UNIVERSIDADE DA CORUÑA

Teaching Guide			
Identifying Data			2023/24
Subject (*)	Communication Technologies and Systems for Accounting and Auditing	Code	611506008
Study programme	Mestrado Universitario en Contabilidade Superior e Auditoría de Contas (2013)		

Descriptors				
Cycle	Period	Year	Type	Credits
Official Master's Degree	2nd four-month period	First	Obligatory	6

Language	Spanish		
Teaching method	Face-to-face		
Prerequisites			
Department	Empresa		
Coordinador	Martínez Fernández, Paulino	E-mail	paulino.martinez@udc.es
Lecturers	Martínez Fernández, Paulino	E-mail	paulino.martinez@udc.es
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General description	The objectives proposed, regarding Business Information Systems (BIS), are as follows: 1. To understand the role of BIS, their life cycle, and their components. 2. To understand the legal framework of BIS, with a particular emphasis on data protection, electronic signatures, services of the information society, intellectual property, and payment methods. 3. To familiarize with ICT tools for auditing BIS. 4. To familiarize with ICT tools used to support accounting and auditing processes.		

Study programme competences / results	
Code	Study programme competences / results
A5	To know how to obtain an adequate understanding of the business of the audited entity, the sector in which it operates and the nature of its transactions.
A6	To know how to measure and analyze the origin of costs and income obtained by the audited entity.
A8	To know how to identify the audit risks associated with the probability of error of each important component of the financial information.
A9	To know how to document the procedures and accounting principles followed by the entity as well as the accounting systems used to record their transactions.
A11	To know how to obtain sufficient and adequate evidence by conducting and assessing the audit tests deemed necessary.
B3	Using ICT in working contexts and lifelong learning.
B4	Acting as a respectful citizen according to democratic cultures and human rights and with a gender perspective.
B10	Critically assessing knowledge, technology and available information when facing problems.
B12	
C2	That students know how to apply the knowledge acquired and their ability to solve problems in new or unfamiliar environments within broader (or multidisciplinary) contexts related to their area of study.
C3	That students are able to integrate knowledge and face the complexity of making judgments based on information that, being incomplete or limited, includes reflections on social and ethical responsibilities linked to the application of their knowledge and judgments.
C4	That students know how to communicate their conclusions and the knowledge and ultimate reasons that sustain them to specialized and non-specialized audiences in a clear and unambiguous way.
C5	That students have the learning skills that allow them to continue studying in a way that will be largely self-directed or autonomous.
C6	Capacity for teamwork.
C8	Ethical and moral commitment to society, analyzed, in addition, from a solidarity perspective.
C9	Ability to solve problems.
C10	Development of the principles of loyalty and confidentiality.
C11	Development of a logical and creative critical spirit.
C12	Capacity to manage information and communication technologies in the exercise of their professional activity.

Learning outcomes			
Learning outcomes	Study programme competences / results		
Know the role of the life cycle and the components of information systems in the business environment.	AJ6	BJ3 BJ12	CJ8 CJ12
Know your legal environment with special emphasis on Data Protection, the Law of Electronic Signature, Services of the Information Society, Intellectual Property and Means of Payment.	AJ5 AJ6 AJ8 AJ9	BJ4 BJ10 BJ12	CJ8 CJ10
To know what the audit of Business Information Systems with ICT support consists of.	AJ8 AJ9 AJ11	BJ3	CJ12
Know how to analyse and evaluate, from the point of view of their audit and control, the business information systems in operation.	AJ5 AJ8 AJ11	BJ3 BJ10	CJ2 CJ3 CJ4 CJ5 CJ6 CJ9 CJ11 CJ12
Know how to handle office automation tools and data analysis.		BJ3	CJ2 CJ3 CJ4 CJ5 CJ6 CJ9 CJ12
How to value an Enterprise Information System from the point of view of its contribution to the development of business activity and how to analyse its risks.	AJ8	BJ4 BJ10	CJ8 CJ11
How to detect and propose improvements to business information systems supported by ICT.		BJ10 BJ12	CJ5 CJ8 CJ11

Contents	
Topic	Sub-topic
1. Theory of Information Systems	1. The DIKW model. 2. Concept of information system 3. Activities and components of an information system 4. Information systems and business decision levels 5. The lifecycle of an information system. 6. The management of the lifecycle of an information system.
2. Tools for supporting business processes	1. The spreadsheet 2. The scoreboard and the management control. 3. Query and programming languages. 4. Specific tools for auditing.
3. Legal environment	1. Personal data protection 2. The society of information services. 3. Electronic signature. Electronic invoice. 4. Legal protection of software and databases.

4. Auditing the Business Information Systems	1. Systems audit. 2. Security audit: physical and logical.
5. Information Systems: state-of-the-art	1. Digitalization. 2. Business Intelligence. 3. The cloud. 4. Big Data. 5. Artificial Intelligence.

Planning				
Methodologies / tests	Competencies / Results	Teaching hours (in-person & virtual)	Student?s personal work hours	Total hours
Guest lecture / keynote speech	A5 A6 A8 A9 A11 B4 B10 C2 C3 C8 C11	17	34	51
Seminar	A5 A6 A8 A9 B3 B10 B12 C2 C5 C6 C9 C10 C11 C12	20	0	20
Objective test	A5 A6 A8 A9 A11	2	0	2
Problem solving	A5 A6 A8 A9 A11 C2 C3 C4 C6 C9 C11 C12	25	50	75
Personalized attention		2	0	2
(*)The information in the planning table is for guidance only and does not take into account the heterogeneity of the students.				

Methodologies	
Methodologies	Description
Guest lecture / keynote speech	1. Classroom lectures about the theoretical and practical contents of the subject to guide the student in its preparation. 2. The time spent in each one of the subject chapters will be proportional to the difficulty level and to the length of those chapters. Thus, some chapters will take more time than others. The teacher is responsible of deciding how many time spend in each one of the subject chapters. 3. For preparing those chapters with thw lowest level of difficulty, the student should study the bibliography, although in the lectures the student will be orientated about: a) which are the bibliographic sources to study b) which are the most relevant and interesting issues to reach the learning goals set for the subject. 4. Discussion, together with all the workgroups, of the homework of each one of the workgroups. The student can participate: a) by his or her own, after being given the floor; b) after being required by the teacher to participate.
Seminar	Discussion in small groups about the course content, particularly focusing on the tasks referred to as "Problem-solving." Students may participate in the following ways: a) On their own initiative, after requesting permission to speak. b) At the initiative of the professor, who will explicitly request student participation.
Objective test	Test with multiple-choice questions, short-answer questions, essay questions, problem-solving exercises, or any combination of the above, focusing on the subject matter and the exercises solved in class.

Problem solving	1. Development, exposition and resolution of practical exercises to be made by the student, being part of a workgroup, throghout the course. 2. Exercises and readings to be made by the student by his or herself. In subsequent classes: a) a review of the exercises will be made. In this review, the student can participate as stated in the point 3. b) a question time about the readings will be opened. 3. The student can participate: a) on his or her own, after being given the floor; b) after being required by the teacher to participate.

Personalized attention	
Methodologies	**Description**
Seminar Guest lecture / keynote speech Problem solving	1. In the guest lectures and keynote speechs the student can participate, after being given the floor, to ask, clarify or explain his or her point of view about the issues being dealed with in the moment of his participation. 2. In the problem solving classes the student can participate as described in the Methodologies section. 3. In the tutorials, the student (including those with partial attending or with attending exemption) can ask about the doubts arisen in the preparation of the subject. Although it is not compulsory, the student can ask about the doubts and the data and time -inside the tutorials schedule- in which he or she wants to be received, thus improving the tutorials effectiveness and management. 4. If the questions dealed with in the individual tutorials are of a general interest, from the point of view of the teacher, they could be published in Moodle, together with their answers, to allow other students a better preparation of the subject. The name of the person who made the question will never be published.

Assessment			
Methodologies	**Competencies / Results**	**Description**	**Qualification**

Problem solving	A5 A6 A8 A9 A11 C2 C3 C4 C6 C9 C11 C12	Part of the continuous assessment includes the development of one or more practical cases proposed by the teaching team, in which various aspects related to the content of the subject will be explored, with the following specifications: 1. Preparation of one or more practical cases proposed by the teacher, in which one or more of the aspects related to the content of the subject will be developed. For the resolution of these cases, the use of information and communication technologies (ICT) may be necessary, and if required, deliverables will be in electronic format. 2. The works will be developed individually or in groups of 4 to 6 students. Exceptionally and with prior approval by the Teacher of the subject or the Tutor of the group, another number of students per group will be allowed. 3. An essential part of the evaluation is the discussion of its development with the Professor of the subject or the Tutor of the development group assigned to it. 4. Any doubts about this evaluative section must be resolved by supporting the solution on the idea of "continuous evaluation". 40	70
Objective test	A5 A6 A8 A9 A11	Test with multiple-choice questions, short-answer questions, essay questions, problem-solving exercises, or any combination of the above, focusing on the subject matter and the exercises solved in class. A missed test will be scored as zero.	30

Assessment comments

A) EVALUATION REGULATIONS:

1. Assessment conditions: It is forbidden to access the exam room with any device that allows communication with the outside and / or storage of information. Cheating on the assessment tests or activities, once confirmed, will result in a falling grade (a 0, as numeric mark) in the corresponding convocatory and both in the first and in the second oportunities. If needed, the mark in the first oportunity act will be altered.

2. Student identification: The student must prove her personality in accordance with current regulations.

B) TYPES
OF RATING:

1. Qualification of not presented: Corresponds to the student, when he only participates in evaluation activities that have a weighting of less than 20% on the final qualification, regardless of the qualification achieved.

2. Students with recognition of part-time dedication and academic waiver of attendance exemption: Except for the dates approved in the Faculty Board for the final objective test, for the remaining tests a specific calendar of dates compatible with their dedication. For this reason, the student must contact the teacher of the subject in the first ten days of the semester in which the subject is taught, in order to set the aforementioned calendar. The tests will have the same format as for full-time students.

C)
ASSESSMENT OPPORTUNITIES:

1. First opportunity: The evaluation criteria previously indicated in this section will be applied.

2. Second opportunity: The evaluation criteria are the same as in the first opportunity.

3. Early opportunity: It will be evaluated through a mixed test that will account for 100% of the final grade.

D) OTHER

EVALUATION OBSERVATIONS:

1. In general, without prejudice to what is indicated for students with recognition of part-time dedication and academic exemption from attendance exemption, class attendance is required to qualify for the part of the grade corresponding to continuous evaluation, both first chance and second chance. At the end of the evaluation period corresponding to the first opportunity, students who have yet to pass the subject may be proposed activities that allow them to recover the part of the grade corresponding to the continuous evaluation for the second opportunity, which they must request. to the teaching staff of the subject at least ten days before the date of the second chance exam.

2. The scoring criteria for each of the tests will be announced at the time of the test and will be supplied with the statement of the test

Sources of information	
Basic	- Piattini, M. G.; Calvo-Manzano, J. A.; Cervera, J. y Fernández, L. (). Análisis y diseño detallado de Aplicaciones Informáticas de Gestión. Madrid: Rama - Arjonilla Domínguez, S. J. y Medina Garrido. J. A (). La gestión de los sistemas de información en la empresa. Madrid: Pirámide - Gómez Vieites, Á.y Suárez Rey, C. (). Sistemas de información. Madrid: Rama - Links en Moodle (). Legislación relacionada con los Sistemas de Información empresarial. . - Davara Rodríguez, M. A. (). Manual de Derecho Informático. Madrid: Ed. THOMSON ? ARANZADI - Teaching Soft Group (). Excel 2010 : curso práctico. Madrid: Rama - O'Brien, J.A.; J.M. Marakas (). Sistemas de Información gerencial. Mexico: McGraw-Hill - Piattini Velthuis, M. y otros (). Calidad de los Sistemas de Información. Madrid: Rama - Areito, J. (). Seguridad de la Información. Redes, informática y sistemas de información. Madrid: Paraninfo - Piattini Velthuis, M.; Peso Navarro, E. del; y Peso Ruís, M del (). Auditoría de Tecnologías y Sistemas de Información. Madrid: Rama
Complementary	

Recommendations
Subjects that it is recommended to have taken before
Subjects that are recommended to be taken simultaneously
Subjects that continue the syllabus
Other comments
1. The submission of documentary assignments in this subject: - It will be requested in virtual format and/or electronic support.   - It will be done through Moodle, in digital format without the need for printing.2. The importance of ethical principles related to sustainability values in personal and professional behaviors should be taken into account.3. As stated in the various regulations applicable to university teaching, a gender perspective must be incorporated into this subject. Efforts will be made to identify and modify sexist prejudices and attitudes, and influence the environment to change them and promote values of respect and equality. Situations of gender discrimination should be identified, and actions and measures proposed to correct them.4. Full integration will be facilitated for students who may experience difficulties in accessing university life adequately, equitably, and effectively due to physical, sensory, psychological, or sociocultural reasons.