Last update: 03-07-2019

330066 - RM - Strength of Materials

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 INDUSTRIAL ELECTRONICS AND AUTOMATIC CONTROL ENGINEERING (Syllabus 2016). (Teaching unit Compulsory)
BACHELOR'S DEGREE IN CHEMICAL ENGINEERING (Syllabus 2009). (Teaching unit Compulsory)
BACHELOR'S DEGREE IN MECHANICAL ENGINEERING (Syllabus 2009). (Teaching unit Compulsory)
BACHELOR'S DEGREE IN INDUSTRIAL ELECTRONICS AND AUTOMATIC CONTROL ENGINEERING (Syllabus 2009). (Teaching unit Compulsory)
BACHELOR'S DEGREE IN ELECTRICAL ENGINEERING (Syllabus 2009). (Teaching unit Compulsory)
BACHELOR'S DEGREE IN CHEMICAL ENGINEERING (Syllabus 2016). (Teaching unit Compulsory)
BACHELOR'S DEGREE IN MECHANICAL ENGINEERING (Syllabus 2016). (Teaching unit Compulsory)
BACHELOR'S DEGREE IN ICT SYSTEMS ENGINEERING (Syllabus 2010). (Teaching unit Optional)

ECTS credits: 6 Teaching languages: Catalan

Teaching staff

Coordinator: JUAN JOSE RIVERA AMORES

Others: JORDI JOSEP TORRELLES RICO

Degree competences to which the subject contributes

Specific:

1. (ENG) Coneixement i utilització dels principis de la resistència de materials.

Transversal:

2. 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.
3. TEAMWORK - Level 2. Contributing to the consolidation of a team by planning targets and working efficiently to favor communication, task assignment and cohesion.
4. EFFECTIVE USE OF INFORMATION RESOURCES - Level 2. Designing and executing a good strategy for advanced searches using specialized information resources, once the various parts of an academic document have been identified and bibliographical references provided. Choosing suitable information based on its relevance and quality.
5. 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

Last update: 03-07-2019

330066 - RM - Strength of Materials

Study load

Total learning time: 150h	Hours large group:	45h	30.00%
	Hours medium group:	0h	0.00%
	Hours small group:	15h	10.00%
	Guided activities:	0h	0.00%
	Self study:	90h	60.00%

Content

(ENG) 1. Tipus d'estructures	Learning time: 13h 10m Theory classes: 4h 15m Laboratory classes: 1h 25m Self study : 7h 30m
(ENG) 2. Esforços i Diagrames	Learning time: 38h 10m Theory classes: 11h 25m Laboratory classes: 4h 15m Self study : 22h 30m
(ENG) 3. Tracció i compressió pura	Learning time: 38h 10m Theory classes: 11h 25m Laboratory classes: 4h 15m Self study : 22h 30m
(ENG) 4. Flexió pura	Learning time: 38h 10m Theory classes: 11h 25m Laboratory classes: 4h 15m Self study : 22h 30m
(ENG) 5. Cisallament i torsió	Learning time: 25h Theory classes: 7h 30m Laboratory classes: 2h 30m Self study : 15h

Last update: 03-07-2019

330066 - RM - Strength of Materials

Planning of activities

(ENG) 1. PRÀCTICA DE LABORATORI: TIPUS D'ESTRUCTURES (CONTINGUT 1).	Hours: 7h 36m Laboratory classes: 2h Self study: 5h 36m
(ENG) 2. PRÀCTICA DE LABORATORI: TRACCIO COMPRESIO PURA (CONTINGUT 3).	Hours: 11h 24m Laboratory classes: 3h Self study: 8h 24m
(ENG) 3. PRÀCTICA DE LABORATORI: FLEXIO (CONTINGUT 4).	Hours: 11h 24m Laboratory classes: 3h Self study: 8h 24m
(ENG) 4. PROVA INDIVIDUAL D'AVALUACIÓ CONTÍNUA: TIPUS D'ESTRUCTURES, ANALISIS DE SECCIONS, TRACCIO COMPRESIO PURA (CONTINGUTS 1-3).	Hours: 7h Theory classes: 2h Self study: 5h
(ENG) 5. PROVA INDIVIDUAL D'AVALUACIÓ CONTÍNUA: FLEXIO, CISALLAMENT I TORSIO (CONTINGUTS: 4, 5).	Hours: 7h Theory classes: 2h Self study: 5h
(ENG) 6. PROVA FINAL: (CONTINGUTS: 1-5).	Hours: 13h Theory classes: 3h Self study: 10h

Bibliography

Basic:

Rivera Amores, Juanjo. Anàlisi d'estructures: teoria i problemes [on line]. Barcelona: Edicions UPC, 2005 [Consultation: 08/03/2018]. Available on: <http://hdl.handle.net/2099.3/36638>. ISBN 8483018179.

Rivera Amores, Juanjo. Mecànica de materials: problemes [on line]. Barcelona: Edicions UPC, 2008 [Consultation: 08/03/2018]. Available on: <http://hdl.handle.net/2099.3/36772>. ISBN 9788483017616.

Beer, Ferdinand Pierre, i altres. Mecánica de materiales. 5ª ed. México: McGraw-Hill, 2010. ISBN 9786071502636.

Gere, James M. Resistencia de materiales. 5ª ed. Madrid: International Thomson Editores, 2002. ISBN 9788497320658.