Course guide
330732 - DEIM - Digital Entrepreneurship and Innovation Management

Last modified: 11/07/2025

Unit in charge: Manresa School of Engineering
Teaching unit: 750 - EMIT - Department of Mining, Industrial and ICT Engineering.

Degree: MASTER'S DEGREE IN MACHINE LEARNING AND CYBERSECURITY FOR INTERNET-CONNECTED SYSTEMS (Syllabus 2024). (Optional subject).

Academic year: 2025 **ECTS Credits:** 3.0 **Languages:** English

LECTURER

Coordinating lecturer: Ramon Navarro Bosch

Others:

TEACHING METHODOLOGY

AF1. Attendance and participation in master class. Presentation in class of new content and description of the study materials by the teacher and questions by the students to the teacher in relation to the content that he is explaining or presenting in the master class.
AF2. Attendance and participation in participatory class. Presentation of problems, challenges or case studies that students solve individually or in groups, with the teacher's assistance.
AF3. Carrying out laboratory practice. Completion in the laboratory and under the supervision of the teacher of tasks and experiments defined in the practice script, related to the implementation of the contents of the subject. It normally requires the preparation of a prior study and the preparation of a subsequent report. Possible field trips are considered within this typology.
AF4. Completion of tasks related to project-based learning. Students meet and manage the development of a complex project, organizing and distributing the necessary tasks and resources.
AF5. Presentation and defense of works. Students present to the rest of the class and the teacher how they have carried out the proposed tasks, be it solving problems, carrying out practices or developing projects.
AF6. Autonomous study carried out by the student outside of class hours. The student, autonomously, studies the content taught by the teacher, through notes and other materials provided by the teacher or obtained by the student himself.
AF7. Autonomous work carried out by the student outside of class hours. Tasks carried out autonomously, either individually or in a team, consisting of problem solving, exercises or the development of practices.

LEARNING OBJECTIVES OF THE SUBJECT

- M.11.1 (K) Identify technical and legal resources from the general categories of law and philosophical knowledge to the specific areas of AI and CS, considering the gender perspective and the principles of accessibility, inclusivity and non-discrimination.
- M.11.2 (S) Solve complex industry problems, applying analytical tools, strategy options and methodologies to achieve successful business results.
- M.11.3 (S) Develop high levels of analytical, creative, rational and critical capacity, using different types of information.
- M.11.4 (S) Develop an active, self-directed, and interdependent attitude to work effectively in a team environment, considering the principles of inclusivity and non-discrimination.

CONTENTS

TOPIC 1: Introduction to Digital Entrepreneurship

Description:
This topic introduces students to the concept of digital entrepreneurship, highlighting how it differs from traditional entrepreneurship. It explores global trends, the digital entrepreneur mindset, and the role of innovation ecosystems such as incubators and accelerators. Emphasis will be placed on how technology drives change in business models.

Specific objectives:
- Understand what digital entrepreneurship is and how it differs from traditional models.
- Analyze key success factors in digital startups.
- Explore innovation ecosystems and their support structures.
- Identify major digital business models (platforms, freemium, SaaS, etc.).

Related activities:
All the relevant ones.

Full-or-part-time: 14h
Theory classes: 2h
Laboratory classes: 2h
Self study : 10h

TOPIC 2: Lean Startup and idea validation

Description:
This topic focuses on the Lean Startup methodology to develop and validate early-stage digital business ideas. Students will work with tools such as the Business Model Canvas, Value Proposition Canvas, Personas, and the Validation Canvas. Emphasis is placed on hypothesis testing, iterative development, and user feedback.

Specific objectives:
- Apply the Lean Startup method to iterate on business ideas.
- Design user-centered value propositions.
- Create customer personas and validation plans.
- Design and plan Minimum Viable Product (MVP) experiments.

Related activities:
All the relevant ones.

Full-or-part-time: 15h
Theory classes: 2h
Laboratory classes: 3h
Self study : 10h

TOPIC 3: Startup Finance and Growth

Description:
This topic addresses the fundamentals of startup funding and growth. Students will learn about different financing sources (bootstrapping, business angels, venture capital), how to prepare a pitch deck, and how to plan scalable growth strategies using digital channels.

Specific objectives:
- Identify funding sources and their strategic implications.
- Create a compelling pitch deck.
- Understand startup funding stages and investor expectations.
- Explore digital growth strategies and metrics

Related activities:
All the relevant ones.

Full-or-part-time: 15h
Theory classes: 2h
Laboratory classes: 3h
Self study : 10h

TOPIC 4: Product Let Growth

Description:
This topic introduces the concept of Product-Led Growth (PLG), where the product itself becomes the main driver of user acquisition, retention and monetization. A guest speaker (e.g., founder or product leader) will share real-world insights on how successful digital products grow organically through product design and user engagement.

Specific objectives:
- Understand the principles of product-led growth and its application.
- Identify core product metrics and user activation loops.
- Analyze real product strategies used in PLG environments.
- Gain exposure to real startup experiences through expert testimony.

Related activities:
All the relevant ones.

Full-or-part-time: 15h
Theory classes: 2h
Laboratory classes: 3h
Self study : 10h

TOPIC 5: Leadership, Ethics and Impact

Description:
This topic explores leadership in innovation environments, with a focus on ethics, sustainability, and social responsibility. Students will reflect on the role of entrepreneurial leaders, how to build a positive team culture, and how to address ethical challenges in digital innovation.

Specific objectives:
- Reflect on leadership in contexts of uncertainty and change.
- Identify ethical dilemmas in digital entrepreneurship.
- Design innovative and sustainable organizational cultures.
- Integrate social and environmental impact into business models.

Full-or-part-time: 16h
Theory classes: 2h
Laboratory classes: 3h
Self study : 11h

ACTIVITIES

LECTURES

Description:
Face-to-face sessions specifically focused on understanding the subject content, especially the more theoretical content.

Material:
The support materials are:
- Main references of the subject.

Delivery:
Class participation and case study contribute to overall grade variable CA3.

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

LABORATORY WORK

Description:
Students will evolve an idea on the different phases of their life.

Delivery:
- Business model development
- Validation assignment
- Project report and final pitch presentation

The business model development contributes to the overall grade variable CA1.
The validation assignment contributes to overall grade variable CA2.
The project report and final pitch presentation with peer assessment contribute to overall grade variable FP.

Full-or-part-time: 14h
Laboratory classes: 14h

INDEPENDENT STUDY

Description:
Independent study consists of studying to understand and solidify knowledge, vocabulary and techniques either alone or in a group.

Material:
The support materials are:
- Main references of the subject.
- Collection of tutorials of the subject

Full-or-part-time: 51h
Self study: 51h

GRADING SYSTEM

The final grade is calculated with the following weights:

Overall grade = 0.20 * CA1 + 0.20 * CA2 + 0.20 * CA3 + 0.40 * FP

Continuous activities include:
• CA1: Business model development
• CA2: Validation assignment
• CA3: Class participation and case study

Final project FP includes:
• Project report
• Final pitch presentation
• Peer assessment

EXAMINATION RULES.

The activities will be carried out following the uses and customs of academic work and, in particular, the following guidelines will be respected:

- All activities marked as individual must be completed independently.
- Deadlines and submission conditions are strictly mandatory.
- Projects not submitted will be graded with 0.
- Attendance in guest sessions and final pitch is required.
- Any plagiarism will result in automatic failure of the course.

BIBLIOGRAPHY

Complementary:
- Ellis, Sean ; Brown, Morgan. Hacking growth: how today's fastest-growing companies drive breakout success [on line]. Westminster: Crown/Archetype, 2017 [Consultation: 13/10/2025]. Available on: https://ebookcentral-proquest-com.recursos.biblioteca.upc.edu/lib/upcatalunya-ebooks/detail.action?pq-origsite=primo&docID=6042460. ISBN 978-0451497215.
- Osterwalder, Alexander; Pigneur, Yves; Clark, Tim. Business model generation: a handbook for visionaries, game changers, and challengers [on line]. Hoboken, New Jersey: John Wiley & Sons, cop. 2010 [Consultation: 26/09/2025]. Available on: https://ebookcentral-proquest-com.recursos.biblioteca.upc.edu/lib/upcatalunya-ebooks/detail.action?pq-origsite=primo&docID=581476. ISBN 9780470876411.
- Ries, Eric. The Lean startup: how today's entrepreneurs use continuous innovation to create radically successful businesses [on line]. New York: Crown Business, 2011 [Consultation: 26/09/2025]. Available on: https://research-ebsco-com.recursos.biblioteca.upc.edu/c/ik5pvi/search/details/6nie273rpr?db=nlebk. ISBN 9780307887917.
- Blank, Steven G; Dorf, Bob. The startup owner's manual: the step-by-step guide for building a great company [on line]. New Jersey: Wiley, 2020Available on: https://research-ebsco-com.recursos.biblioteca.upc.edu/c/ik5pvi/search/details/4hvyinkt3j?db=nlebk. ISBN 9781119690672.