

Course guide

295464 - 295TM115 - Technological Innovation I

Last modified: 02/10/2025

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

Degree: MASTER'S DEGREE IN MECHANICAL TECHNOLOGIES (Syllabus 2024). (Optional subject).

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

LECTURER

Coordinating lecturer: JORGE OLIVELLA NADAL

Others:

TEACHING METHODOLOGY

The teaching of the course is based on different methodologies (Master classes, seminars, workshops, projects) prioritizing active learning and "learning by doing" through exercises and team projects.

LEARNING OBJECTIVES OF THE SUBJECT

This course aims to provide students with an experience-based introduction into the technology-based innovation. A real life simulation of the process that innovators go through when considering a technological business opportunity will be performed. To do so, the different steps of the innovation process will be considered. In particular, the phases considered will be: (1) analysis of a technology opportunity, (2) definition of a proposal, and (3) presentation of a proposal.

At the end of the course, the student will be able to use the tools analysis of analysis that are used in the innovation world to assess a technological business opportunity and to present the results appropriately.

STUDY LOAD

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

Total learning time: 150 h

CONTENTS

Analysis of a technological opportunity

Description:

Obtaining of information
Level of development
Comparison of alternatives
Technology forecasting

Full-or-part-time: 37h 30m

Theory classes: 13h 30m

Self study : 24h

Innovation tools

Description:

CX/Design thinking
Business Model Innovation
Blue Ocean
Tech trends

Full-or-part-time: 37h 30m

Theory classes: 13h 30m

Self study : 24h

GRADING SYSTEM

Coursework from Block 1: 30%

Mid-term project document and presentation: 20%

Coursework from Block 2: 30%

End-of-course project document and presentation: 20%

There is no resit/retake for this subject.

BIBLIOGRAPHY

Basic:

- Lannon, John M. Technical communication [on line]. 14th ed. Boston: Pearson Education Limited, [2016] [Consultation: 14/09/2022]. Available on: <https://ebookcentral-proquest-com.recursos.biblioteca.upc.edu/lib/upcatalunya-ebooks/detail.action?pq-origsite=primo&docID=5186037>. ISBN 9781292154305.
- 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: 14/09/2022]. Available on: <https://ebookcentral-proquest-com.recursos.biblioteca.upc.edu/lib/upcatalunya-ebooks/detail.action?pq-origsite=primo&docID=581476>. ISBN 9780470876411.
- Trott, Paul. Innovation management and new product development. Sixth Edition. Harlow: Pearson, [2017]. ISBN 9781292133423.
- Olivella Nadal, Jordi. Technology evaluation for entrepreneurs [on line]. Copenhagen: Bookboon.com, 2018 [Consultation: 14/09/2022]. Available on: <https://yourknow.com/uploads/books/technology-evaluation-for-entrepreneurs.pdf>. ISBN 9788740323603.
- Bombardó, C.; Aguilar, M. ; Barahona, C. Technical writing : a guide for effective communication [on line]. Barcelona: Edicions UPC, 2007 [Consultation: 08/02/2018]. Available on: <http://hdl.handle.net/2099.3/36667>. ISBN 9788483019276.