

Course guide

280611 - 280611 - Naval Electricity and Electronics

Last modified: 27/05/2024

Unit in charge: Barcelona School of Nautical Studies
Teaching unit: 709 - DEE - Department of Electrical Engineering.
710 - EEL - Department of Electronic Engineering.

Degree: BACHELOR'S DEGREE IN NAUTICAL SCIENCE AND MARITIME TRANSPORT (Syllabus 2010). (Compulsory subject).

Academic year: 2024 **ECTS Credits:** 6.0 **Languages:** Spanish

LECTURER

Coordinating lecturer: ROMÀ MACARIO CHIB

Others: Primer quadrimestre:
ROMÀ MACARIO CHIB - GNTM
MONTserrat MONTALÀ PALAU - GNTM

DEGREE COMPETENCES TO WHICH THE SUBJECT CONTRIBUTES

Specific:

2. Knowledge of circuit theory and electrical characteristics of marine machinery and capacity to implement the operation and operation of the ship of this knowledge.
3. Knowledge of electronics applied to the ship and offshore installations and their application to board.

Transversal:

1. TEAMWORK - Level 2. Contributing to the consolidation of a team by planning targets and working efficiently to favor communication, task assignment and cohesion.

TEACHING METHODOLOGY

LEARNING OBJECTIVES OF THE SUBJECT

STUDY LOAD

Type	Hours	Percentage
Self study	90,0	60.00
Hours large group	60,0	40.00

Total learning time: 150 h

CONTENTS

(ENG) Lleis de Kirchhoff.

Full-or-part-time: 6h

Theory classes: 2h

Practical classes: 1h

Laboratory classes: 1h

Self study : 2h

(ENG) Mètodes d'anàlisi.

Full-or-part-time: 9h

Theory classes: 2h

Practical classes: 1h

Laboratory classes: 1h

Self study : 5h

(ENG) Elements dinàmics.

Full-or-part-time: 5h

Theory classes: 2h

Practical classes: 1h

Self study : 2h

(ENG) Anàlisi de circuits de corrent alterna.

Full-or-part-time: 14h

Theory classes: 4h

Practical classes: 3h

Laboratory classes: 2h

Self study : 5h

(ENG) Proteccions de les instal·lacions elèctriques.

Full-or-part-time: 6h

Theory classes: 2h

Practical classes: 1h

Self study : 3h

(ENG) Màquines elèctriques.

Full-or-part-time: 14h

Theory classes: 4h

Practical classes: 1h

Laboratory classes: 2h

Self study : 7h

(ENG) Introducció a l'electrònica.



(ENG) Dispositius semiconductors.

(ENG) Circuits amb semiconductors.

(ENG) Amplificació i circuits de ràdio.

(ENG) Nocions d'electrònica de potència.

(ENG) Antenes.

(ENG) Emmagatzement de l'energia elèctrica.

GRADING SYSTEM

BIBLIOGRAPHY

Basic:

- Johnson, D.E.; Hilburn, J.L.; Johnson J.R; Scott, P.D. Análisis básico de circuitos eléctricos. 5a ed. México: Prentice-Hall Hispanoamericana, 1996. ISBN 9688806382.
- Nilsson, J.W.; Riedel, S.A. Introducción a Pspice. Wilmington: Addison-Wesley Iberoamericana, 1994. ISBN 0201625857.
- Carrescia, Vito. Fondamenti di sicurezza elettrica. Milán: Ulrico Hoepli, 1995. ISBN 8820314339.
- Rizzoni, Giorgio. Principios y aplicaciones de la ingeniería eléctrica. 3a ed. Bogotá: McGraw-Hill Interamericana, 2002. ISBN 9584103024.
- Carlson, A. Bruce. Circuitos : ingeniería, conceptos y análisis de circuitos eléctricos lineales. México: International Thomson, 2001. ISBN 9706860339.
- Dorf, Richard C. Circuitos eléctricos : introducción al análisis y diseño. 3a ed. Barcelona: Marcombo, 2000. ISBN 8426712711.
- Nahvi, Mahmood; Edminister, Joseph A.. Circuitos eléctricos y electrónicos. 4a ed. Madrid: McGraw-Hill, 2005. ISBN 8448145437.
- García, E.; Ibañez, J.; Gil, L. PSpice : simulación y análisis de circuitos analógicos asistida por ordenador. Madrid: Paraninfo, 1995. ISBN 84-283-2148-5.
- Salcedo Carretero, José M.; López Galvan, Jesús. Análisis de circuitos eléctricos lineales : problemas resueltos. Wilmington: Addison-Wesley Iberoamericana, 1995. ISBN 0-201-62577-6.
- Conte, Gaetano. Impianti elettrici. 4a ed. Milano: Ulrico Hoepli, 2002. ISBN 8820330148.
- Chapman, S. J. Máquinas eléctricas [on line]. 5a ed. México: McGraw-Hill Education, 2012 [Consultation: 01/09/2022]. Available on: https://www-ingebook-com.recursos.biblioteca.upc.edu/ib/NPcd/IB_BooksVis?cod_primaria=1000187&codigo_libro=4297. ISBN 9781456218454].
- Closas Torrente, Lluís. Electrònica de les radiocomunicacions navals. Tarragona: Nautical Union, 2012. ISBN 9788494023651.