# UNIVERSIDAD DE CASTILLA - LA MANCHA

# GUÍA DOCENTE

## 1. General information

**Course:** BUILDING STRUCTURES II
**Type:** CORE COURSE
**Degree:** 315 - UNDERGRADUATE DEGREE IN BUILDING ENGINEERING
**Center:** 308 - SCHOOL POLYTECHNIC OF CUENCA
**Year:** 3
**Main language:** Spanish
**Use of additional languages:**
**Web site:**

**Code:** 59321
**ECTS credits:** 6
**Academic year:** 2019-20
**Group(s):** 30
**Duration:** First semester
**Second language:**
**English Friendly:** Y
**Bilingual:** N

Lecturer: **JESUS ALFARO GONZALEZ** - Group(s): **30**

| Building/Office | Department | Phone number | Email | Office hours |
|---|---|---|---|---|
| ESCUELA POLITÉCNICA DE CUENCA / Despacho 2.02 | INGENIERÍA CIVIL Y DE LA EDIFICACIÓN | | jesus.alfaro@uclm.es | It will be 6 hours to determine during the course. |

Lecturer: **JESUS GONZALEZ ARTEAGA** - Group(s): **30**

| Building/Office | Department | Phone number | Email | Office hours |
|---|---|---|---|---|
| Escuela Politécnica Cu/1.13 | INGENIERÍA CIVIL Y DE LA EDIFICACIÓN | 4854 | jesus.garteaga@uclm.es | El horario de tutorias se publicará en el tablón de anuncios. |

## 2. Pre-Requisites

Not established

## 3. Justification in the curriculum, relation to other subjects and to the profession

Not established

## 4. Degree competences achieved in this course

**Course competences**

| Code | Description |
|---|---|
| E21 | Ability to apply technical regulations to the building process, and generate documents of technical specification of building procedures and construction methods. |
| E23 | Aptitude for the pre-mesure, design, calculation and verification of structures and to direct their material execution. |
| G01 | Ability for analysis and synthesis |
| G02 | Organization and planning ability |
| G04 | Problem resolution |
| G05 | Decision making |
| G06 | Critical thinking |
| G12 | Autonomous learning |
| G21 | Command of Information and Communication Technologies (ICT) |

## 5. Objectives or Learning Outcomes

**Course learning outcomes**

Description

Know how to interpret the results of computer programs.

Idealization of the object to be calculated, obtaining diagrams.

Apply practical conclusions that constitute the object of the research carried out

Apply the above to the calculation of wooden, metal, reinforced concrete and prestressed structures.

Learn the concept of the Resistance of Materials.

Learn what Structural Safety is.

## 6. Units / Contents

**Unit 1:**

- **Unit 1.1**
- **Unit 1.2**
- **Unit 1.3**
- **Unit 1.4**

**Unit 2:**

- **Unit 2.1**
- **Unit 2.2**
- **Unit 2.3**
- **Unit 2.4**
- **Unit 2.5**

**Unit 2.6**
**Unit 2.7**
**Unit 2.8**
**Unit 3:**
**Unit 3.1**
**Unit 3.2**
**Unit 3.3**
**Unit 4:**

## 7. Activities, Units/Modules and Methodology

| Training Activity | Methodology | Related Competences (only degrees before RD 822/2021) | ECTS | Hours | As | Com | R | Description |
|---|---|---|---|---|---|---|---|---|
| Class Attendance (theory) [ON-SITE] | Lectures | E21 E23 G01 G02 G04 G05 G06 | 0.28 | 7 | N | - | - | |
| Class Attendance (practical) [ON-SITE] | Project/Problem Based Learning (PBL) | E21 E23 G01 G02 G04 G05 G06 G21 | 0.6 | 15 | N | - | - | |
| Problem solving and/or case studies [ON-SITE] | Problem solving and exercises | E21 E23 G01 G02 G04 G05 G06 G21 | 1.36 | 34 | Y | N | Y | |
| Study and Exam Preparation [OFF-SITE] | Self-study | E21 E23 G01 G02 G04 G05 G06 G12 G21 | 3.6 | 90 | N | - | - | |
| Final test [ON-SITE] | Assessment tests | E21 E23 G01 G02 G04 G05 G06 | 0.16 | 4 | Y | Y | Y | |
| | | **Total:** | **6** | **150** | | | | |
| | | **Total credits of in-class work: 2.4** | | | | | | **Total class time hours: 60** |
| | | **Total credits of out of class work: 3.6** | | | | | | **Total hours of out of class work: 90** |

As: Assessable training activity
Com: Training activity of compulsory overcoming
R: Rescheduling training activity

## 8. Evaluation criteria and Grading System

| | Grading System | | |
|---|---|---|---|
| **Evaluation System** | **Face-to-Face** | **Self-Study Student** | **Description** |
| Assessment of problem solving and/or case studies | 40.00% | 0.00% | |
| Final test | 60.00% | 0.00% | |
| **Total:** | **100.00%** | **0.00%** | |

## 9. Assignments, course calendar and important dates

**Not related to the syllabus/contents**

| **Hours** | **hours** |
|---|---|
| Class Attendance (theory) [PRESENCIAL][Lectures] | .5 |

**Unit 1 (de 4):**

| **Activities** | **Hours** |
|---|---|
| Class Attendance (theory) [PRESENCIAL][Lectures] | 1.5 |
| Class Attendance (practical) [PRESENCIAL][Project/Problem Based Learning (PBL)] | 1 |
| Problem solving and/or case studies [PRESENCIAL][Problem solving and exercises] | 1.5 |
| Study and Exam Preparation [AUTÓNOMA][Self-study] | 8.1 |
| Final test [PRESENCIAL][Assessment tests] | 1 |

**Unit 2 (de 4):**

| **Activities** | **Hours** |
|---|---|
| Class Attendance (theory) [PRESENCIAL][Lectures] | 3.5 |
| Class Attendance (practical) [PRESENCIAL][Project/Problem Based Learning (PBL)] | 12.5 |
| Problem solving and/or case studies [PRESENCIAL][Problem solving and exercises] | 14.5 |
| Study and Exam Preparation [AUTÓNOMA][Self-study] | 51.9 |
| Final test [PRESENCIAL][Assessment tests] | 3 |

**Unit 3 (de 4):**

| **Activities** | **Hours** |
|---|---|
| Class Attendance (theory) [PRESENCIAL][Lectures] | 1 |
| Class Attendance (practical) [PRESENCIAL][Project/Problem Based Learning (PBL)] | 1 |
| Problem solving and/or case studies [PRESENCIAL][Problem solving and exercises] | 14 |
| Study and Exam Preparation [AUTÓNOMA][Self-study] | 25.5 |

**Unit 4 (de 4):**

| **Activities** | **Hours** |
|---|---|
| Class Attendance (theory) [PRESENCIAL][Lectures] | .5 |
| Class Attendance (practical) [PRESENCIAL][Project/Problem Based Learning (PBL)] | .5 |
| Problem solving and/or case studies [PRESENCIAL][Problem solving and exercises] | 4 |
| Study and Exam Preparation [AUTÓNOMA][Self-study] | 4.5 |

**Global activity**

| Activities | hours |
|---|---|
| Class Attendance (theory) [PRESENCIAL][Lectures] | 7 |
| Class Attendance (practical) [PRESENCIAL][Project/Problem Based Learning (PBL)] | 15 |
| Problem solving and/or case studies [PRESENCIAL][Problem solving and exercises] | 34 |
| Study and Exam Preparation [AUTÓNOMA][Self-study] | 90 |
| Final test [PRESENCIAL][Assessment tests] | 4 |
| **Total horas:** | 150 |

## 10. Bibliography and Sources


| Author(s) | Title/Link | Publishing house | Citv | ISBN | Year | Description |
|---|---|---|---|---|---|---|
| CYPE Ingenieros | Manuales y documentación de los programas | | | | | |
| | http://www.manuales.cype.es/ | | | | | |
| Calavera Ruiz, J. | Cálculo de estructuras de cimentación / | INTEMAC, | | 978-84-88764-26-3 | 2015 | |
| Calavera, J. | Proyecto y cálculo de estructuras de hormigón : en masa, arm | Instituto Técnico de Materiales y Construcciones, | | 84-88764-05-7 (Obra | 2008 | |
| Ministerio de Fomento | Codigo Tecnico de la Edificación | | | | | |
| | http://www.codigotecnico.org/ | | | | | |
| Ministerio de Fomento | EHE-08 | | | | 2010 | |
| | https://www.cscae.com/images/stories/Noticias/Tecnica/EHE2008comentada1.pdf | | | | | |
| Reyes Rodríguez, Antonio Manuel | CYPECAD 2014 : cálculo de estructuras de hormigón / | Anaya Multimedia, | | 978-84-415-3553-4 | 2014 | |
| Rodriguez Val, Javier | estructuras de hormigón para edificios | Gabinete Técnico Aparejadores Guadalajara | Guadalajara | | 2015 | |
| Trimble | Tekla Structures 21.0 PDF documentation | | | | | |
| | https://teklastructures.support.tekla.com/tekla-structures-210-pdf-documentation | | | | | |
| | Números gordos en el proyecto de estructuras / autores, Juan | Cinter Divulgación Técnica, | | 978-84-932270-4-3 | 2009 | |