

## 340057 - ESCI-M6037 - Industrial Structures and Constructions

Coordinating unit: 340 - EPSEVG - Vilanova i la Geltrú School of Engineering  
 Teaching unit: 737 - RMEE - Department of Strength of Materials and Structural Engineering  
 Academic year: 2018  
 Degree: BACHELOR'S DEGREE IN MECHANICAL ENGINEERING (Syllabus 2009). (Teaching unit Compulsory)  
 BACHELOR'S DEGREE IN ELECTRICAL ENGINEERING (Syllabus 2009). (Teaching unit Optional)  
 BACHELOR'S DEGREE IN INDUSTRIAL ELECTRONICS AND AUTOMATIC CONTROL ENGINEERING (Syllabus 2009). (Teaching unit Optional)  
 ECTS credits: 6 Teaching languages: Catalan, Spanish

### Teaching staff

Coordinator: Marta Musté  
 Others: Joan Totusaus Margalet  
 Elsa Pérez Guindal

### Degree competences to which the subject contributes

#### Specific:

1. CE14. Knowledge and application of basics of material resistance.
3. CE23. Knowledge and ability to calculate and design structures and industrial constructions.

#### Transversal:

2. 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.

### 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) -Introducción al diseño y cálculo de estructuras

Degree competences to which the content contributes:

(ENG) (CAT) -Plasticidad

Degree competences to which the content contributes:

(ENG) (CAT) -Clasificación de secciones según el Eurocódigo 3

Degree competences to which the content contributes:

(ENG) (CAT) -Comprobación de secciones según el Eurocódigo 3

Degree competences to which the content contributes:

(ENG) (CAT) -Métodos aproximados y de predimensionado

Degree competences to which the content contributes:

(ENG) (CAT) -Estructuras exteriormente isostáticas

Degree competences to which the content contributes:

(ENG) (CAT) -Pandeo de columnas

Degree competences to which the content contributes:

(ENG) (CAT) -Pandeo de una columna con curvatura inicial

Degree competences to which the content contributes:

(ENG) (CAT) -Tablas de perfiles normalizados

Degree competences to which the content contributes:

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(ENG) (CAT) -Introducción al cálculo matricial de estructuras planas

Degree competences to which the content contributes:

(ENG) (CAT) -

Degree competences to which the content contributes:

(ENG) (CAT) -El método de Cross

Degree competences to which the content contributes:

(ENG) (CAT) -Ejemplos de aplicación práctica del Eurocódigo 3

Degree competences to which the content contributes:

(ENG) (CAT) -Elementos finitos

Degree competences to which the content contributes:

(ENG) (CAT) -Cálculo asistido por ordenador

Degree competences to which the content contributes:

### Bibliography

#### Basic:

Argüelles Álvarez, Ramón... [et al.]. Estructuras de acero. Fundamentos y cálculo según CTE, EAE y EC 3. 3a. Madrid: Bellisco, 2013. ISBN 9788492970520.