

## 330401 - F1 - Physics I

Coordinating unit: 330 - EPSEM - Manresa School of Engineering  
 Teaching unit: 750 - EMIT - Department of Mining, Industrial and ICT Engineering  
 Academic year: 2019  
 Degree: BACHELOR'S DEGREE IN MINING ENGINEERING (Syllabus 2016). (Teaching unit Compulsory)  
 ECTS credits: 6 Teaching languages: Catalan

### Teaching staff

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

### Degree competences to which the subject contributes

#### Specific:

- (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:

- 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.

### Learning objectives of the subject

### Study load

Total learning time: 150h	Hours large group:	0h	0.00%
	Hours medium group:	60h	40.00%
	Hours small group:	0h	0.00%
	Guided activities:	0h	0.00%
	Self study:	90h	60.00%

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### Content

<p>title english</p>	<p>Learning time: 18h Theory classes: 2h Laboratory classes: 4h Self study : 12h</p>
<p>Description: content english</p>	
<p>title english</p>	<p>Learning time: 38h Theory classes: 8h Laboratory classes: 7h Self study : 23h</p>
<p>Description: content english</p>	
<p>title english</p>	<p>Learning time: 40h Theory classes: 8h Laboratory classes: 8h Self study : 24h</p>
<p>Description: content english</p>	
<p>title english</p>	<p>Learning time: 34h Theory classes: 8h Laboratory classes: 7h Self study : 19h</p>
<p>Description: content english</p>	



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title english	Learning time: 20h Theory classes: 4h Laboratory classes: 4h Self study : 12h
Description: content english	

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### Planning of activities

name english	Hours: 8h Laboratory classes: 4h Self study: 4h
name english	Hours: 5h Laboratory classes: 2h Self study: 3h
name english	Hours: 5h Laboratory classes: 2h Self study: 3h
name english	Hours: 5h Laboratory classes: 2h Self study: 3h
name english	Hours: 5h Laboratory classes: 2h Self study: 3h
name english	Hours: 7h Theory classes: 2h Self study: 5h
name english	Hours: 7h Theory classes: 2h Self study: 5h
name english	Hours: 7h Theory classes: 2h Self study: 5h

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name english	Hours: 13h Theory classes: 3h Self study: 10h
name english	Hours: 13h Theory classes: 3h Self study: 10h

### Bibliography

#### Basic:

- Bauer, W.; Westfall, G. D. Física para ingenierías y ciencias. 2ª ed. México: McGraw-Hill/Interamericana, 2014. ISBN 9786071511911 (V.1), 9786071511928 (V.2).
- Moran, M. J.; Shapiro, H. N. Fundamentos de termodinámica técnica. 2ª ed. Barcelona: Reverté, 2004. ISBN 8429143130.
- Young H. D.; Freedman, R. A. Física universitaria: Sears y Zemansky. 13ª ed. México: Pearson Education, 2013-2014. ISBN 9786073221245; 9786073221900.
- Serway, R. A.; Jewett, J. W. Física para ciencias e ingeniería. 7a ed. México: Cengage Learning, 2008. ISBN 9789706868220 (V.1), 9789706868374 (V.2).
- Tipler, Paul Allen; Mosca, Gene. Física per a la ciència i la tecnologia [on line]. Barcelona: Reverté, 2010 [Consultation: 18/06/2019]. Available on: <[https://discovery.upc.edu/iii/encore/record/C\\_\\_Rb1510154?lang=cat](https://discovery.upc.edu/iii/encore/record/C__Rb1510154?lang=cat)>. ISBN 9788429144314.
- Walker, James. S. Physics. 5th ed. Upper Saddle River: Pearson Prentice, 2017. ISBN 9780321976444.

#### 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. Madrid: Pearson Educación, 2006. ISBN 8420544477.
- Valiente Cancho, Andrés. Física para ingenieros: 176 problemas útiles. Ed. estudiante. Madrid: García-Maroto, 2012. ISBN 9788415475194.
- Ferreres, E.; Mercadé, J.; Conangla, L. Pràctiques de física: graus EPSEM. Manresa: EPSEM, 2018.

#### Others resources: