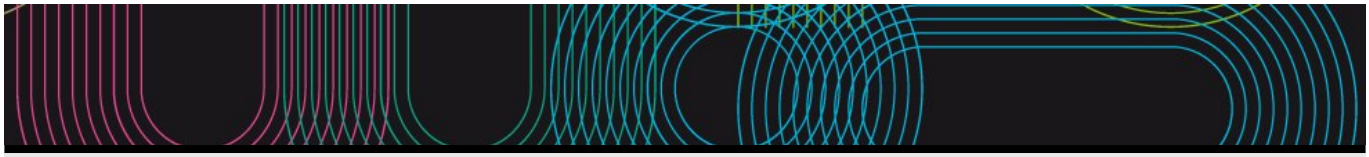

IDENTIFYING DATA				
Information Systems				
Subject	Information Systems			
Code	O06M132V03104			
Study programme	Máster Universitario en Ingeniería Informática			
Descriptors	ECTS Credits	Choose	Year	Quadmester
	6	Mandatory	1st	1st
Teaching language	Spanish Galician			
Department				
Coordinator	Ribadas Pena, Francisco José Pérez Cota, Manuel García Lourenco, Analia María			
Lecturers	García Lourenco, Analia María Pérez Cota, Manuel Ribadas Pena, Francisco José			
E-mail	mpcota@uvigo.es analia@uvigo.es ribadas@uvigo.es			
Web	http://moovi.uvigo.gal			
General description	This course is an introduction to the use of the technologies necessary to develop and operate information systems. In this subject, the main focus will be on the techniques, environments, platforms and tools, both programming and business intelligence, necessary to develop, with quality, and exploit information systems in the business environment. English will be used in part of the material provided to the students, both the material prepared by the teachers and the bibliography.			

Training and Learning Results	
Code	
A2	(CB7) That the students know how to apply the acquired knowledge and their problem-solving capacity in new or little-known environments within broader (or multidisciplinary) contexts related to their area of study
B1	Ability to project, calculate and design products, processes and installations in all areas of computer engineering.
B3	Ability to direct, schedule and supervise multidisciplinary teams
B8	Ability to apply the acquired knowledge and solve problems in new or little-known environments within broader and multidisciplinary contexts, being able to integrate this knowledge
B9	Ability to understand and apply ethical responsibility, legislation and professional ethics of the activity of the profession of Computer Engineer
C4	Ability to model, design, define the architecture, implement, manage, operate, administer and maintain applications, networks, systems, services and computer content.
C8	
D4	Capacity to communicate knowledge and conclusions to públicos especializados and no especializados, of oral way and written
D5	Capacity of work in team
D6	Skills of relations interpersonales
D7	Capacity of reasoning crítico and creativity
D10	Orientation to quality and continuous improvement
D12	Capacity to resolve problems in new surroundings or little known inside contexts más wide or multidisciplinares

Expected results from this subject	
Expected results from this subject	Training and Learning Results

New	A2 B1 B9 C4 C8 D7
New	A2 B3 B8 C4 C8 D4 D6 D7 D12
New	A2 B3 B8 C4 C8 D5 D6 D10
New	A2 B1 B8 C4 C8 D5 D10
New	A2 B1 B8 B9 C4 C8 D7 D10 D12

Contents	
Topic	
Enterprise Information Systems	1.1 Introducción to the EIS. 1.2 OLTP and OLAP paradigms 1.3 Data collection and processing for decision making 1.4 Presentation of Information for decision making
Enterprise platforms	2.1 Agile software development 2.2 Patterns and concepts in enterprise software design 2.3 Enterprise application frameworks
Business Intelligence	3.1 Dimensional modeling 3.2 Query analytics 3.3 Software tools.

Planning			
	Class hours	Hours outside the classroom	Total hours
Lecturing	12	0	12
Laboratory practical	12	0	12
Seminars	3	2	5
Mentored work	3	30	33
Project	9	35	44
Case studies	9	35	44

*The information in the planning table is for guidance only and does not take into account the heterogeneity of the students.

Methodologies
Description

Lecturing	Exposition of the theoretical contents of the subject. In order to facilitate the understanding of the same and to increase the interest of the student, several examples and exercises will be included in which the active participation of the student may be required.
Laboratory practical	Carrying out practical problems that include the use of specific tools and the programming of software related to the contents of the subject.
Seminars	Seminars given by professionals in the field and that will complete the training given by the professor of the subject.
Mentored work	Set of one or more individual works, deliverable and evaluable, on the theoretical aspects presented in the subject and worked in the practical activities developed by the students. It is an autonomous task that will be tutored by the teacher. The result will be expressed in one or more reports with the structure to be determined.

Personalized assistance

Methodologies	Description
Mentored work	Follow-up of students' work, resolution of general doubts and sharing of specific theoretical/practical problems related to the subject.
Tests	**Description**
Project	The teacher will tutor the student in the laboratory for the realization of the projects that will be evaluated at the end of the course, answering doubts individually.
Case studies	The teacher will tutor the student in the laboratory for the realization of the projects that will be evaluated at the end of the course, answering doubts individually.

Assessment

	Description	Qualification	Training and Learning Results			
Mentored work	Set of one or more individual works on the theoretical aspects presented in the subject and worked on in the practical activities developed by the students, with the monitoring and assistance of the teacher. LEARNING OUTCOMES EVALUATED: LO1, LO2, LO3, LO4, LO5.	30	A2	B8 B9	C4 C8	D7 D10 D12
Project	Realization of deliverable software development projects related to the contents of the subject. LEARNING OUTCOMES EVALUATED: LO1, LO3, LO4, LO5.	35	A2	B1 B3 B8 B9	C4 C8	D5 D6 D7 D10 D12
Case studies	Application of Business Intelligence methodologies and tools to a case study, for the generation of reports and conclusions. LEARNING OUTCOMES EVALUATED: LO1, LO2	35	A2	B1 B3 B8 B9	C4 C8	D4 D6 D7 D12

Other comments on the Evaluation

(1) CONTINUOUS ASSEMENT SYSTEM

TEST 1: Mentored work

Description: Evaluation of the report of the work or works delivered on the stipulated dates.Applied methodology: Mentored work

% Qualification: 30%

Minimum %: grade equal to or greater than 3,5 points (out of 10)

Evaluated learning results: A2, B8, B9, C4, C8, D7, D10, D12

Expected results: LO1, LO2, LO3, LO4, LO5.

TEST 2: Project

Description: Evaluation of the memory and code of the software development project delivered on the stipulated date.

Applied methodology: Project

% Qualification: 35%

Minimum %: grade equal to or greater than 3,5 points (out of 10)

Evaluated learning results: A2, B1, B3, B8, B9, C4, C8, D5, D6, D7, D10, D12

Expected results: LO1, LO3, LO4, LO5.

TEST 3: Case studies

Description: Evaluation of the report and other deliverables of the projects for the application of BI tools. It will eventually include peer review.

Applied methodology: Case studies

% Qualification: 35%

Minimum %: grade equal to or greater than 3,5 points (out of 10)

Evaluated learning results: A2, B1, B3, B8, B9, C4, C8, D5, D6, D7, D12

Expected results: LO1, LO2

ADDITIONAL CLARIFICATIONS

- To pass the subject it is necessary to reach the minimums indicated in the previous tests and to add in the final weighted grade a minimum of 5 points out of 10.

- In the case of finding unethical behavior (copying, plagiarism) in any of the deliveries made (total or partial), the total contribution of the corresponding evaluation element on the final grade will be annulled.

(2) GLOBAL ASSEMENT SYSTEM

Procedure for the choice of the global assessment modality:

- The continuous assessment modality is assumed by default.
- Students who opt for the global evaluation must communicate it via Moovi, using the mechanisms that are enabled and within the stipulated period, once the period of one month from the beginning of the term has passed.

TEST 1: Mentored work

Description: Evaluation of the report of the work or works delivered on the stipulated dates.Applied methodology: Mentored work

% Qualification: 30%

Minimum %: grade equal to or greater than 3,5 points (out of 10)

Evaluated learning results: A2, B8, B9, C4, C8, D7, D10, D12

Expected results: LO1, LO2, LO3, LO4, LO5.

TEST 2: Project

Description: Evaluation of the memory and code of the software development project delivered on the stipulated date.

Applied methodology: Project

% Qualification: 35%

Minimum %: grade equal to or greater than 3,5 points (out of 10)

Evaluated learning results: A2, B1, B3, B8, B9, C4, C8, D5, D6, D7, D10, D12

Expected results: LO1, LO3, LO4, LO5.

TEST 3: Case studies

Description: Evaluation of the report and other deliverables of the projects for the application of BI tools. It will eventually include peer review.

Applied methodology: Case studies

% Qualification: 35%

Minimum %: grade equal to or greater than 3,5 points (out of 10)

Evaluated learning results: A2, B1, B3, B8, B9, C4, C8, D5, D6, D7, D12

Expected results: LO1, LO2

ADDITIONAL CLARIFICATIONS

- To pass the subject it is necessary to reach the minimums indicated in the previous tests and to add in the final weighted grade a minimum of 5 points out of 10.

- In the case of finding unethical behavior (copying, plagiarism) in any of the deliveries made (total or partial), the total contribution of the corresponding evaluation element on the final grade will be annulled.

(3) ASSESSMENT CRITERIA FOR EXTRAORDINARY AND FINAL CALLS

- The continuous and global evaluation systems described above will be used.

- In these calls, students must only take the tests in which they have not obtained the minimum grade indicated.

(4) GRADING PROCESS

In the case of students who pass part of the evaluated elements, but do not reach the minimum required to pass the whole subject, the grade to be included in the respective minutes will be calculated as the minimum between the weighted average of the parts passed and 4.9.

(5) EVALUATION DATES

The official exam dates of the different calls, officially approved by the Xunta de Centro of the ESEI, are published on the ESEI website https://esei.uvigo.es/docencia/horarios/.

(6) USE OF MOBILE DEVICES

All students are reminded of the prohibition of the use of mobile devices in exercises and practices, in compliance with article 13.2.d) of the University Student Statute, regarding the duties of university students, which establishes the duty to "Refrain from using or cooperating in fraudulent procedures in the assessment activities, in the delivered assignments or in official documents of the university."

(7) TUTORING SCHEDULE AND PERSONAL TUTORING REQUEST

The tutoring schedule, and the way to request a personal tutoring, is published in the personal page of the teaching staff, accessible through https://esei.uvigo.es/docencia/profesorado/.

Sources of information

Basic Bibliography

Matt Casters, Roland Bouman, Jos van Dongen, **Pentaho Kettle Solutions: Building Open Source ETL Solutions with Pentaho Data Integration**, 978-0470635179, 1, Wiley, 2013

Ralph Kimball, Margy Ross, Warren Thornthwaite, Joy Mundy, Bob Becker, **The Kimball Group Reader: Relentlessly Practical Tools for Data Warehousing and Business Intelligence**, 978-0470563106, 1, Wiley, 2010

Chris Sims, Hillary Louise Johnson, **The Elements of Scrum**, 978-0982866917, Dymaxicon, 2011

Antonio Goncalves, **Beginning Java EE 7**, 978-1430246268, Apress, 2013

Craig Walls, **Spring in Action, Fifth Edition**, 978-1617294945, 6, Manning Publications, 2022

Adam Freeman, **Pro React 16**, 978-1484244500, 1, Apress, 2019

Complementary Bibliography

Recommendations

Subjects that continue the syllabus

Software Configuration Management/O06M132V03308
Information Systems Engineering/O06M132V03311

Subjects that are recommended to be taken simultaneously

Knowledge Engineering/O06M132V03103

Other comments

The student must demonstrate good research and work group skills.