Course guide
2500059 - GECGESCONS - Construction Management

Last modified: 01/10/2023

Unit in charge: Barcelona School of Civil Engineering
Teaching unit: 751 - DECA - Department of Civil and Environmental Engineering.

Degree: BACHELOR'S DEGREE IN CIVIL ENGINEERING (Syllabus 2020). (Optional subject).

Academic year: 2023 **ECTS Credits:** 4.5 **Languages:** Spanish

LECTURER

Coordinating lecturer: JOSE TURMO CODERQUE

Others: JAVIER PABLO AINCHIL LAVIN, EVA CASACUBERTA ESPLUGAS, JOSE TURMO CODERQUE

DEGREE COMPETENCES TO WHICH THE SUBJECT CONTRIBUTES

Specific:
14406. Ability to analyze the problem of safety and health in construction sites. (Common module to the Civil branch)
14415. Ability to apply construction procedures, construction machinery and construction planning techniques. (Specific technology module: Civil Construction)
14416. Capacity for the construction of geotechnical works. (Specific technology module: Civil Construction)

Generical:
14380. Scientific-technical training for the exercise of the profession of Technical Engineer of Public Works and knowledge of the functions of advice, analysis, design, calculation, project, construction, maintenance, conservation and exploitation.
14383. Ability to project, inspect and direct works, in their field.
14386. Capacity for maintenance, conservation and exploitation of infrastructure, in its field.
14389. Knowledge of the history of civil engineering and training to analyze and assess public works in particular and construction in general.
14390. Identify, formulate and solve engineering problems. Pose and solve construction engineering problems with initiative, decision-making skills and creativity. Develop a systematic and creative method of analysis and problem solving. (Additional school competition).
14391. Conceive, project, manage and maintain systems in the field of construction engineering. Cover the entire life cycle of an infrastructure or system or service in the field of construction engineering. (Additional school competition).

TEACHING METHODOLOGY

The subject consists of 3 hours a week of face-to-face classes in a classroom. Theoretical classes are taught in which the teacher exposes the basic concepts and materials of the subject and presents examples. It is proposed to carry out practical exercises in order to consolidate the general and specific learning objectives. Support material is used in the form of a detailed teaching plan through the ATENEA virtual campus: content, programming of evaluation and directed learning activities, and bibliography. Workshops and interventions by speakers other than the teachers of the subject are planned for the course. These may be developed in Spanish or Catalan and exceptionally in English. Support material is used through the virtual campus: content, and bibliography. The material can be in Spanish, Catalan and English. Questions from students to teachers can be answered in Spanish, Catalan or English. The practical work and the exams carried out by the students can be done in Spanish, Catalan or English.

Although most of the sessions will be given in the language indicated, sessions supported by other occasional guest experts may be held in other languages.

LEARNING OBJECTIVES OF THE SUBJECT

Knowledge of tender types and strategies to prepare an estimation of a public work project and a planning of a construction. Project analysis and construction agents. Technical and economic planning. Risk prevention. Construction quality and environmental management. Management during execution. Main types of construction insurance. Insurable risks during construction. Claims. Type of reception of work and scope of the guarantees according to the type of construction.

1 Ability to apply construction procedures, construction machinery and construction planning techniques.
2 Ability to analyze the problems of health and safety, environmental management and risks during construction.

Introduction to the technical and economic planning of a real work: the analysis of the project and of the different agents participating in the construction. Knowledge of the different types of bidding and strategies to prepare an offer and planning a construction work. Knowledge of the management of health and safety on a construction site. Elaboration of a quality plan and work instructions and know the fundamentals of the environmental management of the work. Knowledge of the main tools available to the Site Manager for proper technical and economic management of the work. Knowledge about insurances, the different figures and the main types of insurance in construction. Learn how to manage claims. Knowledge of the types of reception that can be given in a work and the scope of the guarantees according to the type of construction. Knowledge of the management of a BIM software.

STUDY LOAD

Type	Hours	Percentage
Hours large group	22,5	20.00
Hours medium group	22,5	20.00
Self study	63,0	56.00
Guided activities	4,5	4.00

Total learning time: 112.5 h

CONTENTS

Contract management

Description:
Contract management.
Practical work

Full-or-part-time: 54h
Theory classes: 12h 30m
Practical classes: 10h
Self study : 31h 30m

Construction management

Description:
Construction management
Practical work

Full-or-part-time: 54h
Theory classes: 10h
Practical classes: 12h 30m
Self study : 31h 30m

GRADING SYSTEM

Qualification formula
Exams: NE Exam marks
Works: NT Works mark
Final course grade (NFA)
NFA=0.5*NE+0.5*NT

EXAMINATION RULES.

The grade for the subject is obtained from the continuous assessment grades. Continuous assessment consists of doing different activities, both individual and group, of an additive and formative nature, carried out during the course (inside the classroom and outside of it). The evaluation tests consist of a part with questions about concepts associated with the learning objectives of the subject in terms of knowledge or understanding, and a set of application exercises. Carrying out the practical work is an essential condition to pass the subject. Criteria for qualification and admission to re-evaluation: students suspended in the ordinary evaluation who have regularly taken the evaluation tests of the failed subject will have the option to take a re-evaluation test in the period established in the academic calendar. The students who have already passed it or the students qualified as not presented will not be able to present themselves to the re-evaluation test of a subject. The maximum grade in the case of taking the reevaluation exam will be five (5.0). The non-attendance of a student summoned to the re-evaluation test, held within the established period, may not give rise to another test with a later date Extraordinary evaluations will be carried out for those students who, due to proven force majeure, have not been able to carry out any of continuous assessment tests. These tests must be authorized by the corresponding head of studies, at the request of the professor responsible for the subject, and will be carried out within the corresponding academic period.

BIBLIOGRAPHY

Basic:
- Peurifoy ... [et al.]. Construction planning, equipment, and methods. 8th. New York: McGraw Hill, 2011. ISBN 0071289518.
- Rayner, Paul; Reiss, Geoff; MacNicol, Donnie. Portfolio and programme management demystified : managing multiple projects successfully. Second edition. London ; New York: Routledge. Taylor & Francis Group, [2013]. ISBN 9780415558341.