Course guide
2500058 - GECGPROJOB - Project 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). (Compulsory subject).

Academic year: 2023 **ECTS Credits:** 6.0 **Languages:** Spanish, English

LECTURER

Coordinating lecturer: JOSE TURMO CODERQUE

Others: SEYEDMILAD KOMARIZADEHASL, NIKOLA TOSIC, JOSE TURMO CODERQUE, MANUEL VALDES LOPEZ

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)
14409. Knowledge of construction procedures, construction machinery and techniques of organization, measurement and evaluation of works. (Common module to the Civil branch)
14415. Ability to apply construction procedures, construction machinery and construction planning techniques. (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.
14381. Understanding of the multiple technical and legal conditions that arise in the construction of a public work, and ability to use proven methods and accredited technologies, in order to achieve the highest efficiency in construction while respecting the environment and the protection of the health and safety of workers and users of public works.
14382. Knowledge, understanding and ability to apply the necessary legislation during the exercise of the profession of Technical Engineer of Public Works.
14383. Ability to project, inspect and direct works, in their field.
14388. Knowledge and ability to apply business management techniques and labor legislation.
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 4 hours a week of face-to-face classes in the classroom. Some online sessions are planned. In some sessions the reverse methodology is proposed. There are three groups, one in Spanish/Catalan and the other in English. In the Spanish/Catalan group, the Spanish option is marked because the teachers' communication will be mostly in Spanish. The teachers' communication with the English group will be fundamentally in English. They are dedicated to theoretical classes in which the teacher presents the basic concepts and materials of the subject, presents examples and performs exercises. Classes are devoted to problem solving with increased interaction with students. Practical exercises are carried out 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 held in Spanish or Catalan and, exceptionally, in English in the Spanish/Catalan group and in English in the English group. 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. Site visits made within the framework of the subject, if applicable, will be in Spanish or Catalan.

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

Develop a practical work in the framework of a company.

· Put into practice the knowledge and skills acquired.
· Write rigorous, clear, accurate and traceable technical reports.
· Search and find for yourself the information necessary to carry out the different tasks that may be entrusted to you during the practice.
· Participate effectively in technical coordination and management meetings.
· Make judgments and express, clearly and precisely, reasoned opinions regarding the different areas of management or regarding research and development.
· Incorporate effectively into an interdisciplinary, creative and multilingual work environment in the field of civil engineering.

The most common contents of the practices carried out by the students are to support:
· Carrying out technical documentation and economic studies for tenders.
· The list of civil engineering projects. Collaboration in carrying out calculations and calculation annexes, sketches and plans, measurements for budgets.
· Follow-up tasks, quality control contractor contrast in assistance and construction management.
· Planning, production, monitoring, cost and quality control tasks in the works.
· Communication with affected service companies for projects and works.
· The management of projects and works through BIM.
· Territorial planning tasks.
· Reporting in other areas.

STUDY LOAD

Type	Hours	Percentage
Hours large group	30,0	20.00
Hours medium group	30,0	20.00
Self study	84,0	56.00
Guided activities	6,0	4.00

Total learning time: 150 h

CONTENTS

The project and the work site

Description:
Legislation applicable to public works
Safety and health, Quality and Environment in the work
Resolution of practical cases
Analysis of a real construction project

Specific objectives:
Knowledge of the legislation applicable to works
Knowledge of the application of Health and Safety, Quality and Environment in the work
Application of the concepts of legislation to the resolution of practical cases
Apply the knowledge acquired in the subject

Full-or-part-time: 86h 24m
Theory classes: 12h
Practical classes: 24h
Self study : 50h 24m

Planning

Description:
Technical planning
Economic planning

Specific objectives:
Know how to plan a work technically
Financially plan a work

Full-or-part-time: 14h 23m
Practical classes: 6h
Self study : 8h 23m

Construction

Description:
Construction of linear works
Construction of urban works

Specific objectives:
Know the construction methods and machinery of linear works
Understand the methods, constraints and machinery to build urban works

Full-or-part-time: 43h 12m
Theory classes: 18h
Self study : 25h 12m

GRADING SYSTEM

Qualification formula Exams: NE Exam marks Works: NT Works grade; NET Work exam grade Final subject grade (NFA) NFA=0.7*NE+0.3*NT

EXAMINATION RULES.

The course grade 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. It is necessary to complete the assignments in order to pass the course. 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:

- Neale, R.H.; Neale, D.E; Stephenson, P. Construction planning. 2nd ed. London: ICE Publishing, 2016. ISBN 9780727760579.
- Peurifoy ... [et al.]. Construction planning, equipment, and methods. 8th. New York: McGraw Hill, 2011. ISBN 0071289518.
- Morilla Abad, I. Guía metodológica y práctica para la realización de proyectos. 3a ed. Madrid: Colegio de Ingenieros de Caminos, Canales y Puertos, 2001. ISBN 8438001955.
- Martínez Montes, G.; Pellicer Armiñana, E. Organización y gestión de proyectos y obras. Madrid: McGraw-Hill, 2007. ISBN 9788448156411.