

Work Placement I

Code: 44662
 ECTS Credits: 9

Degree	Type	Year	Semester
4313797 Telecommunications Engineering	OT	2	1

The proposed teaching and assessment methodology that appear in the guide may be subject to changes as a result of the restrictions to face-to-face class attendance imposed by the health authorities.

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Use of Languages

Principal working language: english (eng)

Prerequisites

It requires the approval of the Work Placement Supervisor (in this case the Master Coordinator), who will ensure the quality of the projects offered and their adaptation to the objectives of the Master. It should be noted that the Work Placement Supervisor will act as academic tutor by default, except in such cases where the subject of the Work Placement, the collaborating entity itself or for other circumstances, requires a specific academic tutor from within the School of Engineering who is teaching in the Masters Program.

Objectives and Contextualisation

This optional course is provided in accordance with the provisions of the Statute for University Students approved by Royal Decree 1791/2010 (BOE of December 31), in which article 9 reflects the right of masters students to have the opportunity to practice, either in the same center or in external entities.

The objective of the modules of the professional practices is to carry out internships in companies in the telecommunications sector, seeking: to deepen the knowledge, skills and attitudes of the Telecommunications Engineering professional; linking students with the business reality of the sector. The Professional Internship Module I will complement the theoretical training of the student with practical experience in the field of technology, while the professional practices module II will do so in the field of management.

Competences

- Capacity for critical reasoning and thought as means for originality in the generation, development and/or application of ideas in a research or professional context.
- Capacity for working in interdisciplinary teams
- Capacity to integrate new technologies and systems developed within telecommunications engineering in general and in broader, multidisciplinary contexts such as bioengineering, photovoltaic conversion, nanotechnology, telemedicine
- Demonstrate an entrepreneurial, creative and innovative spirit
- Maintain proactive and dynamic activity for continual improvement
- Respect and promote human rights, democratic principles, principles of sex equality, solidarity, universal accessibility and design for all, prevention of labour risks, environmental protection and promotion of a culture of peace
- Students should be capable of integrating knowledge and facing the complexity of making judgements using information that may be incomplete or limited, including reflections on the social and ethical responsibilities linked to that knowledge and those judgements

- Students should know how to apply the knowledge they have acquired and their capacity for problem solving in new or little known fields within wider (or multidisciplinary) contexts related to the area of study
- Students should know how to communicate their conclusions, knowledge and final reasoning that they hold in front of specialist and non-specialist audiences clearly and unambiguously

Learning Outcomes

1. Apply the appropriate methodology for the development of the problem, combining theoretical developments and simulations accordingly
2. Assess project results by comparing them with previous similar results from external sources and identifying the project contributions in the current knowledge in the topic.
3. Capacity for critical reasoning and thought as means for originality in the generation, development and/or application of ideas in a research or professional context.
4. Capacity for working in interdisciplinary teams
5. Demonstrate an entrepreneurial, creative and innovative spirit
6. Identify the project objectives.
7. Maintain proactive and dynamic activity for continual improvement
8. Respect and promote human rights, democratic principles, principles of sex equality, solidarity, universal accessibility and design for all, prevention of labour risks, environmental protection and promotion of a culture of peace
9. Students should be capable of integrating knowledge and facing the complexity of making judgements using information that may be incomplete or limited, including reflections on the social and ethical responsibilities linked to that knowledge and those judgements
10. Students should know how to apply the knowledge they have acquired and their capacity for problem solving in new or little known fields within wider (or multidisciplinary) contexts related to the area of study
11. Students should know how to communicate their conclusions, knowledge and final reasoning that they hold in front of specialist and non-specialist audiences clearly and unambiguously
12. Synthesize the information obtained and the expertise in a comprehensive and structured overview of the state of the art project theme

Content

Regarding the realization of professional practices, the student may choose to carry them out in any of the research centers or entities associated with the UAB, such as the Computer Vision Center (CVC), the National Microelectronics Center (CNM), the Institute of Space Studies of Catalonia (IEEC), the Institute of Artificial Intelligence Research (IIIA) or the Alba Synchrotron, or in companies / external entities. In the latter case, the student can benefit from the agreements that the UAB Engineering School already has signed with a large number of strategic companies. These are both companies directly related to the ICT hypersector, telecommunications operators (Telefónica, Orange), communications equipment manufacturers (Mier Comunicaciones, Indra Espacio, Gigle Networks), component manufacturers (Fractus, Ficosa, Siemens), electronic equipment manufacturers (Agilent Technologies, Hewlett-Packard, Hitachi, Simon, Sony), consulting and certification companies (Applus, Altran, Everis, Accenture), systems engineering companies (Atos Origin, Elecnor-Deimos, GMV, Indra Sistemas) or companies not directly related to the ICT hypersector, but where the presence of ICT specialists is necessary to carry out certain essential functions for the company. This is the case of agreements signed with pharmaceutical companies such as Bayer, B-Braun, Novartis, or with automotive companies such as Seat.

There is a collaboration agreement model for conducting external internships.

Methodology

Work placement undertaken by all students will have the supervision of an academic tutor and a tutor at the collaborating institution. At the beginning of the semester, both tutors will be responsible for defining a Training Project in accordance with the objectives of the Master in Telecommunication Engineering. Exceptionally, students may also propose a Training Project agreed individually with a cooperating entity.

The teaching methodology will combine meetings between the student and the supervisor / tutor and the autonomous work carried out by the student.

Annotation: Within the schedule set by the centre or degree programme, 15 minutes of one class will be reserved for students to evaluate their lecturers and their courses or modules through questionnaires.

Activities

Title	Hours	ECTS	Learning Outcomes
Type: Supervised			
Supervised work at the collaborating entity.	200	8	1, 2, 3, 4, 5, 6, 7, 9, 10, 11, 8, 12
Type: Autonomous			
Autonomous work by student.	20	0.8	2, 3, 5, 11, 8

Assessment

The courses "42842 Professional Practices I" (WP1) and "42843 Professional Practices II" (WP2) are two half-modules with a value of 9 ECTS credits each. The student's external Work Placement (WP1+WP2) must be approved by the Coordinator prior to starting, with the standard Engineering School Agreement set up between the UAB and the external collaborating entity. The student must also be enrolled in both courses, WP1 & WP2, in order for these agreements to be established. Having a total of 18 ECTS credits, the total number of hours of dedication for WP1+WP2 is 450. The division into two half-modules is established in accordance with article 13.2 of RD-1707/2011, in order to permit a mid-course appraisal of student progress, as well as to create a differentiated profile between the first and second half of the internship. In particular, the first half will focus on the development of technical skills and problem solving in the field of Telecommunications Engineering, whilst the second half, although not necessarily abandoning technical skills, will focus more on the development of competencies related to organization, testing, and monitoring. Students should make it clear to the collaborating external entity, from the beginning, that these two aspects of the work-placement, technical and organizational, will be evaluated separately, and that although there is a high degree of flexibility in the overall planning of work, at the end of both periods the reports should reflect these different aspects.

The evaluations for WP1 and WP2 will be carried out separately and are weighted by the ratio 60% Company Tutor Evaluation (CTE): 40% Evaluation UAB (EUAB), where the former is based on the activities carried out by the student and supervised at the Company premises by the Company Tutor (CT), and the latter is based on the sequence of weekly questionnaires and the Student Final Report (SFR) produced by the Student and signed by the Tutor, presenting the evidences that support the responses given to the questionnaires throughout the course.

The completed and signed CTE must be sent directly by the CT to the Coordinator, by email. The SFR must be signed by both CT and student and deposited via the course module on the Campus Virtual.

Assessment Activities

Title	Weighting	Hours	ECTS	Learning Outcomes

Final report provided by student	40%	5	0.2	2, 3, 5, 11, 8
Final report provided by the supervisor.	60%	0	0	1, 2, 3, 4, 5, 6, 7, 9, 10, 11, 8, 12

Bibliography

Relevant bibliography may be suggested by the collaborating entity.

Software

Relevant software may be suggested by the collaborating entity.