



## 1. General information

Course: CONSTRUCTION II  
Type: CORE COURSE  
Degree: 315 - UNDERGRADUATE DEGREE IN BUILDING ENGINEERING  
Center: 308 - SCHOOL POLYTECHNIC OF CUENCA  
Year: 1

Main language: Spanish

Use of additional languages:

Web site:

Code: 59308  
ECTS credits: 6  
Academic year: 2022-23  
Group(s): 30  
Duration: C2  
Second language: Spanish  
English Friendly: Y  
Bilingual: N

Lecturer: JOSE MANUEL CAÑIZARES MONTON - Group(s): 30				
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## 2. Pre-Requisites

Since the course corresponds to the second semester, previous knowledge of Construction I is recommended

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

Every building is a complex of construction systems, each of which must meet certain requirements and provide the necessary benefits. Each constructive element can be built with different techniques and materials depending on the technological advances and the

Basic Knowledge for the rest of the subjects of the CONSTRUCTION itinerary is provided. The set of objectives is formulated to ensure that the future graduate consolidates the basic knowledge about Construction, providing an overview of the modern building and

## 4. Degree competences achieved in this course

## Course competences

Code	Description
E15	Ability to identify the elements and construction systems, define their function and compatibility, and their implementation in the construction process. Formulate and resolve constructive details.
E29	Ability to analyze, design and execute solutions that facilitate universal accessibility in buildings and their surroundings.
G01	Ability for analysis and synthesis
G06	Critical thinking
G07	Teamwork
G12	Autonomous learning
G15	Sensitivity to environmental issues
G22	Correct oral and written communication

## 5. Objectives or Learning Outcomes

## Course learning outcomes

## Description

Physical and mechanical characteristics that define the construction systems.

Understanding the evolution of construction systems and their application to old or modern works.

Understanding the way of working of the constructive elements, defining their function and compatibility.

## Additional outcomes

IDENTIFY the basic requirements associated with the systems and constructive elements in modern buildings

INTERPRET the function of each of its components and USE the vocabulary and basic terms that define them appropriately.

REPRESENT properly the main construction elements.

Modeling constructive elements through work tools in BIM environment with minimum level LOD 100

Modeling constructive elements through work tools in BIM environment with minimum level of development (LOD 100) and define their characteristics at LOD 200

## 6. Units / Contents

## Unit 1: CONSTRUCTION PRINCIPLES

Unit 1.1 Adaptation to space-Types of actions and contemporary structural typology

Unit 1.2 Adaptation to the Environment I. Heat, water

Unit 1.3 Adaptation to the environment II. Light, noise, pollution

Unit 1.4 Integrity of buildings. Fire, earthquake

Unit 1.5 Security of Use and Accessibility

## Unit 2: THE STRUCTURE SYSTEM. Support of space

Unit 2.1 Constructive organization of the structures. Vertical and horizontal elements

Unit 2.2 Underground structures. Foundations

Unit 2.3 Spatial structures and singular geometries

Unit 2.4 Tall Buildings

Unit 2.5 The structure as a constructive unit

## Unit 3: THE BUILDING ENVELOPE. The outer envelope and the partition of space.

Unit 3.1 Facades I. Blind parts

Unit 3.2 Facades II. Openings

Unit 3.3 The lower face of the enclosure

Unit 3.4 Sloped roofs

Unit 3.5 Flat Covers-Terraces

Unit 3.6 Interior partitions

## 7. Activities, Units/Modules and Methodology

Training Activity	Methodology	Related Competences (only degrees before RD 822/2021)	ECTS	Hours	As	Com	Description
Class Attendance (theory) [ON-SITE]	Lectures	E15 E29	1.44	36	N		Introduction of each unit by the teacher. The most significant topics and difficult aspects will be exposed.
Problem solving and/or case studies [ON-SITE]	Guided or supervised work	G06	0.24	6	N		Practical exercises of graphic representation in BIM environment and exposition of cases to be analyzed in different sessions
Study and Exam Preparation [OFF-SITE]	Self-study	E15 E29 G12	1.8	45	N		Search of information and reading of complementary bibliography by the student.
Writing of reports or projects [OFF-SITE]	Self-study	E15 G07	1.8	45	Y	Y	Tasks commissioned to students (individually or in groups, depending on the number of students) throughout the course. The teachers will guide in the realization of these works and resolution of the arising problems. In tutoring hours. Each task will follow for its complementation the guidelines established in the classes and tutorials.
Group tutoring sessions [ON-SITE]	Guided or supervised work	G01	0.32	8	N		Follow-up tutoring for the tasks commissioned
Project or Topic Presentations [ON-SITE]	Assessment tests	G01 G22	0.08	2	Y	Y	Oral Presentation of course work and tasks commissioned by the teacher
Other on-site activities [ON-SITE]	Assessment tests	E15 E29 G12	0.16	4	Y	N	Evidence of knowledge and achievement of the specific objectives of each of the topics exposed
Final test [ON-SITE]	Assessment tests	E15 E29	0.16	4	Y	Y	Evidence of knowledge and achievement of the specific objectives of each of the topics exposed
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 (It will be essential to overcome both continuous and non-continuous assessment).

## 8. Evaluation criteria and Grading System

Evaluation System	Continuous assessment	Non-continuous evaluation*	Description
Oral presentations assessment	10.00%	30.00%	Individual or group exposition of the work or part of the work done during the course.

Test	20.00%	0.00%	They will be done according to the course calendar. They will be weighted according to the number of tests performed. A score greater than or equal to 3 out of 10 is required in each of them in order to perform the weighted average with other activities
Final test	20.00%	70.00%	The weighting will be 30% or 60% depending on the results of the progress tests. It will serve as a recovery for students who have not passed any of the progress tests. A score greater than or equal to 4 out of 10 is required in order to perform the weighted average with other activities. It will be held on the date established in the official exam calendar of the EPC
Practicum and practical activities reports assessment	50.00%	0.00%	Elaboration and presentation of the proposed course tasks that may be coordinated with other subjects according to guidelines established at the beginning. Attendance at scheduled group tutoring will be mandatory.
<b>Total:</b>	<b>100.00%</b>	<b>100.00%</b>	

According to art. 4 of the UCLM Student Evaluation Regulations, it must be provided to students who cannot regularly attend face-to-face training activities the passing of the subject, having the right (art. 12.2) to be globally graded, in 2 annual calls per subject, an ordinary and an extraordinary one (evaluating 100% of the competences).

#### Evaluation criteria for the final exam:

##### Continuous assessment:

The final mark of the course will be the weighted media of the qualifications (over 10 points) according to the system and the percentages established in the previous section. A grade equal to or greater than 5 is required to pass the course.

##### Non-continuous evaluation:

The final mark of the course will be the weighted media of the qualifications (over 10 points) according to the system and the percentages established in the previous section. A grade equal to or greater than 5 is required to pass the course.

#### Specifications for the resit/retake exam:

tudents who have been continuously evaluated in the Final exam and have not passed the course will be able to keep the grades and recover the parts that have not reached the minimum grade.

#### Specifications for the second resit / retake exam:

tudents who have been continuously evaluated in the Final and retake exam and have not passed the course will be able to keep the grades and recover the parts that have not reached the minimum grade.

9. Assignments, course calendar and important dates	
Not related to the syllabus/contents	
<b>Hours</b>	<b>hours</b>
Group tutoring sessions [PRESENCIAL][Guided or supervised work]	8
Project or Topic Presentations [PRESENCIAL][Assessment tests]	2
Other on-site activities [PRESENCIAL][Assessment tests]	4
Final test [PRESENCIAL][Assessment tests]	4
<b>General comments about the planning:</b> The dates of the final test (for the final exam) and the resit test will be the day, time and place designated for this purpose by the Subdirectorate of Studies of the School. The student will have all the detailed information in the Moodle virtual platform of the subject. The time distribution of activities corresponding to each subject will be prepared in accordance with the school calendar of the semester	
<b>Unit 1 (de 3): CONSTRUCTION PRINCIPLES</b>	
<b>Activities</b>	<b>Hours</b>
Class Attendance (theory) [PRESENCIAL][Lectures]	12
Problem solving and/or case studies [PRESENCIAL][Guided or supervised work]	2
Study and Exam Preparation [AUTÓNOMA][Self-study]	15
Writing of reports or projects [AUTÓNOMA][Self-study]	10
<b>Unit 2 (de 3): THE STRUCTURE SYSTEM. Support of space</b>	
<b>Activities</b>	<b>Hours</b>
Class Attendance (theory) [PRESENCIAL][Lectures]	12
Problem solving and/or case studies [PRESENCIAL][Guided or supervised work]	2
Study and Exam Preparation [AUTÓNOMA][Self-study]	15
Writing of reports or projects [AUTÓNOMA][Self-study]	25
<b>Unit 3 (de 3): THE BUILDING ENVELOPE. The outer envelope and the partition of space.</b>	
<b>Activities</b>	<b>Hours</b>
Class Attendance (theory) [PRESENCIAL][Lectures]	12
Problem solving and/or case studies [PRESENCIAL][Guided or supervised work]	2
Study and Exam Preparation [AUTÓNOMA][Self-study]	15
Writing of reports or projects [AUTÓNOMA][Self-study]	10
<b>Global activity</b>	
<b>Activities</b>	<b>hours</b>
Class Attendance (theory) [PRESENCIAL][Lectures]	36
Problem solving and/or case studies [PRESENCIAL][Guided or supervised work]	6
Study and Exam Preparation [AUTÓNOMA][Self-study]	45
Writing of reports or projects [AUTÓNOMA][Self-study]	45
Group tutoring sessions [PRESENCIAL][Guided or supervised work]	8
Project or Topic Presentations [PRESENCIAL][Assessment tests]	2
Other on-site activities [PRESENCIAL][Assessment tests]	4
Final test [PRESENCIAL][Assessment tests]	4
<b>Total horas: 150</b>	

10. Bibliography and Sources						
Author(s)	Title/Link	Publishing house	City	ISBN	Year	Description
Ching, Francis D.K.	Diccionario visual de arquitectura <a href="http://ggili.com.mx/es/tienda/productos/diccionario-visual-de-arquitectura">http://ggili.com.mx/es/tienda/productos/diccionario-visual-de-arquitectura</a>	Gustavo Gili		978-84-252-2020-3	2008	Diccionario básico con terminología en inglés
Ferri Cortes, J. (y otros)	Principios de Construcción <a href="http://www.editorial-club-universitario.es/libro.asp?ref=4526">http://www.editorial-club-universitario.es/libro.asp?ref=4526</a>	Editorial club Universitario		978-84-9948-385-6	2011	Lecturas recomendadas asociadas a los temas 2 y 3
González Moreno-Navarro, José Luis	Claves del construir arquitectónico (3 tomos) <a href="http://ggili.com/es/tienda/productos/claves-del-construir-arquitectonico-tomo-iii">http://ggili.com/es/tienda/productos/claves-del-construir-arquitectonico-tomo-iii</a>	Gustavo Gili		84-252-1695-8	2008	Lectura básica como libro de texto que acompaña a los temas 2 y 3
	Documentos Código Técnico Edificación <a href="http://www.codigotecnico.org/web/recursos/documentos/">http://www.codigotecnico.org/web/recursos/documentos/</a>					Normativa de referencia a utilizar durante el curso
Allen, Edward	Cómo funciona un edificio : principios elementales <a href="http://ggili.com/es/tienda/productos/como-funciona-un-edificio">http://ggili.com/es/tienda/productos/como-funciona-un-edificio</a>	Gustavo Gili		84-252-1089-5	2008	Lectura recomendada paralela al primer tema de la asignatura
Allen, Edward.	Fundamentals of building construction	John Wiley & Sons	Hoboken, N.J	978-0-470-07468-8.	2009	Bibliografía especializada en inglés
Ching, Francis D.K	Building Construction Illustrated <a href="https://www.academia.edu/31761487/Wiley_Building_Construction_Illustrated_5th_Edition_Feb_2014.ISBN.1118458346.pdf">https://www.academia.edu/31761487/Wiley_Building_Construction_Illustrated_5th_Edition_Feb_2014.ISBN.1118458346.pdf</a>	Wiley		978-1-118-45834-1	2014	Bibliografía en inglés. Lectura básica para los temas 2 y 3.
Allen, Edward	How Buildings Work: The Natural Order of Architecture <a href="https://www.academia.edu/33370905/How_Buildings_Work_-_The_Natural_Order_of_Architecture.pdf">https://www.academia.edu/33370905/How_Buildings_Work_-_The_Natural_Order_of_Architecture.pdf</a>	Oxford University press		978-0-19-516198-4	2005	Bibliografía en inglés. Lectura recomendada paralela al primer tema de la asignatura