



Course guide

330096 - TN - Nuclear Technology

Last modified: 25/04/2024

Unit in charge: Manresa School of Engineering
Teaching unit: 750 - EMIT - Department of Mining, Industrial and ICT Engineering.

Degree: BACHELOR'S DEGREE IN CHEMICAL ENGINEERING (Syllabus 2009). (Optional subject).
BACHELOR'S DEGREE IN ELECTRICAL ENGINEERING (Syllabus 2009). (Optional subject).
BACHELOR'S DEGREE IN INDUSTRIAL ELECTRONICS AND AUTOMATIC CONTROL ENGINEERING (Syllabus 2009). (Optional subject).
BACHELOR'S DEGREE IN MECHANICAL ENGINEERING (Syllabus 2009). (Optional subject).
BACHELOR'S DEGREE IN CHEMICAL ENGINEERING (Syllabus 2016). (Optional subject).
BACHELOR'S DEGREE IN INDUSTRIAL ELECTRONICS AND AUTOMATIC CONTROL ENGINEERING (Syllabus 2016). (Optional subject).
BACHELOR'S DEGREE IN MECHANICAL ENGINEERING (Syllabus 2016). (Optional subject).

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

LECTURER

Coordinating lecturer: ENRIQUETA FERRERES SOLER

Others: RAMON TARRUELLA BOIXADERA

DEGREE COMPETENCES TO WHICH THE SUBJECT CONTRIBUTES

Specific:

1. (ENG) Capacitat per conèixer, entendre i utilitzar els principis fonamentals en els quals es basen l'aprofitament de l'energia nuclear i la protecció radiològica.

Transversal:

2. EFFICIENT ORAL AND WRITTEN COMMUNICATION - Level 3. Communicating clearly and efficiently in oral and written presentations. Adapting to audiences and communication aims by using suitable strategies and means.
3. SELF-DIRECTED LEARNING - Level 3. Applying the knowledge gained in completing a task according to its relevance and importance. Deciding how to carry out a task, the amount of time to be devoted to it and the most suitable information sources.

TEACHING METHODOLOGY

LEARNING OBJECTIVES OF THE SUBJECT

STUDY LOAD

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

Total learning time: 150 h

CONTENTS

(ENG) Títol del contingut 1: FONAMENTS DE FÍSICA NUCLEAR

Full-or-part-time: 60h

Theory classes: 24h

Self study : 36h

(ENG) Títol del contingut 2: CENTRALS NUCLEARS

Full-or-part-time: 60h

Theory classes: 24h

Self study : 36h

(ENG) Títol del contingut 3: PROTECCIÓ RADIOLÒGICA

Full-or-part-time: 30h

Theory classes: 12h

Self study : 18h

ACTIVITIES

(ENG) TÍTOL DE L'ACTIVITAT 1: PROVA INDIVIDUAL D'AVALUACIÓ CONTÍNUA (CONTINGUT 1,3)

Full-or-part-time: 7h

Theory classes: 2h

Self study: 5h

(ENG) TÍTOL DE L'ACTIVITAT 2: PROVA INDIVIDUAL D'AVALUACIÓ CONTÍNUA (CONTINGUT 2)

Full-or-part-time: 7h

Theory classes: 2h

Self study: 5h

(ENG) TÍTOL DE L'ACTIVITAT 3: PROVA FINAL (CONTINGUT 1, 2 I 3)

Full-or-part-time: 10h

Theory classes: 3h

Self study: 7h

(ENG) TÍTOL DE L'ACTIVITAT 4: TREBALL DE RECERCA (CONTINGUT 1, 2 I 3)

Full-or-part-time: 25h

Theory classes: 1h

Self study: 24h



GRADING SYSTEM

BIBLIOGRAPHY

Basic:

- Hore-Lacy, I. Nuclear energy in the 21st century [on line]. 2nd ed. London: World Nuclear University Press, 2010 [Consultation: 10/06/2022]. Available on : <https://www-sciencedirect-com.recursos.biblioteca.upc.edu/book/9780123736222/nuclear-energy-in-the-21st-century>. ISBN 9780955078415.
- Glasstone, Samuel; Sesonske, Alexander. Nuclear reactor engineering: reactor design basics. New Delhi: CBS, 1998. ISBN 8123906471.
- Glasstone, Samuel; Sesonske, Alexander. Nuclear reactor engineering: reactor systems engineering. 4th ed. New York: Chapman & Hall, 1994. ISBN 0412985314.
- Ortega Aramburu, Xavier; Jorba, Jaume, eds. Radiaciones ionizantes: utilización y riesgos [on line]. 2ª ed. Barcelona: Edicions UPC, 1996-2001 [Consultation: 12/11/2020]. Available on: <http://hdl.handle.net/2099.3/36551>. ISBN 8483011700.
- Tipler, Paul Allen; Mosca, Gene. Física per a la ciència i la tecnologia, Vol. 1 [on line]. Barcelona: Reverté, 2010 [Consultation: 27/05/2022]. Available on : <https://ebookcentral-proquest-com.recursos.biblioteca.upc.edu/lib/upcatalunya-ebooks/detail.action?docID=5758258>. ISBN 9788429144321.
- Tipler, Paul Allen; Mosca, Gene. Física per a la ciència i la tecnologia, Vol. 2 [on line]. Barcelona [etc.]: Reverté, 2010 [Consultation: 10/06/2022]. Available on : <https://ebookcentral-proquest-com.recursos.biblioteca.upc.edu/lib/upcatalunya-ebooks/detail.action?docID=5758259>. ISBN 9788429144338.