Course guides
230708 - I2P - Interdisciplinary Innovation Project

Unit in charge:	Barcelona School of Telecommunications Engineering
Teaching unit:	710 - EEL - Department of Electronic Engineering.

Degree:	MASTER'S DEGREE IN TELECOMMUNICATIONS ENGINEERING (Syllabus 2013). (Optional subject).
	MASTER'S DEGREE IN ELECTRONIC ENGINEERING (Syllabus 2013). (Optional subject).
	MASTER'S DEGREE IN ADVANCED TELECOMMUNICATION TECHNOLOGIES (Syllabus 2019). (Optional subject).

Academic year: 2020   **ECTS Credits:** 5.0   **Languages:** English

LECTURER

Coordinating lecturer:	Bragos Bardia, Ramon

Others:

DEGREE COMPETENCES TO WHICH THE SUBJECT CONTRIBUTES

Specific:
CEE24. Ability to identify and evaluate innovative ideas and products in the area of electronic technology.
CEE26. Ability to identify funding sources and prepare innovative projects in the area of electronic companies.

Transversal:
CT1a. ENTREPRENEURSHIP AND INNOVATION: Being aware of and understanding how companies are organised and the principles that govern their activity, and being able to understand employment regulations and the relationships between planning, industrial and commercial strategies, quality and profit.

CT2. SUSTAINABILITY AND SOCIAL COMMITMENT: Being aware of and understanding the complexity of the economic and social phenomena typical of a welfare society, and being able to relate social welfare to globalisation and sustainability and to use technique, technology, economics and sustainability in a balanced and compatible manner.

CT3. TEAMWORK: Being able to work in an interdisciplinary team, whether as a member or as a leader, with the aim of contributing to projects pragmatically and responsibly and making commitments in view of the resources that are available.

TEACHING METHODOLOGY

Supervised activities
Lectures
Team work (blended autonomous learning)
Homework (blended individual autonomous learning)
Oral presentation

LEARNING OBJECTIVES OF THE SUBJECT

The course helps you in developing the following competences:
• Know how to develop and move ideas forward in an uncertain environment by applying the Design Thinking methodology
• Ability to communicate clearly and argue for decisions made in an innovation project
• To lead your own work in an independent, proactive manner
• To lead work in an explorative project which requires constant reflection and adaptation to new information acquired
• Ability to work and efficiently collaborate in a multidisciplinary team: understand what you and others can contribute as professional expertise
• Identifying, developing, and assessing opportunities for new business
• Managing the key relationships with the organization you work for

By the end of the course, you should be able to develop novel ideas, move from conceptual thinking to action (ideation-experimentation), design and carry out focused experiments that create new learning, and understand that creating something genuinely novel requires iterative testing and development.

STUDY LOAD

Type	Hours	Percentage
Hours large group	39,0	31.20
Self study	86,0	68.80

Total learning time: 125 h

CONTENTS

Course structure

Description:

Although there are a few lectures on methodology (Design Thinking, Idea Generation, Benchmarking, Prototyping, …) the course is based on the idea of hands-on, experiential learning. The teaching during the course is shared between ESADE and UPC faculty. The course is carried out as teamwork, solving real-life challenges launched by different organizations. These organizations prepare the challenge and assign a liaison to act as the contact point for each team. Each team will stay in touch with their liaison with regular meetings to update on the project status and as for advice on the project. The liaison also is your window into the rest of the organization and any other stakeholders you may need to contact. Even when you are not physically in the premises of the organization giving the challenge, your role is as if you were an intern. You will gain work experience from a real innovation challenge of an organization.

All challenges are open-ended, meaning that you have to explore and define both the specific problem to be solved, as well as the potential solutions. You will express your preferences for the available projects before the start of the course, and we aim to place everyone in a preferred project. Thus, teams are formed prior to the start of the course, based on the preferences of individual students. In principle, all teams will be multidisciplinary.

There are two teams working on the same challenge. Both teams must present a different solution at the end, so you need to stay informed about the actions of the other team. We encourage both teams to collaborate and find synergies throughout the project.

The course is mainly structured in two intensive weeks and four coaching sessions plus the self-managed autonomous individual and team work needed to perform the project-derived tasks. The first intensive week is usually the second week of the semester and the second intensive week (4 days) is usually located just before or after Easter holidays.

Each team will receive one-on-one coaching, at least four times during the course. Each coaching session lasts 60 minutes. The coaches are academic collaborators of ESADE, and practitioners working in the field of innovation. They are all trained to be coaches in the I2P-course. In addition to your own coach, the faculty of UPC will offer technical coaching after the mid-term intensive week (because after this point you will be more focused on defining the solution and the prototype).

This is a practical course, and we expect active engagement in the project work both in and outside class, as well as during the coaching sessions. The learning happens, and central questions arise when you apply your knowledge to the project work and reflect on this experience. Since you will be working in a team, your active engagement will not only guarantee your personal learning, but also that to your peers.

Related activities:

Although there are a few lectures on methodology (Design Thinking, Idea Generation, Benchmarking, Prototyping, …) the course is based on the idea of hands-on, experiential learning. The teaching during the course is shared between ESADE and UPC faculty. The course is carried out as teamwork, solving real-life challenges launched by different organizations. These organizations prepare the challenge and assign a liaison to act as the contact point for each team. Each team will stay in touch with their liaison with regular meetings to update on the project status and as for advice on the project. The liaison also is your window into the rest of the organization and any other stakeholders you may need to contact. Even when you are not physically in the premises of the organization giving the challenge, your role is as if you were an intern. You will gain work experience from a real innovation challenge of an organization.

All challenges are open-ended, meaning that you have to explore and define both the specific problem to be solved, as well as the potential solutions. You will express your preferences for the available projects before the start of the course, and we aim to place everyone in a preferred project. Thus, teams are formed prior to the start of the course, based on the preferences of individual students. In principle, all teams will be multidisciplinary.

There are two teams working on the same challenge. Both teams must present a different solution at the end, so you need to stay informed about the actions of the other team. We encourage both teams to collaborate and find synergies throughout the project.

The course is mainly structured in two intensive weeks and four coaching sessions plus the self-managed autonomous individual and team work needed to perform the project-derived tasks. The first intensive week is usually the second week of the semester and the second intensive week (4 days) is usually located just before or after Easter holidays.

Each team will receive one-on-one coaching, at least four times during the course. Each coaching session lasts 60 minutes. The coaches are academic collaborators of ESADE, and practitioners working in the field of innovation. They are all trained to be coaches in the I2P-course. In addition to your own coach, the faculty of UPC will offer technical coaching after the mid-term intensive week (because after this point you will be more focused on defining the solution and the prototype).

This is a practical course, and we expect active engagement in the project work both in and outside class, as well as during the coaching sessions. The learning happens, and central questions arise when you apply your knowledge to the project work and reflect on this experience. Since you will be working in a team, your active engagement will not only guarantee your personal

learning, but also that to your peers.

Full-or-part-time: 125h
Theory classes: 39h
Self study : 86h

ACTIVITIES

intensive weeks, supervised work in teams

Description:
Two intensive weeks (check the especific calendar for every academic year), one at the beginning of the semester (4 1/2 days) and a second one around Easter (3 1/2 days) with seminars, workshops and supervised activities

Full-or-part-time: 71h
Theory classes: 33h
Self study: 38h

Coaching sessions

Description:
4 sessions (1 hour) with the coach

Full-or-part-time: 4h
Theory classes: 4h

Autonomous work, in teams and individual, to carry out the project

Full-or-part-time: 48h
Self study: 48h

Presentation in front of th eexternal company or organization

Full-or-part-time: 2h
Guided activities: 2h

GRADING SYSTEM

- Continuous assessment of the activities carried out in the case studies of training sessions and seminars
- Continuous assessment, documentation and oral presentation of the project reports.
- Cross-assessment and co-assessment of the project

EXAMINATION RULES.

A clear failure performing the tasks assigned by the team can mean the failure of the course regardless of the grade given to the group project