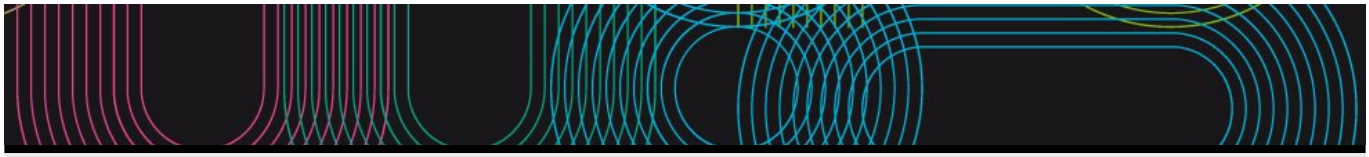

IDENTIFYING DATA				
New computerised services				
Subject	New computerised services			
Code	V05G300V01945			
Study programme	(*)Grao en Enxeñaría de Tecnoloxías de Telecomunicación			
Descriptors	ECTS Credits	Choose	Year	Quadmester
	6	Optional	4th	1st
Teaching language	Spanish			
Department				
Coordinator	Álvarez Sabucedo, Luis Modesto			
Lecturers	Álvarez Sabucedo, Luis Modesto Santos Gago, Juan Manuel			
E-mail	lsabucedo@det.uvigo.es			
Web	http://faitic.uvigo.es			
General description	The overall objective of the course is that students gain a global vision of the new technologies in the field of telematic services. Thus the contents of this course will be open and try to gradually adapt to technological developments in this field. At first we focus on semantic technologies.			

Competencies	
Code	
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.
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.
C89	(CE89/OP32) The ability to design and construct new computer services.
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 identify new applications of telematic services.	B4	C89	D4
Knowledge of the main tools and environments for the development of new telematics services.	B4 B9		
To acquire skills to develop new telematic services.		C89	

Contents	
Topic	
Introduction	Supporting technologies Representation models General concepts for eTechnologies
Supporting telematic services	Concepts about applied security Services for authentication in the net Services for payment Searchers and recommenders
Introduction to the semantic web.	Metadata, RDF. Metadata examples: LOM and Dublin Core. Languages and tools of the semantic web. Introduction to SPARQL.

eServices	eLearning eGovernment eHealth eCommerce Others
New paradigms	IoT Cloud computing Others

Planning			
	Class hours	Hours outside the classroom	Total hours
Master Session	16	40	56
Laboratory practises	14	28	42
Case studies / analysis of situations	5	25	30
Introductory activities	3	6	9
Jobs and projects	1	3	4
Jobs and projects	1	4	5
Long answer tests and development	2	2	4
*The information in the planning table is for guidance only and does not take into account the heterogeneity of the students.			

Methodologies	
	Description
Master Session	Theoretical contents and their practical application will be presented during the lectures. Student are expected to play an active role during lectures.
Laboratory practises	During practical sessions, it will be developed a semantic project with the support of adhoc software tools.
Case studies / analysis of situations	Use cases will presented to the students. Thus, they will be able to analyze and to study them in depth in order to prepeare their academic projects.
Introductory activities	Program of the subject will be presented along with the methodologies used, the classroom, practical contents, final project, final and continuous evaluation criteria, and, in general, all aspects of the subject.

Personalized attention	
Methodologies	**Description**
Master Session	In the tutorial class, all questions related to practices, problem solving sessions and lectures will be tackled. Through continuous evaluation, students with non optimal performance will be identifed. In order to tackle those issues, some procedures will be launched such as call for mentoring and analyzing the reasons that are ledding to these bad results, and to search for solutions. Students will have the opportunity to attend personal tutorials in the professor□s office at hours established by the professor for this purpose at the beginning of the semester and published online.
Laboratory practises	In the tutorial class, all questions related to practices, problem solving sessions and lectures will be tackled. Through continuous evaluation, students with non optimal performance will be identifed. In order to tackle those issues, some procedures will be launched such as call for mentoring and analyzing the reasons that are ledding to these bad results, and to search for solutions. Students will have the opportunity to attend personal tutorials in the professor□s office at hours established by the professor for this purpose at the beginning of the semester and published online.
Case studies / analysis of situations	In the tutorial class, all questions related to practices, problem solving sessions and lectures will be tackled. Through continuous evaluation, students with non optimal performance will be identifed. In order to tackle those issues, some procedures will be launched such as call for mentoring and analyzing the reasons that are ledding to these bad results, and to search for solutions. Students will have the opportunity to attend personal tutorials in the professor□s office at hours established by the professor for this purpose at the beginning of the semester and published online.
Tests	**Description**
Jobs and projects	In the tutorial class, all questions related to practices, problem solving sessions and lectures will be tackled. Through continuous evaluation, students with non optimal performance will be identifed. In order to tackle those issues, some procedures will be launched such as call for mentoring and analyzing the reasons that are ledding to these bad results, and to search for solutions. Students will have the opportunity to attend personal tutorials in the professor□s office at hours established by the professor for this purpose at the beginning of the semester and published online.

Jobs and projects	In the tutorial class, all questions related to practices, problem solving sessions and lectures will be tackled. Through continuous evaluation, students with non optimal performance will be identifed. In order to tackle those issues, some procedures will be launched such as call for mentoring and analyzing the reasons that are ledding to these bad results, and to search for solutions. Students will have the opportunity to attend personal tutorials in the professor□s office at hours established by the professor for this purpose at the beginning of the semester and published online.
Long answer tests and development	In the tutorial class, all questions related to practices, problem solving sessions and lectures will be tackled. Through continuous evaluation, students with non optimal performance will be identifed. In order to tackle those issues, some procedures will be launched such as call for mentoring and analyzing the reasons that are ledding to these bad results, and to search for solutions. Students will have the opportunity to attend personal tutorials in the professor□s office at hours established by the professor for this purpose at the beginning of the semester and published online.

Assessment

	Description	Qualification	Training and Learning Results	
Jobs and projects	It will consist of the presentation of one or several practical projects using the concepts presented in the subject. It will take place during the development of the course.	30	B4 B9	C89
Jobs and projects	It will consist of the presentation of a project that carries out a telematic-based solution. It will take place at the end of the course.	30	B4 B9	C89
Long answer tests and development	It will involve all the contents presented in the course. It will take place around the middle of the course	40	B4 B9	C89

Other comments on the Evaluation

1. Continuous assessment

The course can be passed with full marks from continuous assessment, with no need to sit the final exam.

Students who sit any of the assessment tests may not be listed as "Not Present".

The weighting and content of each continuous assessment test are as follows:

Assessment 1 (40%):

· All theoretical contents.

· It will take place about the 8th week of the course.

Assessment 2 (30%):

· It will consist of the presentation of a semantic project (specified in due course).

· It will take place about the 11th week of the course.

Assessment 3 (30%):

· It will consist of a presentation of a holistic project involving telematic based services

· At the end of the course.

It is mandatory to pass each part of the continuous assessment (that is, the minimum score of each part must be 5 out of 10)

The course may be passed only with continuous assessment. Those students who failed the first assessment are allowed to compensate it in the final exam.

2. Final exam

· There is a final exam at the end of the semester and another at the end of the course. All content presented along the course is included in this exam.

· Students sitting this final exam will be asked to submit in advance some works to be done according to specific instructions on each call. These works must be original and will involve task related to assessments 2 and 3. Should the work not be original, the student will be banned from the entire course.

· The pass mark for this test is 5 out of 10.

Sources of information

R. Baeza-Yates y B. Ribeiro-Neto., **R. Baeza-Yates y B. Ribeiro-Neto. "Modern Information Retrieval".**, R. Baeza-Yates y B. Ribeiro-Neto. "Modern Information Retrieval". Addison Wesley.,

Gómez-Pérez, A.; Fernández-López, M.; Corcho, O, **Ontological Engineering**, Springer-Verlag,

BIBLIOGRAPHY

- Arasu, A., Cho, J., García-Molina, H., Paepcke, A., and Raghavan, S. "Searching the web". ACM Transactions on Internet Technology, Vol. 1, No. 1, pp. 2-43, August 2001.
- S. Chakrabarti, B. Dom, D. Gibson, J. Kleinberg, P. Raghavan, and S. Rajagopalan. Automatic resource compilation by analyzing hyperlink structure and associated text. In *Proceedings of the 7th World-wide web conference (WWW7)*, 1998. Online at http://www7.scu.edu.au/1898/com1898.htm.
- S. Brin and L. Page. The anatomy of a large-scale hypertextual Web search engine. *7th International World Wide Web Conference*, Brisbane, Australia, April 1998. Online at http://www7.scu.edu.au/1921/com1921.htm and http://infolab.stanford.edu/~backrub/google.html
- Lassila, O., and Swick,R.R. "Resource Description Framework (RDF) Model and Syntax Specification". World Wide Web Consortium Recommendation. Available on: http://www.w3.org/TR/REC-rdf-syntax
- Lassila, Ora "Web Metadata: A Matter of Semantics". IEEE Internet Computing, Vol. 2, No. 4, pp.30-37, Julio-Agosto 1998. Available on: http://computer.org/internet/ic1998/w4030abs.htm
- Deborah L. McGuinness. "Ontologies Come of Age." http://www.ksl.stanford.edu/people/dlm/papers/ontologies-come-of-age-mit-press-(with-citation).htm
- Grigoris Antoniou and Frank van Harmelen. "Web Ontology Language: OWL". http://www.cs.vu.nl/~frankh/postscript/OntoHandbook03OWL.pdf
- RDF web-site: http://w3c.org/RDF
- Dublín Core web-site: http://dublincore.org
- LOM web-site: http://ltsc.ieee.org/wg12. Standard available on http://ltsc.ieee.org/wg12/files/LOM_1484_12_1_v1_Final_Draft.pdf
- Semantic Web Activity web-site : http://www.w3.org/2001/sw/

Recommendations