



Course guide

340121 - ELEC-K4009 - Electrotechnics

Last modified: 19/05/2025

Unit in charge: Vilanova i la Geltrú School of Engineering
Teaching unit: 709 - DEE - Department of Electrical Engineering.

Degree: BACHELOR'S DEGREE IN ELECTRICAL ENGINEERING (Syllabus 2009). (Optional subject).
BACHELOR'S DEGREE IN INDUSTRIAL ELECTRONICS AND AUTOMATIC CONTROL ENGINEERING (Syllabus 2009). (Compulsory subject).
BACHELOR'S DEGREE IN MECHANICAL ENGINEERING (Syllabus 2009). (Optional subject).

Academic year: 2025 **ECTS Credits:** 6.0 **Languages:** Catalan, Spanish

LECTURER

Coordinating lecturer:

Others:

DEGREE COMPETENCES TO WHICH THE SUBJECT CONTRIBUTES

Specific:

1. CE19. Applied knowledge in electric engineering.

Transversal:

2. EFFECTIVE USE OF INFORMATION RESOURCES - Level 2. Designing and executing a good strategy for advanced searches using specialized information resources, once the various parts of an academic document have been identified and bibliographical references provided. Choosing suitable information based on its relevance and quality.
3. SELF-DIRECTED LEARNING - Level 2: Completing set tasks based on the guidelines set by lecturers. Devoting the time needed to complete each task, including personal contributions and expanding on the recommended information sources.

TEACHING METHODOLOGY

LEARNING OBJECTIVES OF THE SUBJECT

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STUDY LOAD

| Type | Hours | Percentage |
|-------------------|-------|------------|
| Hours small group | 15,0 | 10.00 |
| Self study | 90,0 | 60.00 |
| Hours large group | 45,0 | 30.00 |

Total learning time: 150 h

CONTENTS

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Description:

xx

Full-or-part-time: 25h 32m

Theory classes: 4h

Practical classes: 4h

Laboratory classes: 2h

Self study : 15h 32m

x

Description:

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Full-or-part-time: 28h 36m

Theory classes: 5h

Practical classes: 4h

Laboratory classes: 2h

Self study : 17h 36m

title english

Description:

content english

Full-or-part-time: 28h 36m

Theory classes: 5h

Practical classes: 4h

Laboratory classes: 2h

Self study : 17h 36m

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Description:

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Full-or-part-time: 13h 16m

Theory classes: 4h

Laboratory classes: 2h

Self study : 7h 16m



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Description:

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Full-or-part-time: 22h 28m

Theory classes: 3h

Practical classes: 4h

Laboratory classes: 2h

Self study : 13h 28m

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Description:

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Full-or-part-time: 8h 12m

Theory classes: 3h

Self study : 5h 12m

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Description:

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Full-or-part-time: 5h 08m

Theory classes: 2h

Self study : 3h 08m

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Description:

content english

Full-or-part-time: 9h 12m

Theory classes: 3h

Laboratory classes: 2h

Self study : 4h 12m

GRADING SYSTEM



BIBLIOGRAPHY

Basic:

- Chapman, Stephen J. Máquinas eléctricas [on line]. 5a ed. México [etc.]: McGraw-Hill, 2012 [Consultation: 19/02/2024]. Available on: https://www.ingebook.com/ib/NPcd/IB_BooksVis?cod_primaria=1000187&codigo_libro=4297. ISBN 9786071507242.
- Sanjurjo Navarro, Rafael. Máquinas eléctricas [on line]. Madrid: García-Maroto, 2011 [Consultation: 16/02/2024]. Available on: https://www-ingebook-com.recursos.biblioteca.upc.edu/ib/NPcd/IB_BooksVis?cod_primaria=1000187&codigo_libro=193. ISBN 9788415214144.
- Montané Sangrá, Paulino. Protecciones en las instalaciones eléctricas : evolución y perspectivas. 2a ed. Barcelona: Marcombo Boixareu, 1990. ISBN 8426706886.
- Andrada Gascón, Pere. SRM drives for electric traction [on line]. Barcelona: Universitat Politècnica de Catalunya, Barcelona Tech, 2019 [Consultation: 28/04/2022]. Available on: <https://upcommons.upc.edu/handle/2117/187821>. ISBN 9788498808179.
- Sanjurjo Navarro, Rafael. Máquinas eléctricas : 51 problemas útiles [on line]. Madrid: García-Maroto Editores, 2019 [Consultation: 16/02/2024]. Available on: https://www-ingebook-com.recursos.biblioteca.upc.edu/ib/NPcd/IB_BooksVis?cod_primaria=1000187&codigo_libro=8435. ISBN 9788417969073.
- Rashid, Muhammad H. Electrónica de potencia [on line]. 4a ed. México, D.F: Pearson, 2015 [Consultation: 19/03/2024]. Available on: https://www-ingebook-com.recursos.biblioteca.upc.edu/ib/NPcd/IB_BooksVis?cod_primaria=1000187&codigo_libro=6191. ISBN 9786073233286.
- Fraile Mora, Jesús. Máquinas eléctricas. 8a ed. Madrid: Ibergarceta, 2016. ISBN 9788416228669.