Course guide
295108 - 295II023 - Technology Management

Last modified: 03/03/2026

Unit in charge: Barcelona East School of Engineering
Teaching unit: 732 - OE - Department of Management.

Degree: MASTER'S DEGREE IN INTERDISCIPLINARY AND INNOVATIVE ENGINEERING (Syllabus 2019). (Compulsory subject).

Academic year: 2025 **ECTS Credits:** 6.0 **Languages:** English

LECTURER

Coordinating lecturer: JORGE OLIVELLA NADAL

Others: Segon quadrimestre:
JORGE OLIVELLA NADAL - Grup: T1
JORDI VILA CASTAÑER - Grup: T1

PRIOR SKILLS

You must have passed the subject Technological Innovation or another with a similar content

DEGREE COMPETENCES TO WHICH THE SUBJECT CONTRIBUTES

Specific:
CEMCEAM-07. (ENG) Gestionar la Investigación, Desarrollo e Innovación Tecnológica, atendiendo a la transferencia de tecnología y los derechos de propiedad y de patentes
CEMUEII-05. Apply predictive analytics to identify risks and opportunities for innovation in different areas of the company, planning and managing a project to create a new technological product and its business model.
CEMUEII-07. Identify and evaluate internal and external technologies, both consolidated and emerging, and propose management actions in accordance with the company's strategy. Plan and manage RDI projects and recognize the procedures to obtain public-private financing for the mentioned projects.

Generical:
CGMUEII-02. To manage, plan and supervise multidisciplinary teams according to technological creativity, business opportunity, social impact and sustainable development.
CGMUEII-03. Analyze the economic, social and environmental impact of technical solutions to base strategic decisions on criteria of objectivity, transparency and professional ethics.
CGMUEII-04. Transfer technological solutions in the form of products, services, processes or facilities in an efficient and sustainable manner, with an attitude of leadership and entrepreneurial spirit.

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.
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.

TEACHING METHODOLOGY

The teaching of the course is based on project-based learning

LEARNING OBJECTIVES OF THE SUBJECT

Upon completion of the course, the student should be able to plan and manage RDI projects.

STUDY LOAD

Type	Hours	Percentage
Self study	96,0	64.00
Hours small group	13,5	9.00
Hours large group	40,5	27.00

Total learning time: 150 h

CONTENTS

R&D Project Management

Description:
Introduction to R&D Project Management: Definition, challenges, and best practices.
Agile Project Management: Principles, methodologies (Scrum, Kanban), and benefits for R&D projects.
Phase-Gate Process: Stage-gate model, decision points, and risk management in R&D.
Defining Project Needs: Identifying and documenting clear project requirements, objectives, and scope.
Building a Business Case: Justification, cost-benefit analysis, and value proposition for R&D projects.
Project Management Plan: Developing a comprehensive plan including timelines, resources, and deliverables.

Full-or-part-time: 37h 30m
Theory classes: 13h 30m
Self study : 24h

R&D proposal writing

Description:
Financial Planning and Costs: Budgeting, cost estimation, and financial forecasting for R&D projects.
Commercialization Options:
- New Company Startup formation, funding strategies, and entrepreneurial considerations.
- Existing Company. Integration into current operations, leveraging existing resources, and internal approvals.
- Selling to Another Company. Licensing, technology transfer, and negotiation strategies.
- Public Financing. Government grants, subsidies, and funding programs for R&D.
- Open Innovation. Collaborative models, partnerships, and external knowledge sourcing.

Proposal Writing for Internal Funding: Communicating project value, aligning with company strategy, and securing internal buy-in.
Proposal Writing for Investors: Pitch decks, business plans, and attracting private investment.
Proposal Writing for Public Grants: Understanding grant requirements, writing compelling narratives, and demonstrating impact.
Intellectual Property and Legal Considerations: Protecting inventions, patents, trademarks, and navigating legal frameworks.

Full-or-part-time: 37h 30m
Theory classes: 13h 30m
Self study : 24h

GRADING SYSTEM

Block 1 class activities: 30%
Block 2 class activities: 30%
Project: 40%

BIBLIOGRAPHY

Basic:
- Nicholas, John M.; Steyn, Herman. Project management for engineering, business and technology. 5th ed. Abingdon, Oxon: Routledge, 2017. ISBN 1138937347.

Complementary:
- Armstrong, Paul. Disruptive technologies : understand, evaluate, respond. London: Kogan Page, [2017]. ISBN 9780749477288.