Course guide
300261 - ENTREP - Ict-Based Entrepreneurship

Last modified: 11/05/2026

Unit in charge: Castelldefels School of Telecommunications and Aerospace Engineering
Teaching unit: 732 - OE - Department of Management.

Degree: MASTER'S DEGREE IN APPLIED TELECOMMUNICATIONS AND ENGINEERING MANAGEMENT (MASTEAM) (Syllabus 2015). (Compulsory subject).
ERASMUS MUNDUS MASTER IN COMMUNICATIONS ENGINEERING AND DATA SCIENCE (CODAS 1) (Syllabus 2024). (Compulsory subject).
ERASMUS MUNDUS MASTER IN COMMUNICATIONS ENGINEERING AND DATA SCIENCE (CODAS 2) (Syllabus 2024). (Optional subject).
MASTER'S DEGREE IN ARTIFICIAL INTELLIGENCE FOR CONNECTED INDUSTRIES (AI4CI) (Syllabus 2025). (Compulsory subject).

Academic year: 2026 **ECTS Credits:** 3.0 **Languages:** English

LECTURER

Coordinating lecturer: Fernandez Alarcon, Vicenç
Alcober Segura, Jesus

Others:

DEGREE COMPETENCES TO WHICH THE SUBJECT CONTRIBUTES

Specific:
09 MTM. (ENG) Definir los elementos que caracterizan un modelo de negocio para productos innovadores basados en las TIC.
10 MTM. (ENG) Aplicar los conceptos de Lean Startup en cualquier empresa.
11 MTM. (ENG) Planificar y ejecutar un proyecto de desarrollo de una aplicación de las TIC a un proceso nuevo, o de mejora de uno existente, en cualquier ámbito de la vida social.

Generical:
04 DIR. (ENG) Dirigir y planificar, a nivel técnico y de gestión, cualquier proyecto de investigación, desarrollo o innovación, basado en las TIC y aplicado a cualquier ámbito de la economía productiva.
05 COO. (ENG) Coordinar las tareas de un equipo multidisciplinar para completar las tareas de un proyecto tecnológico o de innovación basado en las TIC.

Transversal:
01 EIN. ENTREPRENEURSHIP AND INNOVATION: Knowing about and understanding how businesses are run and the sciences that govern their activity. Having the ability to understand labor laws and how planning, industrial and marketing strategies, quality and profits relate to each other.
02 SCS. SUSTAINABILITY AND SOCIAL COMMITMENT. Being aware of and understanding the complexity of social and economic phenomena that characterize the welfare society. Having the ability to relate welfare to globalization and sustainability. Being able to make a balanced use of techniques, technology, the economy and sustainability.
06 URI. EFFECTIVE USE OF INFORMATION RESOURCES. Managing the acquisition, structure, analysis and display of information from the own field of specialization. Taking a critical stance with regard to the results obtained.
03 TLG. THIRD LANGUAGE. Learning a third language, preferably English, to a degree of oral and written fluency that fits in with the future needs of the graduates of each course.

Basic:
CB8. Students will be able to integrate knowledge and face the complexity of formulating judgments based on information that, while being incomplete or limited, includes reflections on social and ethical responsibilities linked to the application of their knowledge and opinions.
CB9. Students will be able to communicate their conclusions and the knowledge and ultimate reasons that support them to specialized and non-specialized audiences in a clear and unambiguous manner.

TEACHING METHODOLOGY

The teaching methodology of this course has 4 parts:
* Lecture: Lecturers present concepts, principles and techniques, with the active participation of students.
* Problem Based Learning: Lecturers and students resolve exercises and standard problems through specific techniques related to the theoretical contents and principles of the course.
* Reading Based learning: Students read and discuss current scientific papers related to the theoretical contents and principles of the course.
* Self-study: Students diagnose their learning needs, in collaboration with the lecturers, and plan their own learning process.

LEARNING OBJECTIVES OF THE SUBJECT

This course introduces students to the process of setting up a new technology company, specifically, from the development of the business idea to the first round of search for funding (seed phase). Moreover, it will help the students to develop their communications skills since they are crucial in each of the steps of the entrepreneurial process, but also, in our everyday life.

STUDY LOAD

Type	Hours	Percentage
Self study	48,0	64.00
Hours large group	27,0	36.00

Total learning time: 75 h

CONTENTS

Module 1: Fundamentals of Entrepreneurship

Description:
What is meant by entrepreneurship? Entrepreneur vs Manager. Startup vs Company. Entrepreneurial ecosystem. Stages of start-up company development. Pitch deck.

Related activities:
R1: Reading 1 (CE11, CB8, CB9, 06URI)
P1: Project 1 (CE9, CE10, CE11, CB8, CB9, 05COO, 01EIN, 02SCS, 06URI)

Full-or-part-time: 7h
Theory classes: 3h
Self study : 4h

Module 2: Development of a business project

Description:
How can we assess a business idea? Types of ideas. Design Thinking. Hypothesis development, data collection, and prototyping.

Related activities:
A1: Activity 1 (CE09, CB9, 06URI)
A2: Activity 2 (CE09, CB8, CB9, 06URI)
P1: Project 1 (CE9, CE10, CE11, CB8, CB9, 05COO, 01EIN, 02SCS, 06URI)

Full-or-part-time: 14h
Theory classes: 5h
Self study : 9h

Module 3: Designing a business model

Description:
How can we transform a business idea into a reality? Value proposition canvas. Business model canvas. Business opportunities analysis. Lean canvas.

Related activities:
A3: Activity 3 (CE09, CB9, 01EIN, 06URI)
A4: Activity 4 (CE09, CB9, 01EIN)
P1: Project 1 (CE9, CE10, CE11, CB8, CB9, 05COO, 01EIN, 02SCS, 06URI)

Full-or-part-time: 20h
Theory classes: 7h
Self study : 13h

Module 4: Understanding the market

Description:
Why will customers buy my product or service? Market segmentation. Five Forces Analysis. Customer's Experience Map. Bullseye framework. Social Media Plan.

Related activities:
A5: Activity 5 (CE10, CB8, CB9, 02SCS)
A6: Activity 6 (CE10, CB8, CB9, 04DIR, 02SCS)
A7: Activity 7 (CE10, CB8, CB9, 04DIR, 02SCS)
P1: Project 1 (CE9, CE10, CE11, CB8, CB9, 05COO, 01EIN, 02SCS, 06URI)

Full-or-part-time: 20h
Theory classes: 7h
Self study : 13h

Module 5: Financing the entrepreneurial process

Description:
Where can we find investors for my business idea? Financing needs. Budget. Sources of financing. Project Valuation.

Related activities:
A8: Activity 8 (CE10, 04DIR, 05COO)
P1: Project 1 (CE9, CE10, CE11, CB8, CB9, 05COO, 01EIN, 02SCS, 06URI)

Full-or-part-time: 14h
Theory classes: 5h
Self study : 9h

GRADING SYSTEM

Any academic fraud, plagiarism or use or possession of unauthorised means in an assessment activity leads to a mark of zero (0) for the affected test or assignment. Furthermore, in accordance with the University's regulations, if disciplinary proceedings are initiated the subject is recorded as "Pending Assessment" until a decision is reached. These incidents are managed in accordance with the **Action Framework for Academic Integrity in Assessment at the UPC**.

The final grade depends on the following three elements:

* 50%, Activities
* 25%, Project 1
* 25%, Reading and Presentations

BIBLIOGRAPHY

Basic:

- Christensen, Clayton M; Raynor, Michael E. The Innovator's solution : creating and sustaining successful growth. Boston, Mass.: Harvard Business School Press, cop. 2003. ISBN 1578518520.