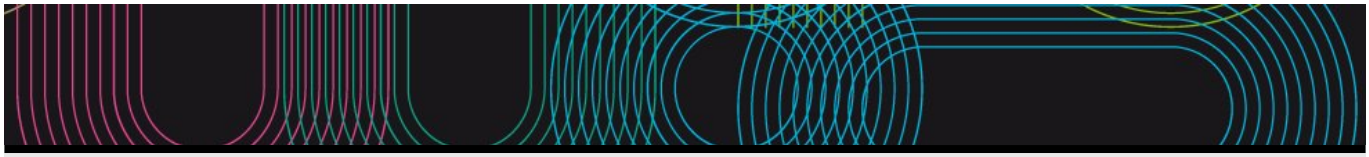

IDENTIFYING DATA

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				
Coordinator	Burguillo Rial, Juan Carlos			
Lecturers	Álvarez Sabucedo, Luis Modesto Burguillo Rial, Juan Carlos Gil Solla, Alberto			
E-mail	jrial@uvigo.es			
Web				
General description	This subject will provide to the student a global vision of the group of current services of Internet, between which fits to quote the email, the WWW, the technologies XML, the Services Web, 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
Master Session	24	36	60
Practice in computer rooms	26	26	52
Forum Index	0	4	4
Self-assessment tests	0	2	2
Practical tests, real task execution and / or simulated.	2	4	6
Long answer tests and development	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.
Master Session	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.
Practice in computer rooms	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.
Forum Index	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

Forum Index	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.
Practice in computer rooms	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**
Practical tests, real task execution and / or simulated.	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.
Long answer tests and development	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 tests	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
Practical tests, real task execution and / or simulated.	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
Long answer tests and development	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 by a theoretical and a practical part. Each one of them have a value of 5 points, having to reach at least a 2 in each part to do the average with the other.

Following the degree guidelines we will offer the students two evaluation possibilities: continuous evaluation and evaluation at the end of the semester.

Continuous evaluation (EC):

- The theoretical part means a final examination (with a value of 5 points). This final examination will be equal for all the students, independently that they have opted or no by the EC. Additionally, the students can get up to 0,5 extra points as a function of their participations in class and/or in the forum of the subject. These points will be added to the final mark, adjusting it to 5 if the result was higher.
- The student follows the continuous evaluation from the moment in that it delivers a practice in time.
- The practical part is composed of three practices, that will cost 1, 2 and 2 points respectively (none of them is strictly compulsory for passing the subject).
- The first practice will be delivered in the 6th teaching week.
- The second practice is valued with 2 points and it will be delivered in the week 15. After the delivery, the student might be

able to do a second delivery, if they do not fulfill the requirements established, that will imply some penalty in the mark. After such second delivery, the code provided will be evaluated as is.
- The third practice is also valued with 2 points and can be delivered until the week 16.
- Practice exam: The students will perform a simple practice exam in the laboratory (related with the practices done) to check out that the student dominates properly his/her own code. This practical exam provides a mark (Npp) between 0 and 1. The global mark for the practices will be obtained by multiplying the practice marks and the practical exam mark: Note for practical part = (P1+P2+P3) x Npp. In the case that the resulting value is below 2 points, the student must perform the practices again in the next call, and do again this practical exam.

Evaluation at the end of the semester: The student that have not opted by the EC will have to perform the theoretical examination and deliver, before the day of the final exam, the practical proposals along the subject (with the possible modifications that can be specified), to add a minimum of 5 points in the final mark. Besides, he/she must do the practical exam. Therefore, the conditions imposed are the same than in the EC case, and the only difference is the timing for delivering the practical tasks (notified in time) and that there is no possibility to resubmit a practice.

Passing the subject: Both in the case of EC as assessment at the end of the semester, to approve the student must obtain at least 5 points by adding the theoretical and practical parts (with a minimum of 2 points in each of them) and considering the practical exam.

Evaluation at the end of the second semester: the student will have to perform the part that has not passed (examination and/or practice with its practice exam). The practices can suffer modifications and/or incorporate additional features that will be informed before the 30th of March.

The practical tasks performed in this course are not recoverable and only are valid for the current course.

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

Architectures and Services/V05G300V01645

Subjects that it is recommended to have taken before

Programming II/V05G300V01302
Computer Networks/V05G300V01403