28631 - Structures IV: Geotechnics and Foundations

Información del Plan Docente

Academic Year	2017/18
Faculty / School	175 - Escuela Universitaria Politécnica de La Almunia
Degree	422 - Bachelor's Degree in Building Engineering
ECTS	6.0
Year	4
Semester	First semester
Subject Type	Compulsory
Module	---

1.General information

1.1.Introduction

1.2.Recommendations to take this course

1.3.Context and importance of this course in the degree

1.4.Activities and key dates

2.Learning goals

2.1.Learning goals

2.2.Importance of learning goals

3.Aims of the course and competences

3.1.Aims of the course

3.2.Competences

4.Assessment (1st and 2nd call)

4.1.Assessment tasks (description of tasks, marking system and assessment criteria)

5.Methodology, learning tasks, syllabus and resources

5.1.Methodological overview

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.

The current subject Estructuras IV, 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 tasks

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.

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

5.3.Syllabus

Topic 1	GEOTECHNICAL STUDY
Topic 2	RECOGNITION OF THE AREA
Topic 3	PROPERTIES OF THE SOILS
Topic 4	TENSIONS AND CAPACITY
Topic 5	WALLS OF CONTAINMENT
Topic 6	WALLS OF BASEMENT AND SCREENS
Topic 7	SUPERFICIAL FOUNDATIONS
Topic 8	SLABS OF FOUNDATION
Topic 9	PILES
Topic 10	PATHOLOGY OF THE FOUNDATIONS

Practical

There were realized practical exercises of every topic.

5.4.Course planning and calendar

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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)				

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

1. Recusrsos
Materials

The whole material of class was joining in the platform Moodle

5.5.Bibliography and recommended resources

The subject actualiced bibliography will be consulted at the library web page
http://psfunizar7.unizar.es/br13/eBuscar.php?tipo=a

- España. Ministerio de la Vivienda. Código Técnico de la Edificación / edición preparada por Departamento de Redacción Aranzadi. - 2ª ed. Cizur Menor (Navarra) : Aranzadi, 2008
- Calavera Ruiz, José. Cálculo de estructuras de cimentación / J. Calavera . - 4a. ed. [Madrid] : INTEMAC (Instituto Técnico de Materiales y Construcciones), D.L. 2000

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- Geotécnia y cimientos. V. 1, Propiedades de los suelos y de las rocas / J.A. Jiménez Salas, J.L. de Justo Alpañes . - 2a. ed. Madrid : Rueda, D.L. 1975
- Geotecnia y cimientos. V. 2, Mecánica del suelo y de las rocas / J.A. Jiménez Salas, J.L. de Justo Alpañes, Alcibíades A. Serrano González . - [1a. ed.] Madrid : Rueda, D.L. 1976
- Fiol Femenia, Francisco. Manual de cimentaciones : diseño y cálculo de cimentaciones superficiales y muros, geotecnia y patología / Francisco Fiol Femenia, Francisco Fiol Oliván ; colabora, Instituto de la Construcción de Castilla y León [Burgos : Francisco Fiol Femenia : Francisco Fiol Oliván], D.L. 2006