Course guide
2301208 - IEL - Innovation, Entrepreneurship and Leadership

Last modified: 12/04/2024

Unit in charge:	Barcelona School of Telecommunications Engineering
Teaching unit:	1004 - UB - (ENG)Universitat de Barcelona.

Degree:	MASTER'S DEGREE IN SEMICONDUCTOR ENGINEERING AND MICROELECTRONIC DESIGN (Syllabus 2024). (Compulsory subject).

Academic year: 2024 **ECTS Credits:** 6.0 **Languages:** English

LECTURER

Coordinating lecturer:	Consultar aquí / See here:
	https://telecos.upc.edu/ca/curs-actual/coordinadors-i-professorat
	Colomer Farrarons, Jordi
Others:	Consultar aquí / See here:
	https://telecos.upc.edu/ca/curs-actual/coordinadors-i-professorat
	Cirera Hernández, Albert
	Isabel Gavilanes

TEACHING METHODOLOGY

Interactive classroom lectures: 36 hours.
Lab sessions in groups: 12 hours.
Autonomous work of the student: 90 hours.

LEARNING OBJECTIVES OF THE SUBJECT

Knowledge:
1. Remember the ethical criteria of social, environmental, and economic sustainability and the sustainable development objectives.
2. Analyze the characteristics of innovation in the master's sector.
3. Recognize an idea, product, or service in the innovation value chain in the master's sector.

Skills:
4. Identify the different approaches to intellectual property rights and analyze the information contained in a patent to determine its scope and influence.
5. Formulate an empathetic and assertive communicative speech.
6. Timely combine divergence-convergence processes for the analysis of innovative ideas.

Competences:
7. Build a group process for generating innovative ideas using idea design techniques.
8. Propose a value proposition and a sustainable business model based on the knowledge gained from the master's degree.

STUDY LOAD

Type	Hours	Percentage
Hours large group	48,0	32.00
Self study	102,0	68.00

Total learning time: 150 h

CONTENTS

Innovation and technology transfer processes.

Description:
- Basic definitions: what is, who does, how does it work. OECD figures.
- Norms UNE 166000: Reference framework and innovation in companies.
- Technology Readiness Level (TRL).

Full-or-part-time: 9h
Theory classes: 9h

Communication and Leadership.

Description:
- Negotiation and networking: preparation of meetings.
- Communication: Elevator Pitch.
- Promotion/ Leaflet.
- Leadership kinds and agile methods.

Full-or-part-time: 8h
Theory classes: 8h

Idea-Invention-Value.

Description:
3.1. Legal aspects (LCTI, LCP, LPM).
3.2. Academia-industry partnership (science push vs industrial pull).
3.3. Strategies of Protection (Patent, secret, brand…) differences and actors.
3.4. Patents: definitions, kinds, steps, costs.
3.5. Licenses, kinds of tech transfer, contracts.

Full-or-part-time: 10h
Theory classes: 10h

Entrepreneurship.

Description:
- From idea to business Plan: business model CANVAS.
- Company founding and partner agreement.
- Funding search, public and private tools.
- Capital Increase.

Full-or-part-time: 9h
Theory classes: 9h

Lab sessions.

Description:
- Valorization.
- Agile method (SCRUM) and communication by Elevator Pitch.
- TFM and options for IP.
- Tools for Entrepreneurship.

Full-or-part-time: 12h
Theory classes: 12h

GRADING SYSTEM

Attendance and participation (20%).
Group or individual report on innovation and business plan (50%).
Elevator pitch (30%).

BIBLIOGRAPHY

Basic:
- Tataj, D. Innovation and entrepreneurship: a growth model for europe beyond the crisis. New York: Tataj innovation library, 2015. ISBN 9780692419809.
- Chesbrough, H.W. Open innovation: the new imperative for creating and profiting from technology. Boston, Massachusetts: Harvard Business School Press, 2003. ISBN 9781422102831.
- Marcet, X. Esquivar la mediocridad: notas sobre management: complejidad, estrategia e innovación. Primera edición. Barcelona: Plataforma Editorial, 2018. ISBN 9788417114350.
- Condom-Vilà, P.; Valls Pasola, J. Ciencia, tecnología y startups. Barcelona: Edicions de la Universitat de Barcelona, [2020]. ISBN 9788491684398.
- Fournier, C. The manager's path: a guide for tech leaders navigating growth and change [on line]. Beijing, China: O'Reilly, 2017 [Consultation: 06/05/2024]. Available on: https://ebookcentral-proquest-com.recursos.biblioteca.upc.edu/lib/upcatalunya-ebooks/detail.action?pq-origsite=primo&docID=4822919. ISBN 9781491973868.
- Lasa, C.; Álvarez, C.; Heras, R. de las. Métodos ágiles: Scrum, Kanban, Lean. Madrid: Anaya Multimedia, 2017. ISBN 9788441538887.
- Sutherland, J. Scrum: the art of doing twice the work in half the time. London: Crown, 2015. ISBN 9781847941107.