Universidade Vigo

IDENTIFYING DATA
Internet Services

Subject	Internet Services
Code	V05G300V01501
Study programme	Degree in Telecommunications Technologies Engineering

Descriptors	ECTS Credits	Choose	Year	Quadmester
	6	Mandatory	3rd	1st

Teaching language	Spanish
Department	Telematics Engineering
Coordinator	Gil Solla, Alberto
Lecturers	Álvarez Sabucedo, Luis Modesto Gil Solla, Alberto Mikic Fonte, Fernando Ariel
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Web	
General description	This subject will provide to the student a global vision of the group of current services of Internet, between like email, the WWW, XML technologies, the Web Services, the sharing of resources among peers (P2P), the Semantic Web and the cloud computing. This subject will be taught in Spanish.

Competencies

Code	
B3	CG3: The knowledge of basic subjects and technologies that enables the student to learn new methods and technologies, as well as to give him great versatility to confront and adapt to new situations
B4	CG4: The ability to solve problems with initiative, to make creative decisions and to communicate and transmit knowledge and skills, understanding the ethical and professional responsibility of the Technical Telecommunication Engineer activity.
B6	CG6: The aptitude to manage mandatory specifications, procedures and laws.
B9	CG9: The ability to work in multidisciplinary groups in a Multilanguage environment and to communicate, in writing and orally, knowledge, procedures, results and ideas related with Telecommunications and Electronics.
C11	CE11/T6: The ability to conceive, deploy, organize and manage networks, systems, services and Telecommunication infrastructures in residential (home, city, digital communities), business and institutional environments, being responsible for launching of projects and continuous improvement like knowing their social and economical impact.
C18	CE18/T13: The ability to differentiate the concepts of access and transport networks, packet and circuit switched networks, mobile and fixed networks, as well as distributed newtwork application and systems, voice, data, video, audio, interactive and multimedia services.
D2	CT2 Understanding Engineering within a framework of sustainable development.
D3	CT3 Awareness of the need for long-life training and continuous quality improvement, showing a flexible, open and ethical attitude toward different opinions and situations, particularly on non-discrimination based on sex, race or religion, as well as respect for fundamental rights, accessibility, etc.
D4	CT4 Encourage cooperative work, and skills like communication, organization, planning and acceptance of responsibility in a multilingual and multidisciplinary work environment, which promotes education for equality, peace and respect for fundamental rights.

Learning outcomes

Expected results from this subject	Training and Learning Results		
To know the basic services of Internet, as well as comprise the basic principles of his operation.	B3 B6	C11 C18	D2 D3 D4

To dominate the main technical standards in the field of development of telematic services.	B6	C11 C18	
To understand the importance of organising the structured information for his suitable utilisation.	B3 B4	C11 C18	D2
To Know the basic concepts of semantic management of the information.		C11	D2
To understand the principles and the general organisation of a web service.	B9	C11 C18	
To improve the skill in the design and development of basic telematic services.	B4 B9		D2 D3 D4

Contents

Topic	
1. Internet basic services	a) Electronic mail b) World Wide Web: languages, protocols, architecture and Web applications.
2. XML and related technologies	a) Document Type Definition (DTD), NameSpaces, XML Schema b) Document Object Model (DOM) c) Extensible Stylesheet Language Transformations (XSLT) d) Other related technologies
3. Web Services	a) Simple Object Access Protocol (SOAP) b) Universal Description, Discovery and Integration (UDDI) c) Web Services Description Language (WSDL)
4. Additional services	To) Sharing resources among peers (P2P) b) Semantic Web c) Cloud Computating

Planning

	Class hours	Hours outside the classroom	Total hours
Introductory activities	2	2	4
Lecturing	24	36	60
Computer practices	26	26	52
Discussion Forum	0	4	4
Self-assessment	0	2	2
Laboratory practice	2	4	6
Essay questions exam	2	20	22

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

Methodologies

	Description
Introductory activities	In the first classes we will describe the activities to be performed along the subject, along the theory and along the practices in the computing laboratory.
Lecturing	Along the theory classes we will describe the main contents of the subject by means of slides. Theory classes will promote the competences: CT2, CT3 y CT4. Besides, the exam for this part evaluates the competencies: CG3, CG4, CG6, CE11, CE18.
Computer practices	The subject also will require the development and delivery of 3 practices that the students will perform in the corresponding computer laboratory. The applications to develop in these practices will be done by means of the languages common used in the Internet: Javascript, PHP, Java, etc. These practices evaluate the competences: CG3, CG4, CG6, CG9, CE11, CE18 and promote the competences CT2, CT3 y CT4.
Discussion Forum	During the course we will discuss several topics, related with the concepts seen in theory, in the forums of the subject. This forum will promote the competences: CG3, CG6, CT2, CT3 and CT4.

Personalized attention

Methodologies	Description

Discussion Forum	In the practical formative activities and tutoring, the professors of the subject will offer personal guidance to each student in the tasks to be performed, with the aim to orient the approach and the methodology. Also they will offer coordination information with other contents and subjects of the study program. It is recommended to consult the doubts with the teachers along the course in order to improve the understanding of the basic concepts, and for performing the tasks and activities to be evaluated.
Computer practices	In the practical formative activities and tutoring, the professors of the subject will offer personal guidance to each student in the tasks to be performed, with the aim to orient the approach and the methodology. Also they will offer coordination information with other contents and subjects of the study program. It is recommended to consult the doubts with the teachers along the course in order to improve the understanding of the basic concepts, and for performing the tasks and activities to be evaluated.

Tests	Description
Laboratory practice	In the practical formative activities and tutoring, the professors of the subject will offer personal guidance to each student in the tasks to be performed, with the aim to orient the approach and the methodology. Also they will offer coordination information with other contents and subjects of the study program. It is recommended to consult the doubts with the teachers along the course in order to improve the understanding of the basic concepts, and for performing the tasks and activities to be evaluated.
Essay questions exam	In the practical formative activities and tutoring, the professors of the subject will offer personal guidance to each student in the tasks to be performed, with the aim to orient the approach and the methodology. Also they will offer coordination information with other contents and subjects of the study program. It is recommended to consult the doubts with the teachers along the course in order to improve the understanding of the basic concepts, and for performing the tasks and activities to be evaluated.

Assessment

	Description	Qualification	Training and Learning Results	
Self-assessment	They will do two test of self-evaluation along the subject on the theoretical concepts that the students have learnt up to such point.	0	B3 B4 B6	C11 C18
Laboratory practice	The code that implements the projects will be evaluated to discover if all works according to the requirements and specifications established by the teachers.	50	B3 B4 B6 B9	C11 C18
Essay questions exam	There will be a theoretical examination at the end of the subject concerning the contents seen in it. Besides, the student must PASS a practical exam in the laboratory (related with the practical tasks) to check that the student dominates properly his/her own code.	50	B3 B4 B6	C11 C18

Other comments on the Evaluation

The subject is composed of a theoretical part and a practical part. Each one of them is valued with 5 points, having to obtain at least 2,5 points in each part to pass the subject.

Following the guidelines of the career two systems of evaluation will be offered to the students following this subject: continuous assessment and eventual assessment.

Continuous assessment (EC):

- The student follows the continuous assessment from the moment he delivers a practice.

- The theoretical part is composed of a final exam (with a value of 5 points). This final exam will be the same for all the students, independently that they have opted or not by the EC. Additionally, the students following the EC can receive until 1 extra point from the activities realized in class and/or through the forum of the subject. These points will be added to the grade of theory, adjusting it to 5 if the result were above.

- The practical part is composed of three practices, none of them strictly compulsory to approve.

- The first practice is valued with 0,25 points, will be delivered along the month of October, and will be reviewed in the class of laboratory. The student will have to correct the errors found, moment in which he will obtain the indicated grade.

- The second practice is valued with 2,25 points and can be delivered until a week before the exam. After delivery, the student will have to correct the errors identified by the professors until the practice work properly, with dead-line until a

week before the exam. Once obtained the approval of the professors, the student will receive the indicated grade.

- The third practice is valued 2,5 points and can be delivered from the approval of the practice 2, to the end of classes. The practice will be evaluated as delivered, without possibility of correction of the errors observed.

- Practical exam: The day of the exam a practical test will be done in the laboratory for each one of the practices 2 and 3, to check that the student master the code of his practices. This practical test will have a result of PASS or FAIL for each practice.

The grade of the practical part will be the addition of the grade of the practice 1 and of the grades of those practices for which has obtained a qualification of APTO in the practical test.

In the case that the resultant grade is less than 2,5 points, the student will have to deliver the practices of the second chance and pass the practical test.

Eventual assessment (EU): The students that have not opted by the EC will have to attend the theoretical exam and deliver the practices before finishing the classes (with the modifications specified). Later, and until a week before the day of the exam, they will have to correct the errors identified by the professors in the practices 1 and 2 until obtaining approval. Besides, they will have to pass the practical test.

Passing the subject : Both in EC and in EU, to pass the subject the student will have to obtain at least 2,5 points in each part. In the case of not obtaining the minimum grade in any of the parts, the grade obtained adding both parts will be reduced to 4 points in the case to be above such grade.

Second call: the student will have to fulfil the part that has not passed in the first call (examination and/or practices with their subsequent tests). The practices could suffer modifications or incorporate additional functionalities that will be communicated in along March.

Extraordinary call: it will have the same characteristics than the second call. The practices could suffer modifications or incorporate additional functionalities that will be communicated along July.

Plagiarism is regarded as serious dishonest behavior. If any form of plagiarism is detected in any of the tests or exams, the final grade will be FAIL (0), and the incident will be reported to the corresponding academic authorities for prosecution.

Sources of information
Basic Bibliography
H.M Deitel et al., **Internet and World Wide Web How to Program: International Edition**, 5,
Priscilla Walmsley, **Definitive XML Schema, 2/E**, 2,
Steve Graham et al., **Building Web Services with Java: Making Sense of XML, SOAP, WSDL, and UDDI**, 2,
Complementary Bibliography
Robert W. Sebesta, **Programming the World Wide Web**, 8,
Andrew S. Tanenbaum, **Computer Networks**, 5,
Kevin Howard Goldberg, **XML: Visual QuickStart Guide, 2/E**, 2,
Michael Papazoglou, **Web Services and SOA: Principles and Technology, 2/E**, 2,
Thomas Erl, **Service-Oriented Architecture: A Field Guide to Integrating XML and Web Services**, 1,
W. Stallings, **Data and Computer Communications**, 9,

Recommendations
Subjects that continue the syllabus
Telematics arquitectures and services/V05G300V01645

Subjects that it is recommended to have taken before
Programming II/V05G300V01302
Computer Networks/V05G300V01403