

## 28617 - Structures II: Reinforced Concrete

### Información del Plan Docente

<b>Academic Year</b>	2016/17
<b>Academic center</b>	175 - Escuela Universitaria Politécnica de La Almunia
<b>Degree</b>	422 - Bachelor's Degree in Building Engineering
<b>ECTS</b>	6.0
<b>Course</b>	2
<b>Period</b>	Second semester
<b>Subject Type</b>	Compulsory
<b>Module</b>	---

### **1.Basic info**

#### **1.1.Recommendations to take this course**

#### **1.2.Activities and key dates for the course**

### **2.Initiation**

#### **2.1.Learning outcomes that define the subject**

#### **2.2.Introduction**

### **3.Context and competences**

#### **3.1.Goals**

#### **3.2.Context and meaning of the subject in the degree**

#### **3.3.Competences**

#### **3.4.Importance of learning outcomes**

### **4.Evaluation**

### **5.Activities and resources**

#### **5.1.General methodological presentation**

The learning process designed for this subject is based on the following:

Strong interaction between the teacher/student. This interaction is brought into being through a division of work and responsibilities between the students and the teacher. Nevertheless, it must be taken into account that, to a certain degree, students can set their learning pace based on their own needs and availability, following the guidelines set by the teacher.

## 28617 - Structures II: Reinforced Concrete

The current subject Estructuras II is conceived as a stand-alone combination of contents, yet organized into three fundamental and complementary forms, which are: the theoretical concepts of each teaching unit, the solving of problems or resolution of questions and laboratory work, at the same time supported by other activities

### 5.2.Learning activities

Involves the active participation of the student, in a way that the results achieved in the learning process are developed, not taking away from those already set out, the activities are the following:

– **Face-to-face generic activities :**

• **Theory Classes :** The theoretical concepts of the subject are explained and illustrative examples are developed as support to the theory when necessary.

• **Practical Classes :** Problems and practical cases are carried out, complementary to the theoretical concepts studied.

• **Laboratory Workshop :** This work is tutored by a teacher, in groups of no more than 20 students.

– **Generic non-class activities :**

• Study and understanding of the theory taught in the lectures.

• Understanding and assimilation of the problems and practical cases solved in the practical classes.

• Preparation of seminars, solutions to proposed problems, etc.

• Preparation of laboratory workshops, preparation of summaries and reports.

• Preparation of the written tests for continuous assessment and final exams.

The subject has 6 ECTS credits, which represents 150 hours of student work in the subject during the trimester, in other words, 10 hours per week for 15 weeks of class.

A summary of a weekly timetable guide can be seen in the following table. These figures are obtained from the subject file in the Accreditation Report of the degree, taking into account the level of experimentation considered for the said subject is moderate.

## 28617 - Structures II: Reinforced Concrete

Activity	Weekly school hours
Lectures	3
Laboratory Workshop	1
Other Activities	6

### 5.3.Program

Topic 1	SAFETY CRITERIA. THEORY OF THE CONDITIONS LIMITS
Topic 2	CHARACTERISTICS OF THE MATERIALS. CONCRETE AND STEEL
Topic 2	CALCULATION OF SECTION FOR THE CLASSIC METHOD. MOMENT RAN. I CALCULATE OF SECTIONS IN DEPLETION
Topic 4	BASIC HYPOTHESES ON THE CONDITIONS LAST LIMITS. GRAPH OF PIVOTS
Topic 5	CALCULATE TO FLEXION. I CALCULATE TO FLEXION ESVIADA
Topic 6	SHEAR FORCE
Topic 7	ANALYSES OF THE BULGE
Topic 8	TWIST
Topic 9	ARMED WITH ELEMENTS OF ARMED CONCRETE
Topic 10	ARMED WITH ELEMENTS OF CONCRETE
Topic 11	ARMED WITH ELEMENTS OF CONCRETE

## 28617 - Structures II: Reinforced Concrete

Topic 12	WROUGHT UNIDIRECCIONES OF ARMED CONCRETE
Topic 13	MEASURED OF METALLIC ELEMENTS
Topic 14	MEASURED OF METALLIC ELEMENTS
Topic 15	MEASURED OF METALLIC ELEMENTS

Practical.

There were realized practical exercises of every topic.

### 5.4.Planning and scheduling

Calendar of meetings attend them and presentation of works

Every semester has 15 weeks that adjust to the agenda.

The continuous assessment takes a calendar of activities that debera to respect.

The activities of continuous assessment were realized after finishing the agendas of class of every paragraph.

Calendar of evaluation.

Nombre	Inicio	Entrega	Solución	Calificación
Practice 1	3 week	4 week	4 week	5 week
Practice 2	7 week	8 week	8 week	9 week
Practice 3	12 week	13 week	13 week	14 week
(1ªConv)				
(2ªConv)				

## 28617 - Structures II: Reinforced Concrete

The dates of final examinations, they are capable of changes. They will prevail the official dates published in <http://www.eupla.es>

### 1. Recursos Materials

The whole material of class was joining in the platform Moodle

### 5.5. Bibliography and recommended resources

- España. Ministerio de la Vivienda. Código Técnico de la Edificación / edición preparada por Departamento de Redacción Aranzadi. - 2ª ed. Cizur Menor (Navarra) : Aranzadi, 2008
- Jimenez Montoya, Pedro. Hormigón armado / Pedro Jiménez Montoya, Álvaro García Meseguer, Francisco Morán Cabré . - 14ª ed., [reimp.] Madrid : Gustavo Gili, 2000 (reimp. 2007)
- Calavera Ruiz, José. Proyecto y cálculo de estructuras de hormigón / J. Calavera Madrid : INTEMAC (Instituto Técnico de Materiales y Construcciones), [1999?]