signature Introduction • TOPIC 1. Introduction o Topic 1.1. Introduction to Database Methodologies	X			no	• Study and understanding of theoretical concepts. • Identification of questions and problems.	2h	

1	2	• TOPIC 1. Introduction
		  o Topic 1.2. Introduction to Data Models
		• TOPIC 2. Conceptual Model
		  o Topic 2.1. Introduction to Entity-Relationship Model
		  o Topic 2.2. Static Components of ER Model
			X			no	• Study and understanding of theoretical concepts.
							• Identification of questions and problems.
								2h	2h

2	3	• TOPIC 2. Conceptual Model
		  o Topic 2.2. Static Components of ER Model (cont.)
		  o Topic 2.3. Extension of the Relationship semantic
			X			no	• Study and understanding of theoretical concepts.
							• Identification of questions and problems.
							• Practical Exercises
								2h	5h

2	4	• TOPIC 2:
		   ○ Topic 2.4. Redundancy Control
		   ○ Topic 2.5. Generalization/Specialization
		Wording of a practical exercise (individual work)
			X			no	• Study and understanding of theoretical concepts.
							• Identification of questions and problems.
							• Practical Exercises
								2h	

3	5	• TOPIC 2:
		   ○ Topic 2.6. n-ary relationships
		   ○ Topic 2.7. Temporary Dimension
		   ○ Topic 2.8. Derived Attributes
			X			no	• Study and understanding of theoretical concepts.
							• Identification of questions and problems.
							• Practical Exercises
								2h	

3	6	• Practical Exercise Deadline → Evaluation and Correction of other exercise (individual work)
		• TOPIC 2:
		   ○ Questions about Topic 2
		   ○ Practical exercises
		Wording of Practical Case 1. Conceptual Design (2 persons groups)
			X			no	• Study and understanding of theoretical concepts.
							• Identification of questions and problems.
							• Practical Exercises
								2h	5h

4	7	• Deadline correction of the exercise
		• Discussion of the exercise
		• TOPIC 2:
		   ○ Questions about Topic 2
		   ○ Practical exercises
				x		no	• Study and understanding of theoretical concepts.
							• Identification of questions and problems.
							• Practical Exercises
								2h	5h

4	8	• Work in Practical Case 1 (2 persons groups) • Questions about Topic 2.	X			no	• Working in a practical case	2h	

5	9	• TOPIC 3:
		   ○ Topic 3.1. Introduction to Relational Model
		       Topic 3.2. Basic components transformation
			X			no	• Study and understanding of theoretical concepts.
							• Identification of questions and problems.
								2h	5h

5	10	• TOPIC 3: ○ Topic 3.3. Transformation of ER extensions Wording of Practical Case 2. Transformation to Relational Model (2 persons groups).	X			no	• Study and understanding of theoretical concepts. • Identification of questions and problems.	2h	

6	11	• TOPIC 3:
		   ○ Topic 3.3. Transformation of ER extensions (continuation)
		   ○ Questions
		   ○ Practical exercises
			X			no	• Study and understanding of theoretical concepts.
							• Identification of questions and problems.
							• Practical Exercises
								2h	5h

6	12	• TOPIC 3:
		   ○ Questions
		   ○ Practical exercises
			X			no	• Identification of questions and problems.
							• Practical Exercises
								2h	

7	13	• Work in Practical Case 2 (2 persons groups)	X			no	• Working in a Practical Case	2h	5h

7	14	• Practical class
		  o Introduction to a commercial DBMS in the computer classroom
		  o Implementation of the relational scheme. Creation of objects.
		Wording of Practical Case 3. (2 personas groups)
				X	Computer class room	no	• Working in a practical case	2h	5h

8	15	• TOPIC 4. Normalization o Topic 4.1. Introduction to Normalization	X			no	• Study and understanding of theoretical concepts. • Identification of questions and problems.	2h	7H 5h

8	16	• Practical class
		  o Inserts
		  o Querys
				X	Computer class room	no	• Working in a practical case	2h	

9	17	• TOPIC 4. Normalization
		  o Topic 4.2. Normalization of databases
		  o Practical Exercises
			X			no	• Study and understanding of theoretical concepts.
							• Identification of questions and problems.
							• Practical Exercises
								2h	7H
									5h

9	18	• Practical class o Triggers		X	Computer class room	no	• Working in a practical case	2h	
10	19	• TOPIC 4. Normalization o Practical Exercises	X			no	• Study and understanding of theoretical concepts. • Identification of questions and problems. • Practical Exercises	2h	7h 5h

10	20	Extra Class:
		  o Questions and Practical Exercises
		  o Implementation of the practical case
				X	Computer class room	no	• Identification of questions and problems.
							• Working in a practical case
								2h	

10	21	• Practical class o Triggers		X	Computer class room	no	• Working in a practical case	2h	
11	22	• Exam 1: E/R + Relational • Practical case deadline	x			no	• Assesment and practical case deadline	2h	5h

11	23	• TOPIC 5. Database Administration
		  o Topic 5.1. Introduction
		  o Topic 5.2. Physical Design (1/2)
			x			no	• Study and understanding of theoretical concepts.
							• Identification of questions and problems.
								2h	

12	24	• TOPIC 5. Database Administration
		  o Topic 5.2. Physical Design (2/2)
		  o Topic 5.3. Security and Confidentiality
			x			no	• Study and understanding of theoretical concepts.
							• Identification of questions and problems.
								2h	7h

12	25	• Practical class o Practical Case 4. Security and Confidentiality		X	Computer class room	no	• Working in a practical case	2h	
13	26	• TOPIC 5. Database Administration o Topic 5.4. Recovery and Concurrency	X			no	• Study and understanding of theoretical concepts. • Identification of questions and problems.	2h	7h
13	27	• Practical class o Practical Case 4. Backups and Recovery		X	Computer class room	no	• Trabajo en caso práctico	2h	
14	28	• TOPIC 5. Database Administration o Topic 5.5. Query Optimization	X			no	• Study and understanding of theoretical concepts. • Identification of questions and problems.	2h	5h
14	29	• Practical class o Practical Case 4. External Tables and Query Optimization		X	Computer class room	no	• Working in a practical case	2h	7h

	Subtotal 1	14*2 = 56	71
TOTAL *(Total 1 + Total 2. <u>Maximum 180 hours</u>)*			**127**