

Technology Innovation (E900544)

Course size *(nominal values; actual values may depend on programme)*

Credits 6.0

Study time 180 h

Course offerings in academic year 2023-2024

A (semester 1)

English

Gent

Lecturers in academic year 2023-2024

Olivella, Jordi

BARCELO3 lecturer-in-charge

Offered in the following programmes in 2023-2024

[International Master of Science in Fire Safety Engineering](#)

crdts

6

offering

A

Teaching languages

English

Keywords

Leadership, entrepreneurial, creativity, research, innovation

Position of the course

This is a course offered to students from the Master's degree of Interdisciplinary and Innovative Engineering, Master's degree in Chemical Engineering – Smart Chemical Factories and elective to students from the International Master of Science in Fire Safety Engineering. At course completion, students must be able to apply methods and techniques to identify opportunities for innovation and to demonstrate ability to plan and manage innovative projects, products and technological services.

Contents

- 1 Innovation tools. CX/Design thinking - business model innovation – Blue Ocean - Tech trends
- 2 Data driven innovation. Methods and software. Data analysis use cases: market segmentation, churn analysis, SNA, process innovation, competitor analysis
- 3 Strategy of innovation. Innovation cycle – Innovation ecosystem – technology roadmap – innovation strategy plan

Initial competences

Gather, look up, interpret, integrate and present relevant information in a systematic manner.

Final competences

- 1 Carry out the appropriate research, undertake the design and manage the development of engineering solutions, in new or little-known environments, relating creativity, originality, innovation and technology transfer.
- 2 Adapt to changes, being able to apply new and advanced technologies and other relevant developments, with initiative and entrepreneurial spirit.
- 3 Analyse the economic, social and environmental impact of technical solutions to base strategic decisions on criteria of objectivity, transparency and professional ethics.
- 4 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.

Conditions for credit contract

This course unit cannot be taken via a credit contract

Conditions for exam contract

This course unit cannot be taken via an exam contract

Teaching methods

Group work, Seminar, Lecture, Independent work

Extra information on the teaching methods

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 materials and price

All material needed can be found digitally on the course web (for free)

References

- Mitchell, Ryan E. Web scraping with Python: collecting data from the modern web. 2nd ed. Sebastopol, CA: O'Reilly, [2018]. ISBN 9781491985571.
- - Ulrich, Karl T.; Eppinger, Steven D.; Yang, Maria C. Product design and development. 7th ed. New York: McGraw-Hill Education, [2019]. ISBN 9781260566437

Course content-related study coaching

Interactive support through the electronic learning environment, in person after agreement on date and immediately before and after hearing classes.

Assessment moments

continuous assessment

Examination methods in case of periodic assessment during the first examination period**Examination methods in case of periodic assessment during the second examination period****Examination methods in case of permanent assessment**

Assignment

Possibilities of retake in case of permanent assessment

examination during the second examination period is not possible

Calculation of the examination mark

Class assignments of blocks 1, 2 and 3: 20% each. Course project: 40%

Facilities for Working Students

There are no special facilities for working students