

330516 - RM - Material Resistance

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 AUTOMOTIVE ENGINEERING (Syllabus 2017). (Teaching unit Compulsory)
ECTS credits: 6 Teaching languages: Catalan, Spanish, English

Teaching staff

Coordinator: Martin Villanueva, Prepedigno
Others: Martin Villanueva, Prepedigno

Degree competences to which the subject contributes

Basic:

- CB3. That students have the ability to gather and interpret relevant data (usually within their area of study) to make judgments that include a reflection on relevant social, scientific or ethical issues.
- CB4. Students can transmit information, ideas, problems and solutions to a specialized and non-specialized audience.

Specific:

- CE12. Knowledge and use of materials resistance principles and ability to calculate structures of a vehicle.

Generical:

- CG1. Ability to write and develop projects in the field of automotive engineering for the construction, renovation, repair, maintenance, recycling, manufacture, installation, assembly or operation of: structures, mechanical equipment, energy installations, electrical and electronic installations, plants and industrial plants and manufacturing and automation processes.
- CG2. Capacity for management of the activities that are the subject of the engineering projects described in the previous section.
- CG3. Knowledge in basic and technological subjects that will enable them to learn new methods and theories and give them the versatility to adapt to new situations.
- CG4. Ability to solve problems with initiative, decision-making, creativity, critical reasoning and to communicate and transmit knowledge, skills and skills in the field of automotive engineering.
- CG7. Ability to analyze and assess the social and environmental impact of technical solutions.

Transversal:

1. EFFICIENT ORAL AND WRITTEN COMMUNICATION - Level 2. Using strategies for preparing and giving oral presentations. Writing texts and documents whose content is coherent, well structured and free of spelling and grammatical errors.
2. SELF-DIRECTED LEARNING - Level 2: Completing set tasks based on the guidelines set by lecturers. Devoting the time needed to complete each task, including personal contributions and expanding on the recommended information sources.

Learning objectives of the subject

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Study load

Total learning time: 150h	Hours large group:	30h	20.00%
	Hours medium group:	0h	0.00%
	Hours small group:	30h	20.00%
	Guided activities:	0h	0.00%
	Self study:	90h	60.00%

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Content

title english	Learning time: 20h Theory classes: 4h Laboratory classes: 4h Self study : 12h
Description: content english	
title english	Learning time: 20h Theory classes: 4h Laboratory classes: 4h Self study : 12h
Description: content english	
title english	Learning time: 60h Theory classes: 12h Laboratory classes: 12h Self study : 36h
Description: content english	
title english	Learning time: 50h Theory classes: 10h Laboratory classes: 10h Self study : 30h
Description: content english	

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Planning of activities

name english	Hours: 9h Theory classes: 1h Self study: 8h
name english	Hours: 16h Theory classes: 2h Self study: 14h
name english	Hours: 9h Theory classes: 1h Self study: 8h
name english	Hours: 17h Theory classes: 2h 30m Self study: 14h 30m

Bibliography

Basic:

Rivera Amores, Juanjo. Anàlisi d'estructures: teoria i problemes [on line]. Barcelona: Edicions UPC, 2005 [Consultation: 31/08/2018]. Available on: <<http://hdl.handle.net/2099.3/36638>>. ISBN 8483018179.

Others resources: