



Course guide

220302 - 220302 - Production and Design Aerospace

Last modified: 10/07/2024

Unit in charge: Terrassa School of Industrial, Aerospace and Audiovisual Engineering

Teaching unit: 712 - EM - Department of Mechanical Engineering.

Degree: MASTER'S DEGREE IN AERONAUTICAL ENGINEERING (Syllabus 2014). (Compulsory subject).

Academic year: 2024 **ECTS Credits:** 5.0 **Languages:** Spanish

LECTURER

Coordinating lecturer: Xavier Salueña

Others: Xavier Salueña - José Antonio Ortiz

DEGREE COMPETENCES TO WHICH THE SUBJECT CONTRIBUTES

Specific:

CG04-MUEA. (ENG) Capacitat d'integrar sistemes aeroespacials complexos i equips de treball multidisciplinaris.

CG09-MUEA. (ENG) Competència en totes aquelles àrees relacionades amb les tecnologies aeroportuàries, aeronàutiques o espacials que, per la seva naturalesa, no siguin exclusives d'altres branques de l'enginyeria.

CE06. MUEA/MASE: Sufficient knowledge of the metal and composite materials used in the manufacture of aerospace vehicles.

CE07. MUEA/MASE: Knowledge and skills that enable the manufacture of aerospace vehicles to be understood and executed.

CE15. MUEA/MASE: Sufficient knowledge of the materials and manufacturing processes used in propulsion systems.

CE17. MUEA/MASE: The ability to carry out the mechanical design of a propulsion system's components.

Basic:

CB06. Manage original concepts in research projects.

CB08. Generate decision from incomplete information assuming its social and ethical responsibilities.

CB09. Improve technical communication of results.

CB10. Improve self-learning capacity

TEACHING METHODOLOGY

LEARNING OBJECTIVES OF THE SUBJECT

The main

STUDY LOAD

Type	Hours	Percentage
Hours large group	30,0	24.00
Hours small group	15,0	12.00
Self study	80,0	64.00

Total learning time: 125 h



CONTENTS

title english

Description:

content english

Full-or-part-time: 24h

Theory classes: 6h

Laboratory classes: 2h

Self study : 16h

title english

Description:

content english

Full-or-part-time: 18h

Theory classes: 4h

Laboratory classes: 4h

Self study : 10h

title english

Description:

content english

Full-or-part-time: 68h

Theory classes: 16h

Laboratory classes: 8h

Self study : 44h

title english

Description:

content english

Full-or-part-time: 15h

Theory classes: 4h

Laboratory classes: 1h

Self study : 10h

ACTIVITIES

name english

Full-or-part-time: 43h

Self study: 25h

Theory classes: 18h



name english

Full-or-part-time: 35h
Self study: 20h
Laboratory classes: 15h

name english

Full-or-part-time: 14h
Self study: 12h
Theory classes: 2h

name english

Full-or-part-time: 16h
Self study: 14h
Theory classes: 2h

name english

Full-or-part-time: 17h
Self study: 9h
Theory classes: 8h

GRADING SYSTEM

BIBLIOGRAPHY

Basic:

- Campbell F.C. Manufacturing technology for aerospace structural materials [on line]. Amsterdam: Elsevier, 2006 [Consultation: 03/05/2022]. Available on: <https://www.sciencedirect-com.recursos.biblioteca.upc.edu/book/9781856174954/manufacturing-technology-for-aerospace-structural-materials>. ISBN 1856174956.
- Kalpakjian S.; Schmid, S. R. Manufactura, ingeniería y tecnología [on line]. 7ª ed. México [etc.]: Pearson Educación, 2014 [Consultation: 03/05/2022]. Available on: https://www.ingebook-com.recursos.biblioteca.upc.edu/ib/NPcd/IB_BooksVis?cod_primaria=1000187&codigo_libro=5323.
- Norma UNE-EN 9100. AENOR M 40138:2003.
- Osiander, R.; Garrison, M. A.; Champion, J. L. MEMS and microstructures in aerospace applications [on line]. Boca Raton: Taylor & Francis, 2006 [Consultation: 28/05/2024]. Available on: <https://www-taylorfrancis-com.recursos.biblioteca.upc.edu/books/mono/10.1201/9781420027747/>. ISBN 9781315220970.

Complementary:

- Ciurana, Q.; Fernández, A.; Monzón, M. Guía de tecnologías de rapid manufacturing. 2ª ed. rev. y ampl. Girona: Documenta Universitaria, 2008. ISBN 9788496742185.