



**UNIVERSIDAD  
DE GRANADA**



**CENTRO DE  
LENGUAS  
MODERNAS**

**CURSOS DE LENGUA Y CULTURA EN  
INGLÉS**

**SCIENCE AND TECHNOLOGY**

**CIVIL ENGINEERING AND SPATIAL  
PLANNING**



## CIVIL ENGINEERING AND SPATIAL PLANNING

### GENERAL DESCRIPTION

Knowledge of the role of civil engineering infrastructures in the transformation and development of Spanish territories. Theoretical-practical knowledge is intended by approaching the history of civil engineering works, as well as by analysing the location of public works in the territory and their territorial impact. Infrastructure development will be attended from the knowledge of the foundations of sectoral planning and its relationship with territorial planning. The incidence of civil engineering infrastructure in the different Spanish territorial and urban models will be assessed. It will show the need for landscape integration of infrastructure in its environment, as well as urban infrastructure and services as building elements of the city and its public spaces. In metropolitan areas, the role of transport and mobility infrastructures and current technological applications will be studied, giving rise to the "Smart Cities". Through the study of national and international cases, students will be given a global vision of the role of civil engineering infrastructure in the transformation and development of different territories. In addition, field visits will be carried out to illustrate the theoretical and practical contents in situ.

### CONTENTS

#### THEORETICAL SYLLABUS:

- Lesson 1. Presentation: Civil engineering infrastructures in the transformation and development of territories.
- Lesson 2. Historical public works and their valuation: main Roman, medieval, Renaissance and 18th-century works, and XIX in urban and territorial conformation.
- Lesson 3. Planning and development of infrastructures within the



## CONTENTS

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framework of territorial planning.

- Lesson 4. The location of public works and their territorial impact.
- Lesson 5. Pathways and road infrastructures and the opening of the territories. The main peninsular crossings.
- Lesson 6. Railways and railway infrastructure and urban systems. The conventional and high-speed rail network in Spain.
- Lesson 7. Channels, dams and hydraulic infrastructures. Irrigation and supply of territories. The basins of Southeast Spain.
- Lesson 8. Ports and port infrastructures and coastal territories: The extensive Spanish Mediterranean coast.
- Lesson 9. Infrastructure and logistics platforms in the large centers of Spanish production and consumption.
- Lesson 10. Urban infrastructure and services. Mobility and Smart Cities in the great Spanish metropolitan areas.

### PRACTICAL AGENDA:

#### Practical sessions

Various practical sessions will be held around case studies with cartography and orthophoto analysis

#### Seminars

The activity of the Seminars will be the preparation and presentation in the class of the case study of the territorial dimensions and impacts of an infrastructure chosen by the students in accordance with the professor at their respective countries and will be at last of 2000 words.

#### Field Practices

Field trips will be made, where the theoretical and practical contents exposed in class will be illustrated in situ.



## TEACHING METHODOLOGY

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Training activities of face-to-face nature. They include:

- Theoretical classes: Exhibition of contents by the teacher that will be discussed in class. It will be accompanied by appropriate teaching materials to facilitate learning (especially photographic and cartographic documents, etc., essential for proper geographical learning). These classes are intended to be interactive, so the participation of the attendees is recommended, as they serve to acquire knowledge, consolidate the fundamental contents of each thematic unit, answer questions and expand some questions that arise in the classroom.
- Practical classes, seminars and field trips. They will be developed to know in a practical way and in their own context the role of civil engineering infrastructures in the transformation and development of territories. The seminars should focus on the exchange of ideas and the sharing of knowledge and experiences, always in relation to the contents and objectives of the subject.
- Commitment and involvement for the individual tutorial plan: training space in which students and teachers generate an interactive process that includes, among other factors, the methodology for studying the subject, the search for the best academic results or the formative orientation that favors autonomous learning and teamwork. You should consider the maximum use of the potential offered by all technologies useful for the training process. Certain classroom sessions will be reserved for collective tutorials, but the student is urged to regularly attend individualized tutorials, since they are decisive for the resolution of doubts or the monitoring of activities and tasks carried out during the course.
- Knowledge assessment as set out in the correspondent section.

Training activities of a non-face-to-face nature. Include:

Autonomous learning activities. Its general purpose is to hold the student responsible for their own learning. They should facilitate the acquisition of skills, seeking the appropriate use of communication skills, both oral and written, not forgetting the training for the interpretation of the contents of the subject. They must relate to the most appropriate academic and professional profile for the subject.



## ASSESSMENT

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- In order to have the right to be evaluated, **attendance at 80% of classes is mandatory**
- CONTINUOUS EVALUATION:

Attendance and participation in practical activities (30%)

Preparation and presentation of Seminars (60%)

Final interview about the contents of the course (10%)

The activity of the Seminars will be the preparation and presentation in the class of the case study of the territorial dimensions and impacts of an infrastructure chosen by the students in accordance with the professor at their respective countries and will be at last of 2000 words.

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