

Course guide

330401 - F1 - Physics I

Last modified: 04/05/2023

Unit in charge: Manresa School of Engineering
Teaching unit: 750 - EMIT - Department of Mining, Industrial and ICT Engineering.
Degree: BACHELOR'S DEGREE IN MINING ENGINEERING (Syllabus 2016). (Compulsory subject).
Academic year: 2023 **ECTS Credits:** 6.0 **Languages:** Catalan

LECTURER

Coordinating lecturer: Ciriano Nogales, Yolanda
Others: Conangla Triviño, Laura
Lladó Valero, Jordi
Vallbe Mumbrau, Marc
Vilanova Arnau, David
Rota Font, Francesc

DEGREE COMPETENCES TO WHICH THE SUBJECT CONTRIBUTES

Specific:

1. (ENG) Comprensió i domini dels conceptes fonamentals sobre les lleis generals de la mecànica, de les ones i de la termodinàmica, i la seva aplicació per a la resolució de problemes propis de l'enginyeria.

Transversal:

2. EFFICIENT ORAL AND WRITTEN COMMUNICATION - Level 1. Planning oral communication, answering questions properly and writing straightforward texts that are spelt correctly and are grammatically coherent.

TEACHING METHODOLOGY

LEARNING OBJECTIVES OF THE SUBJECT

STUDY LOAD

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

Total learning time: 150 h

CONTENTS

title english

Description:

content english

Full-or-part-time: 18h

Theory classes: 2h

Laboratory classes: 4h

Self study : 12h

title english

Description:

content english

Full-or-part-time: 38h

Theory classes: 8h

Laboratory classes: 7h

Self study : 23h

title english

Description:

content english

Full-or-part-time: 40h

Theory classes: 8h

Laboratory classes: 8h

Self study : 24h

title english

Description:

content english

Full-or-part-time: 34h

Theory classes: 8h

Laboratory classes: 7h

Self study : 19h

title english

Description:

content english

Full-or-part-time: 20h

Theory classes: 4h

Laboratory classes: 4h

Self study : 12h



ACTIVITIES

name english

Full-or-part-time: 8h

Laboratory classes: 4h

Self study: 4h

name english

Full-or-part-time: 5h

Laboratory classes: 2h

Self study: 3h

name english

Full-or-part-time: 5h

Laboratory classes: 2h

Self study: 3h

name english

Full-or-part-time: 5h

Laboratory classes: 2h

Self study: 3h

name english

Full-or-part-time: 5h

Laboratory classes: 2h

Self study: 3h

name english

Full-or-part-time: 7h

Theory classes: 2h

Self study: 5h

name english

Full-or-part-time: 7h

Theory classes: 2h

Self study: 5h



name english

Full-or-part-time: 7h

Theory classes: 2h

Self study: 5h

name english

Full-or-part-time: 13h

Theory classes: 3h

Self study: 10h

name english

Full-or-part-time: 13h

Theory classes: 3h

Self study: 10h

GRADING SYSTEM

BIBLIOGRAPHY

Basic:

- Bauer, W.; Westfall, G. D. Física para ingenierías y ciencias, Vol. 1 [on line]. 2ª ed. México: McGraw-Hill/Interamericana, 2014 [Consultation: 30/07/2020]. Available on: https://www-ingebook-com.recursos.biblioteca.upc.edu/ib/NPcd/IB_BooksVis?cod_primaria=1000187&codigo_libro=5626. ISBN 9786071511911 (V.1).
- Serway, R. A.; Jewett, J. W. Física para ciencias e ingeniería. 7a ed. México: Cengage Learning, 2008. ISBN 9789706868220 (V.1), 9789706868374 (V.2).
- Moran, M. J.; Shapiro, H. N. Fundamentos de termodinámica técnica [on line]. 2ª ed. Barcelona: Reverté, 2004 [Consultation: 10/06/2022]. Available on: <https://ebookcentral-proquest-com.recursos.biblioteca.upc.edu/lib/upcatalunya-ebooks/detail.action?docID=5635437>. ISBN 8429143130.
- Walker, James. S. Physics. 5th ed. Upper Saddle River: Pearson Prentice, 2017. ISBN 9780321976444.
- 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.
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- Young, Hugh D.; Freedman, Roger A. Física universitaria con física moderna, Vol. 2 [on line]. México: Pearson Educación de México, S. A. de C. V., 2018 [Consultation: 08/06/2022]. Available on: https://www-ingebook-com.recursos.biblioteca.upc.edu/ib/NPcd/IB_BooksVis?cod_primaria=1000187&codigo_libro=8237. ISBN 9786073244404.
- Bauer, W; Westfall, Gary D; Bauer, W; Bauer, W. Física para ingeniería y ciencias. Vol. 2 [on line]. Segunda edición. México, D. F: McGraw-Hill Education, [2014] [Consultation: 30/11/2021]. Available on: https://www-ingebook-com.recursos.biblioteca.upc.edu/ib/NPcd/IB_BooksVis?cod_primaria=1000187&codigo_libro=5627. ISBN 9786071511928.
- 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.

Complementary:

- Abad Toribio, Laura; Iglesias Gómez, Laura Mª. Problemas resueltos de física general. 2ª ed. Madrid: Bellisco, 2006. ISBN 8496486273.
- Alcaraz i Sendra, Olga; López López, José; López Solanas, V. Física: problemas y ejercicios resueltos [on line]. Madrid: Pearson Educación, 2006 [Consultation: 02/06/2022]. Available on: https://www-ingebook-com.recursos.biblioteca.upc.edu/ib/NPcd/IB_BooksVis?cod_primaria=1000187&codigo_libro=1249. ISBN 8420544477.
- Ferreres, E.; Mercadé, J.; Conangla, L. Pràctiques de física: graus EPSEM. Manresa: EPSEM, 2018.
- Valiente Cancho, Andrés. Física para ingenieros: 176 problemas útiles [on line]. Ed. estudiante. Madrid: García-Maroto, 2012 [Consultation: 10/06/2022]. Available on: https://www-ingebook-com.recursos.biblioteca.upc.edu/ib/NPcd/IB_BooksVis?cod_primaria=1000187&codigo_libro=1055. ISBN 9788415475194.