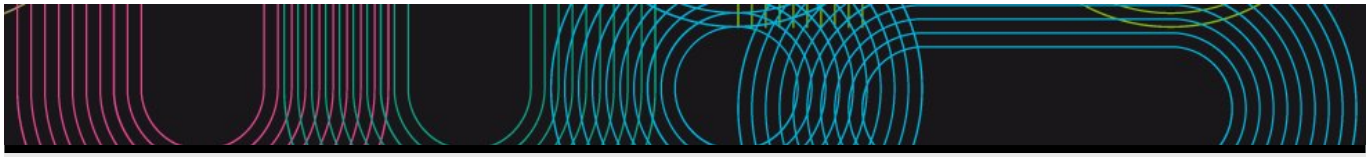

IDENTIFYING DATA				
Externships: Internships I				
Subject	Externships: Internships I			
Code	V05G306V01981			
Study programme	Bachelor Degree in Telecommunication Technologies Engineering (BTTE)			
Descriptors	ECTS Credits	Choose	Year	Quadmester
	6	Optional	4th	1st
Teaching language	Spanish			
Department				
Coordinator				
Lecturers	Marcos Acevedo, Jorge			
E-mail				
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.			

Training and Learning Results	
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.

Expected results from this subject

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	
General content	To define by the tutor in the company and the academic tutor
Integration in the company and in his surroundings of work	During his stay the student will be integrated into the organization of the company and must coordinate with the rest of members of the work team to he was assigned.
Development of his professional activity	The student will make the tasks entrusted, in accordance with his knowledges and competences.

Planning

	Class hours	Hours outside the classroom	Total hours
Practicum, External practices and clinical practices	145	5	150

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

Methodologies

	Description
Practicum, External practices and clinical practices	Stay in a company developing functions of a Telecommunications Technical Engineer so that they can put into practice the knowledge and skills acquired, to complete their academic training.

Personalized assistance

Methodologies	Description
Practicum, External practices and clinical practices	The student will have a tutor inside the company that will guide him and will supervise in the specific tasks that it will have to develop inside the same; and an academic tutor - professor of the E.E.T. of the University of Vigo- that will define together with the tutor 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		
Practicum, External practices and clinical practices	The evaluation will realise in function of: 1) The memory of activities 2) The evaluation of the tutor in the company	100	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

Other comments on the Evaluation

REPORT OF ACTIVITIES: The student must submit a report explaining the activities undertaken during practices, specifying its duration, departments of the company that were conducted, training received (courses, software, etc.), the level of integration within the company and personal relationships.

The report must also include a section of conclusions, containing a reflection on the adequacy of the lessons learned during the university studies to performance practice (negative and positive aspects significant related to the development of practices). It also assessed the inclusion of information on the professional and personal experience with the practices (personal assessment of learning achieved over practices or own contributions and suggestions on the structure and operation of the company visited).

The assessment of memory will be 60% of the final qualification.

COMPANY TUTOR EVALUATION: The company tutor will submit a report assessing aspects with the practices carried out by students: punctuality, attendance, responsibility, teamwork ability and integration in the enterprise, quality of work done, etc.

The assessment of the tutor in the company will be 40% of the final qualification.

Sources of information

Basic Bibliography

Complementary Bibliography

Recommendations

Other comments

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