Universida_{de}Vigo

Subject Guide 2023 / 2024

Detabases						
Subject	Latabases 2					
	006G151V01303					
Study	Grado en					
programme	Ingeniería Informática					
Descriptors	ECTS Credits	Choose	Year	Quadmester		
	6	Mandatory	3rd	1st		
Teaching language	#EnglishFriendly Spanish Galician					
Department						
Coordinator	Lorenzo Iglesias, Eva María					
Lecturers	Lorenzo Iglesias, Eva María Nieto González, Juan					
E-mail	eva@uvigo.es					
Web	http://moovi.uvigo.gal					
General description	This subject is compulsory in the Bachelor's Degree Data Bases I taught in the 2nd course. In this subject introduced are developed more fully, thus completin students. English Friendly subject: International students may references in English, b) tutoring sessions in English,	in Computer Engine t the concepts that g and expanding th request from the te , c) exams and asse	eering. It is a contin in the subject Dat he basic training in eachers: a) materia essments in Englisl	nuation of the subject abases I were simply databases of our als and bibliographic n.		
Training an Code	d Learning Results					
A2 Student they ha within t	s will be able to apply their knowledge and skills in th ve the required expertise through the construction an he relevant area of study.	eir professional pra d discussion of arg	actice or vocation a juments and the re	nd they will show solution of problems		
A4 Student audienc	s will be able to present information, ideas, problems es.	and solutions both	to specialist and r	ion-specialist		
B4 Ability t systems	o define, assess and select hardware and software pla s, services and applications, according to the acquired	atforms for the dev I knowledge and tr	elopment and exection and exec	cution of computing		
B5 Ability t enginee	o conceive, develop and maintain computing systems ring methods as tools to ensure quality, according to	s, services and app the knowledge and	lications through u d training acquired	se of software		
B9 Ability t commu	o solve problems by taking the initiative, making deci nicate the knowledge contents, skills and abilities of t	sions and acting in he Computer Scien	dependently and c ice Engineer profes	reatively. Ability to sion.		
C13 Knowled	C13 Knowledge, design and efficient use of the most appropriate data structures and types for the resolution of a problem.					
C18 Knowled and des	C18 Knowledge and application of the characteristics, functions and structure of data bases, allowing their appropriate use, and design, analysis and implementation of applications based on them.					
C19 Knowled web-bas	19 Knowledge and application of the necessary tools for storing, processing and accessing information Systems, including web-based ones.					
C26 Ability t goals th develop	o assess clients[] needs and determine the software r rough attempts to reach acceptable compromises wit ed systems and organizations themselves.	equirements to sat thin the limits impo	isfy these needs, r sed by costs, avail	econciling conflicting able times, existing		
C27 Ability t	o solve problems of integration according to available	e strategies, standa	rds and technologi	es.		
C28 Ability t basis of	 o identify and analyze problems and design, develop, sound knowledge of the theories, models and technic 	implement, verify ques available now	and document sofi adays.	ware solutions on the		
C31 Ability t technol	1 Ability to understand the environment of an organization and its needs in the area of information and communication technologies.					
C35 Ability t once th	o select, design, implement, integrate and manage in e costs and quality criteria have been identified.	formation systems	that meet the nee	ds of organizations,		
D5 Organiz	ational and planning skills					
D6 Ability t	o abstract: ability to create and use models that refle	ct real situations				
D/ Ability t	o search, relate and structure information from variou	is sources and to ir	ntegrate ideas and	knowledge.		

D9 Ability to quickly integrate and work efficiently in unidisciplinary teams and to collaborate in a multidisciplinary environment

D10	Interpersonal relationship skills.
D11	Critical thinking
D12	Leadership

Expected results from this subject						
Expected results from this subject		Training and Learning				
			Results	<u> </u>		
RA1: Manage and know the operative associated to the databases and to the most expanded	A4	B9	C18	D7		
DBMS in the actuality				D11		
RA2: Make the complete design of a relational database (even to physical level). Ensure the	A2	Β4	C13	D6		
coherence and the adaptation to the needs of the organisations		B5	C18	D9		
			C28	D10		
				D12		
RA3: Administer a system of databases, interpreting his design and structure, and making the	A2	B4	C13	D9		
adaptation of the model to the requests of the managing system of databases, as well as the		B5	C18	D10		
configuration and administration of the same to physical and logical level, to end to ensure the			C35	D12		
integrity, availability and confidentiality of the information stored.						
RA4: Manage the permissions of access for the users	A2	B4	C19	D9		
		B5		D10		
				D12		
RA5: Ensure the good operation of the database and do a follow-up of the utilisation of the users		B4	C19	D9		
through the tasks of mirroring, tunning and splitting.		B5		D10		
				D12		
RA6: Assume the responsibility of the integration of the data and of the existence of back-ups		B9	C27	D7		
				D11		
RA7: Estimate volumes of the structures of data, defining mechanisms of migration and initial load	A2	B9	C26	D5		
of data			C31	D7		
RA8: Know the last advances related with databases	A4	B9	C18	D7		
				D11		

vsical design
cessing and optimisation of queries
nagement of transactions
ncurrence
covery
R Model
L
SQL Language
ive Databases
cle Architecture
abase Control
ucture of storage

Planning			
	Class hours	Hours outside the classroom	Total hours
Introductory activities	1	0	1
Lecturing	8	0	8
Problem solving	6	6	12
Laboratory practical	28	56	84
Previous studies	0	10	10
Collaborative Learning	7	0	7
Problem and/or exercise solving	4	16	20
Essay questions exam	1	7	8
*The information in the planning table is for	guidance only and does no	t take into account the het	erogeneity of the students.

Methodologies	
	Description
Introductory activities	Activities directed to present the subject and organise groups of work.
Lecturing	Exhibition by part of the professor of the contents on the matter object of study, theoretical bases and/or guidelines of a work, exercise or project to develop by the student.

Problem solving	Activity in which they formulate problems and/or exercises related with the subject. The students has to develop the suitable or correct solutions by means of routines, the application of formulas or algorithms, the application of procedures of transformation of the available information and the interpretation of the results.		
Laboratory practical	Activities of application of the knowledges to concrete situations and of acquisition of basic skills		
Laboratory practical	and procedimentales related with the matter object of study.		
	They develop in the computer laboratories, and of autonomous form by the students before each		
	session.		
	CONTINUOUS EVALUATION		
	Character: Compulsory		
	Assistance: Minimum 5 classes of laboratory		
	GLOBAL EVALUATION		
	Character: Compulsory		
Previous studies	Research, reading and work of documentation, previous to the classes or practical of laboratory,		
	that makes the students of autonomous form.		
Collaborative Learning	Procedures of education that split of the organisation of the class in small mixed and		
	heterogeneous groups where the student works of form coordinated between if to develop		
	academic tasks and deepen in his own learning. It carries out in the class of classroom.		

Personalized assistance			
Methodologies	Description		
Lecturing	The sessions of personalized assistance will be able to make by telematic means (email, videoconference, MOOVI,) with appointment.		
Laboratory practical	The sessions of personalized assistance will be able to make by telematic means (email, videoconference, MOOVI,) with appointment.		
Problem solving	The sessions of personalized assistance will be able to make by telematic means (email, videoconference, MOOVI,) with appointment.		

Assessment						
	Description	Qualificatio	on Tra	ining F	and L Results	earning
Laboratory practical	The practices of laboratory are compulsory, will have a date of presentation stipulated previously and will be evaluated separately. Expected results from this subject evaluated: RA2, RA3, RA4, RA5	40	A2	B4 B5	C13 C18 C19 C28 C35	D6 D9 D10 D12
Problem and/or exercise solving	The students has to solve a series of problems and/or exercises in a time/condition established by the professor. These problems/exercises form part of the 2 compulsory proofs that make along the course, together with questions of short answer. Expected results from this subject evaluated: RA1, RA6, RA7, RA8	50	_A2	B9	C26 C27	D5
Essay questions exam	Direct questions that the students has to answer of brief way in base to the knowledges that has on the matter. These questions form part of the 2 compulsory proofs that make along the course, together with the resolution of problems and/or exercises. Expected results from this subject evaluated: RA1, RA6, RA7, RA8	10	A4	B9	C26 C27 C31	D7 D11

Other comments on the Evaluation

CONTINUOUS EVALUATION SYSTEM

TEST 1: Theoretical evaluation1

Description: Objective test that will include evaluation of theoretical concepts and resolution of exercises.

Methodology(ies) applied: Resolution of problems and/or exercises, Examination of development questions.

% Grade: 40%.

Minimum: For the release of this part of the subject the student must obtain a grade equal to or higher than 1.5 points (out of 4).

Training and learning outcomes: A2, A4, B9, C26, C27, C31, D5, D7, D11.

Expected results in the subject: RA1, RA6, RA7, RA8.

TEST 2: Theoretical evaluation2

Description: Objective test that will include evaluation of theoretical concepts and resolution of exercises.

Methodology(ies) applied: Problem solving and/or exercises, Developmental questions exam.

% Grade: 20%.

Minimum: For the release of this part of the subject the student must obtain a grade equal to or higher than 1 point (out of 2).

Training and learning outcomes: A2, A4, B9, C26, C27, C31, D5, D7, D11.

Expected results in the subject: RA1, RA6, RA7, RA8.

TEST 3: Laboratory practices1

Description: Performance of individual practices related to Oracle administration.

Methodology applied: Laboratory practices.

Qualification %: 10%.

Minimum: For the release of this part of the subject the student must obtain a grade equal or higher than 0.5 points (out of 1).

Training and learning outcomes: A2, B9, C31, D5, D7, D11.

Expected results in the subject: RA1, RA7, RA8.

TEST 4: Laboratory practices2.

Description: Delivery of the laboratory practices proposed throughout the course on the dates previously stipulated and attendance.

Methodology applied: Laboratory practices.

Qualification %: 30%.

Minimum: For the release of this part of the subject the student must obtain a grade equal or higher than 1 point in the delivery of practices and a grade equal or higher than 0.4 in the defense before the faculty. In addition, he/she must have attended at least 5 laboratory classes.

Training and learning outcomes: A2, A4, B9, C26, C27, C31, D5, D7, D11.

Expected learning outcomes: RA1, RA6, RA7, RA8.

Remarks:

- Attendance to the laboratory classes will be assessed pro-rating a total of 0.20 points among the 14 weeks of class.

- In the classroom class, voluntary activities will be proposed that will allow reaching 1 additional point to the grade obtained in the sum of the TEST1 and TEST2 tests.

GLOBAL EVALUATION SYSTEM

Procedure for the election of the global evaluation modality: The student is considered to opt for the global evaluation system if he/she does not take Test 1: Theoretical evaluation 1 of the continuous evaluation system.

TEST 1: Theoretical evaluation

Description: Objective test that will include evaluation of theoretical concepts and exercise resolution.

Methodology(ies) applied: Resolution of problems and/or exercises, Examination of development questions.

% Grade: 60%.

Minimum: For the release of this part of the subject the student must obtain a grade equal to or higher than 3 points (out of 6).

Training and learning outcomes: A2, A4, B9, C26, C27, C31, D5, D7, D11.

Expected results in the subject: RA1, RA6, RA7, RA8.

TEST 2: Laboratory practicals

Description: Delivery and defense of all the laboratory practicals and questionnaires given throughout the course on a previously stipulated date. In addition, the student will have to take an exam related to the contents taught in the laboratory.

Methodology applied: Laboratory practices, development questions exam.

% Grade: 40%.

Minimum: For the release of this part of the subject the student must obtain a grade equal or higher than 2 points (out of 4).

Training and learning outcomes: A2, A4, B9, C26, C27, C31, D5, D7, D11.

Expected results in the subject: RA1, RA6, RA7, RA8.

EVALUATION CRITERIA FOR THE EXTRAORDINARY CALL AND END OF DEGREE COURSE

TEST 1: Theoretical evaluation

Description: Objective test that will include evaluation of theoretical concepts and resolution of exercises.

Methodology(ies) applied: Problem solving and/or exercises, Development questions exam.

% Qualification: 60%

Minimum: For the release of this part of the subject the student must obtain a qualification equal to or higher than 3 points (out of 6).

Training and learning results: A2, A4, B9, C26, C27, C31, D5, D7, D11.

Expected results in the subject: RA1, RA6, RA7, RA8.

TEST 2: Laboratory practices

Description: Delivery and defense of all the laboratory practices and questionnaires exposed throughout the course on a previously stipulated date. In addition, the student will have to take an exam related to the contents taught in the laboratory.

Methodology applied: Laboratory practices, exam of development questions.

Qualification %: 40%.

Minimum: For the release of this part of the subject the student must obtain a qualification equal or higher than 2 points (out of 4).

Training and learning outcomes: A2, A4, B9, C26, C27, C31, D5, D7, D11.

Expected results in the subject: RA1, RA6, RA7, RA8.

QUALIFICATION PROCESS OF ACTS

Independently of the evaluation system and the call, in case of not passing any part of the evaluation, but the overall score is higher than 4 (out of 10), the qualification in acts will be 4.

EVALUATION DATES

The dates of the tests corresponding to the continuous assessment system will be published in the calendar of activities, available on the ESEI web page https://esei.uvigo.es/docencia/horarios/.

The official dates of the exams of the different calls, officially approved by the ESEI Board of Directors, are published in the ESEI web page https://esei.uvigo.es/docencia/horarios/.

USE OF MOBILE DEVICES

All students are forbidden to use mobile devices in exercises and practices, in compliance with article 13.2.d) of the University Student Statute, related to the duties of university students, which establishes the duty to "Refrain from using or cooperating in fraudulent procedures in evaluation tests, in the work carried out or in official university documents".

CONSULTATION/REQUEST FOR TUTORIALS

Tutorials can be consulted through the personal page of the teaching staff, accessible through https://esei.uvigo.es/docencia/profesorado/

Sources of information

Basic Bibliography

Connolly, T.M.; Begg, C., Database Systems: A Practical Approach to Design, Implementation, and Management, 9780132943307, 6, Pearson Educación, 2013

Elmasri, R.; Navathe, S., Fundamentals of Database Systems, 978-8478290857, 7, Addison-Wesley, 2015

Ramakrishnan, R.; Gehrke, J., **Database Management Systems**, 9780071151108, 3, McGraw-Hill, 2002

Complementary Bibliography

Date, C.J., Introduction to Database Systems, 978-0321197849, 8, Prentice Hall, 2003 Silberschatz, A.; Korth, H.; Sudarshan, S., Database Management Systems, 9780073523323, 3, McGraw-Hill, 2002

Recommendations