



## Course guide

# 240434 - 240PE037 - Service-Learning Project in the Stem Field 2

Last modified: 29/06/2023

**Unit in charge:** Barcelona School of Industrial Engineering  
**Teaching unit:** 732 - OE - Department of Management.  
709 - DEE - Department of Electrical Engineering.  
749 - MAT - Department of Mathematics.  
712 - EM - Department of Mechanical Engineering.

**Degree:** BACHELOR'S DEGREE IN INDUSTRIAL TECHNOLOGY ENGINEERING (Syllabus 2010). (Optional subject).

**Academic year:** 2023    **ECTS Credits:** 6.0    **Languages:** Catalan, Spanish

## LECTURER

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**Coordinating lecturer:** Boix Aragones, Oriol

**Others:** Peña Carrera, Marta  
Doria Cerezo, Arnau  
Lusa Garcia, Amaia  
Minguella Canela, Joaquim  
Boix Aragones, Oriol

## DEGREE COMPETENCES TO WHICH THE SUBJECT CONTRIBUTES

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### Transversal:

04 COE. EFFICIENT ORAL AND WRITTEN COMMUNICATION. Communicating verbally and in writing about learning outcomes, thought-building and decision-making. Taking part in debates about issues related to the own field of specialization.

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.

05 TEQ. TEAMWORK. Being able to work as a team player, either as a member or as a leader. Contributing to projects pragmatically and responsibly, by reaching commitments in accordance to the resources that are available.

07 AAT. SELF-DIRECTED LEARNING. Detecting gaps in one's knowledge and overcoming them through critical self-appraisal. Choosing the best path for broadening one's knowledge.

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.

CT8. Gender perspective. To know and to understand, from the scope of the degree itself, the inequalities due to sex and gender in society; to integrate the different needs and preferences based on sex and gender in the design of solutions and problem solving.

## TEACHING METHODOLOGY

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## LEARNING OBJECTIVES OF THE SUBJECT

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## CONTENTS

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### title english

**Description:**

content english

**Full-or-part-time:** 30h

Theory classes: 12h

Guided activities: 9h

Self study : 9h

### title english

**Description:**

content english

**Full-or-part-time:** 15h

Theory classes: 6h

Guided activities: 4h 30m

Self study : 4h 30m

### title english

**Description:**

content english

**Full-or-part-time:** 15h

Theory classes: 6h

Guided activities: 4h 30m

Self study : 4h 30m

### title english

**Description:**

content english

**Full-or-part-time:** 60h

Theory classes: 24h

Guided activities: 18h

Self study : 18h

### title english

**Description:**

content english

**Full-or-part-time:** 30h

Theory classes: 12h

Guided activities: 9h

Self study : 9h



## GRADING SYSTEM

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## BIBLIOGRAPHY

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### Basic:

- Fernandez, M.; Cabos, S.; Roca, E. ; Serrano, M. . "Let's Go Engineering". Congrés Dones, Ciència i Tecnologia, WSCITECH 2019. p. 221–228.
- García, A. L. G., Hurtado, A. G., & Aranda, B. E.. "Why Don't Girls Choose Technological Studies?". Adolescents' Stereotypes and Attitudes towards Studies Related to Medicine or Engineering. Psicooncologia 12(1) [on line]. p. 129–140Available on: <https://doi.org/10.5209/rev>.- Sáinz, M., Castaño, C., Meneses, J., Fàbregues, S., Müller, J., Rodó, M., ... & Garrido, N.. "¿Por qué no hay más mujeres STEM? Se buscan ingenieras, físicas y tecnólogas.". Universitat Politècnica de Catalunya, Aquí STEAM UPC [on line]. Available on: <https://aquisteam.upc.edu/ca>.- Bauer, M. W.. Why Europe's girls aren't studying STEM [on line]. UK.: London. , 2016Available on: <https://news.microsoft.com/europe/features/dont-european-girls-like-science-technology/>.
- Olmedo-Torre, N.; Peña, M.; López, M. ; Sanz, M. ; López, D.. "Mentoring female high students for a STEM career". Frontiers in Education Conference [on line]. p. 1–5Available on: 10.1109/FIE.2018.8658683, 2018..