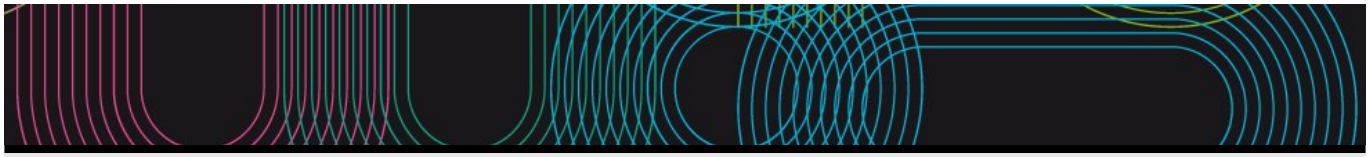

IDENTIFYING DATA				
Externships: Internships II				
Subject	Externships: Internships II			
Code	V05G300V01982			
Study programme	(*)Grao en Enxeñaría de Tecnoloxías de Telecomunicación			
Descriptors	ECTS Credits	Choose	Year	Quadmester
	6	Optional	4th	1st
Teaching language	Spanish			
Department				
Coordinator	Marcos Acevedo, Jorge			
Lecturers	Marcos Acevedo, Jorge			
E-mail	acevedo@uvigo.es			
Web	http://faitic.uvigo.es			
General description	(*)Estancia nunha empresa desenvolvendo funcións propias dun/a Enxeñeiro/a Técnico/a de Telecomunicación relacionadas co perfil profesional cursado polo alumno (Sistemas de Telecomunicación, Telemática, Sistemas Electrónicos ou Son e Imaxe) e supervisado por profesorado do Centro e persoal da empresa.			

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.
B5	CG5: The knowledge to perform measurements, calculations, assessments, appraisals, technical evaluations, studies, reports, task scheduling and similar work to each specific telecommunication area.
B12	CG12 The development of discussion ability about technical subjects
B13	CG13 The ability to use software tools that support problem solving in engineering.
C21	CE21/ST1 The ability to construct, exploit and manage telecommunication networks, services, process and applications, considered as systems of receiving, transporting, representation, processing, storage, management and presentation of multimedia information from the point of view of transmission systems.
C22	CE22/ST2 The ability of applying the basic techniques of telecommunication networks, services and applications for mobile and fixed environments, personal, local or long distance, with different bandwidth, including telephony, radio broadcasting, TV and data, from the point of view of transmission systems.
C23	CE23/ST3 The ability to analyze the components and their specifications for guided and non-guided communications systems
C24	CE24/ST4 The ability to select circuits, subsystems and systems of radiofrequency, microwaves, broadcasting, radio link and radio determination.
C25	CE25/ST5 The ability to select transmission antennas, equipment and systems, propagation of guided and non-guided waves, with electromagnetic, radiofrequency and optical media, and their corresponding radio electric spectrum management and frequency designation.
C26	CE26/ST6 The ability to analyze, codify, process and transmit multimedia information using analogical and digital signal processing techniques.
C27	CE27/TEL1The ability to construct, operate and manage telecommunication networks, services, processes and applications considered as systems to receive, transport, represent, process, store, manage and present multimedia information from the computer services point of view.
C28	CE28/TEL2 The ability to apply the techniques that are basis of computer networks, services and applications, such as management, signaling and switching, routing and securing systems (cryptographic protocols, tunneling, firewalls, charging mechanisms, authentication and content protection) traffic engineering (graph theory, queuing theory and teletraffic) rating, reliability and quality of service in both fixed, mobile, personal, local or long distance environments with different bandwidths, including telephony and data.
C29	CE29/TEL3 The ability to build, operate and manage computer services using planning, sizing and analytical tools

C30	CE30/TEL4 The ability to describe, program, assess and optimize communication protocols and interfaces at different network architecture layers .
C31	CE31/TEL5 The ability to follow the technological progress of transmission, switching and processing to improve computer networks and services.
C32	CE32/TEL6 The ability to design networks and service architectures.
C33	CE33/TEL7 The ability to program network and distributed applications and services.
C34	CE34/SI1The ability to construct, exploit and manage telecommunication services and applications, such as receiving, digital and analogical treatment, codification, transporting and representation, processing, storage, reproduction, management and presentation of audiovisual and multimedia information services.
C35	CE35/SI2 The ability to analyze, specify, carry out and maintain systems, equipments, heads and installations of TV, audio and video for mobile and fixed environments.
C36	CE36/SI3 The capacity to implement projects at places and installations for the production and recording of audio and video signals.
C37	CE37/SI4 The ability to carry out acoustic engineering projects related to: acoustical isolation and conditioning of rooms, loudspeaker installations, specification, analysis and selection of electro acoustical transducers, measurement, analysis and control of radio vibration systems, environmental acoustics, submarine and acoustical systems.
C38	CE38/SI5 The ability to create, modify, manage, broadcast and distribute multimedia contents taking into account the use and accessibility criteria to audiovisual, broadcasting and interactive services.
C39	(CE39/SE1): The ability to construct, exploit and manage the receiving, transporting, representation, processing, storage, manage and presentation multimedia information from the electronic systems point of view.
C40	(CE40/SE2): The ability to select electronic circuits and devices specialized in transmission, forwarding or routing, and terminals for fixed and mobile environments.
C41	(CE41/SE3):The ability to make the specification, implementation, documenting and tuning of electronic systems and equipment (both instrumentation and control oriented), considering the corresponding technical aspects and the regulations.
C42	(CE42/SE4): The ability to apply electronics as support technology in other fields and activities and not only in information and communication technologies.
C43	(CE43/SE5): The ability to design analogical and digital electronics circuits of analogical to digital conversion and vice versa, of radiofrequency, of feeding and electrical energy conversion for computing and telecommunication engineering.
C44	(CE44/SE6): The ability to understand and use feedback theory and electronic control systems.
C45	(CE45/SE7): The ability to design interface, data capturing and storage devices, and terminals for services and telecommunication systems.
C46	(CE46/SE8): The ability to specify and use electronic instrumentation and measurement systems.
C47	(CE47/SE9): The ability to analyze and solve interference and electromagnetic compatibility problems .
D2	CT2 Understanding Engineering within a framework of sustainable development.

Learning outcomes

Expected results from this subject	Training and Learning Results		
Experience in the exert of the profession of Technical Engineer of Telecommunication and of his more usual functions (according to the programme of the student) in some real surroundings of company.	B4 B5 B12 B13	C21 C22 C23 C24 C25 C26 C27 C28 C29 C30 C31 C32 C33 C34 C35 C36 C37 C38 C39 C40 C41 C42 C43 C44 C45 C46 C47	D2

Contents	
Topic	
Item	To define by the company advisor and the academic advisor.

Planning	Class hours	Hours outside the classroom	Total hours
External practises	147	0	147
Reports / memories of internships or practicum	0	3	3

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

Methodologies	Description
External practises	The student develops own functions in a company as an Telecommunication Engineer with determinate profile by the technology that the student have studied (Systems of Telecommunication, Electronic Systems, Telematic or Sound and Image)

Personalized attention	
Methodologies	**Description**
External practises	The student will have a advisor inside the company that will guide him and will supervise in the specific tasks that it will have to develop inside the company; and an academic advisor -professor of the University of Vigo that will define together with the advisor of the company the general frame of the activity of the student, checking that it adjusts to the profile studied by the student.

Assessment	Description	Qualification	Training and Learning Results		
External practises	It will value so much the aptitude like the attitude of the student in the development of the activities entrusted.	90	B4 B5 B12 B13	C21 C22 C23 C24 C25 C26 C27 C28 C29 C30 C31 C32 C33 C34 C35 C36 C37 C38 C39 C40 C41 C42 C43 C45 C46 C47	D2

Reports / memories of internships or practicum	The memory presented by the student will have to adjust to the indications collected in the rules of practices in valid company (University of Vigo and intern of the degree in Engineering of Technologies of Telecommunication).	10	B4 B5 B12 B13	C21 C22 C23 C24 C25 C26 C27 C28 C29 C30 C31 C32 C33 C34 C35 C36 C37 C38 C39 C40 C41 C42 C43 C45 C46 C47

Other comments on the Evaluation

The tutor of the company will deliver a report valuing appearances related with the practices realised by the student: punctuality, assistance, responsibility, capacity of work in team and integration in the company, quality of the workrealised, etc.

The student/to will have to deliver an explanatory memory of the activities realised during the practices, specifying hislength, the units or departments of the company in that they realised , the training received (courses, compute programs, etc.), the level of integration inside the company and the relations with the personnel.

The memory has to include also a section of conclusions, that will contain a reflection on the suitability of the educations received during the career for the exert of the practice (positive and negative appearances more significant related with the development of the practices). It will value , besides, the inclusion of information on the professional and personal experience obtained with the practices (personal assessment of the learning achieved along the practices,and suggestions or own contributions on the structure and operation of the company visited).

If the memory presented by the student does not reach the quality and minimum requirements, the student will have opportunity to rectify it for his re-evaluation in the extraordinary announcement of July.

Sources of information

The sources of information will be provided by the company advisor (and, where applicable, by the academic advisor) dynamically as they depend on the student activities undertaken in the company host; and may be from technical manuals for operation and maintenance of different technical equipment up even scientific or research is in the R & D departments.

Recommendations

Other comments

It recommends have studied the three first courses of the degree.