

300201 - FF - Fundamentals of Physics

Coordinating unit:	300 - EETAC - Castelldefels School of Telecommunications and Aerospace Engineering
Teaching unit:	748 - FIS - Department of Physics
Academic year:	2018
Degree:	BACHELOR'S DEGREE IN AEROSPACE SYSTEMS ENGINEERINGS/BACHELOR'S DEGREE IN TELECOMMUNICATIONS SYSTEMS ENGINEERING - NETWORK ENGINEERING (AGRUPACIÓ DE SIMULTANEÏTAT) (Syllabus 2015). (Teaching unit Compulsory) BACHELOR'S DEGREE IN AEROSPACE SYSTEMS ENGINEERING (Syllabus 2015). (Teaching unit Compulsory) BACHELOR'S DEGREE IN AEROSPACE SYSTEMS ENGINEERING/BACHELOR'S DEGREE IN TELECOMMUNICATIONS SYSTEMS ENGINEERING (Syllabus 2015). (Teaching unit Compulsory) BACHELOR'S DEGREE IN AEROSPACE SYSTEMS ENGINEERING/BACHELOR'S DEGREE IN NETWORK ENGINEERING (Syllabus 2015). (Teaching unit Compulsory)
ECTS credits:	6
Teaching languages:	Catalan, Spanish

Teaching staff

Coordinator:	Definit a la infoweb de l'assignatura.
Others:	Definit a la infoweb de l'assignatura.

Prior skills

X

Degree competences to which the subject contributes

Specific:

1. CE 2 AERO. Comprensi3n y dominio de los conceptos b3sicos sobre las leyes generales de la mec3nica, termodin3mica, campos y ondas y electromagnetismo y su aplicaci3n para la resoluci3n de problemas propios de la ingenier3a. (CIN/308/2009, BOE 18.2.2009)

Transversal:

2. SELF-DIRECTED LEARNING - Level 1. Completing set tasks within established deadlines. Working with recommended information sources according to the guidelines set by lecturers.
3. 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

X

Learning objectives of the subject

X



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Study load

Total learning time: 150h	Hours large group:	42h	28.00%
	Hours medium group:	6h	4.00%
	Guided activities:	18h	12.00%
	Self study:	84h	56.00%

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Content

<p>MECHANICS</p>	<p>Learning time: 54h Theory classes: 16h Guided activities: 7h 30m Self study : 30h 30m</p>
<p>Description: -</p>	
<p>(ENG) OSCILACIONES Y ONDAS</p>	<p>Learning time: 21h Theory classes: 5h Guided activities: 4h Self study : 12h</p>
<p>Description: - Related activities:</p>	
<p>(ENG) ELECTRIC FIELDS</p>	<p>Learning time: 38h Theory classes: 11h Practical classes: 6h Self study : 21h</p>
<p>Description: -</p>	
<p>(ENG) ELECTROMAGNETISMO Y ONDAS ELECTROMAGNÉTICAS</p>	<p>Learning time: 37h Theory classes: 10h Guided activities: 6h 30m Self study : 20h 30m</p>
<p>Description: -</p>	

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Planning of activities

(ENG) TEST PROBLEMS OF MECHANICS	Hours: 6h Theory classes: 1h Self study: 5h
(ENG) THEORETICAL TEST MECHANICS	Hours: 6h Theory classes: 1h Self study: 5h
SHORT EXAM OF ELECTRIC FIELD AND ELECTRIC POTENTIAL	Hours: 6h Theory classes: 1h Self study: 5h
MID-TERM EXAM	Hours: 9h Self study: 9h
FINAL EXAM	Hours: 9h Self study: 9h
DIRECTED ACTIVITIES. SOLUTION OF PROBLEMS	Hours: 66h Guided activities: 20h Self study: 46h

Qualification system

X

Regulations for carrying out activities

X

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Bibliography

Basic:

Walker, Jearl; Resnick, Robert; Halliday, David. Fundamentals of physics. 8th ed. extended. Hoboken, NJ: John Wiley & Sons, 2008. ISBN 9780471758013.

Tipler, Paul Allen; Mosca, Gene. Física para la ciencia y la tecnología. 5a ed. Barcelona [etc.]: Reverté, 2005. ISBN 8429144102.

Complementary:

Feynman, R.P. Física. Argentina: Addison-Wesley Iberoamericana, 1987. ISBN 0201066211.

Fleisch, D.A. A student's guide to Maxwell's equations. Cambridge: Cambridge University Press, 2008. ISBN 9780521701471.

Others resources:

Hyperlink

Curs general de Física amb applets de java

<http://www.sc.ehu.es/sbweb/fisica/>

Cursos generals de mecànica i d'electromagnetisme del MIT

<http://ocw.mit.edu/courses/physics/8-01-physics-i-classical-mechanics-fall-1999/>

<http://ocw.mit.edu/courses/physics/8-02-electricity-and-magnetism-mechanics-spring-2002/>