Last update: 02-06-2015

820445 - TDEM - Structural Engineering Design

Coordinating unit: 820 - EUETIB - Barcelona College of Industrial Engineering
Teaching unit: 737 - RMEE - Department of Strength of Materials and Structural Engineering
Academic year: 2015
Degree: BACHELOR'S DEGREE IN MECHANICAL ENGINEERING (Syllabus 2009). (Teaching unit Optional)
ECTS credits: 6 Teaching languages: Spanish

Teaching staff

Coordinator: David Sánchez Molina

Others: David Sánchez Molina

Degree competences to which the subject contributes

Specific:

1. Summarise information and undertake self-directed learning activities.
2. Understand and apply the principles of the strength of materials.
3. Understand and apply the fundamentals of the elasticity and strength of materials to the behaviour of real solids.

Transversal:

4. EFFICIENT ORAL AND WRITTEN COMMUNICATION - Level 3. Communicating clearly and efficiently in oral and written presentations. Adapting to audiences and communication aims by using suitable strategies and means.
5. EFFECTIVE USE OF INFORMATI0N RESOURCES - Level 3. Planning and using the information necessary for an academic assignment (a final thesis, for example) based on a critical appraisal of the information resources used.

Learning objectives of the subject

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%

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Content

(ENG) (CAT) -No linealidad geométrica e inestabilidad elástica: pandeo y abolladura	Learning time: 56h 55m Theory classes: 15h Practical classes: 5h Guided activities: 0h Self study : 36h 55m
(ENG) (CAT) -Elementos bidimensionales: Placas y láminas	Learning time: 35h Theory classes: 9h Practical classes: 3h Guided activities: 0h Self study : 23h
(ENG) (CAT) -Elementos tridiomensionales: Estructuras de cimentación	Learning time: 35h 25m Theory classes: 12h 30m Practical classes: 4h 10m Guided activities: 0h Self study : 18h 45m
(ENG) (CAT) -Introducción al diseño sísmico de edificios	Learning time: 22h 40m Theory classes: 8h 30m Practical classes: 2h 50m Guided activities: 0h Self study : 11h 20m

Bibliography

Basic:

Sánchez Molina, D.; González Drigo, J. R. Cálculo de elementos estructurales [on line]. Barcelona: Iniciativa Digital Politècnica, 2011 [Consultation: 04/12/2015]. Available on: <http://hdl.handle.net/2099.3/36660>. ISBN 9788476537299.

Sánchez Molina, D.; Velázquez, J. Placas, láminas, cimentaciones y diseño sísmico : tipología y diseño estructural, teoría de estructuras. [Santa Coloma de Gramenet]: David Sánchez, DL 2009. ISBN 9788461359660.