

Course guide 2500035 - GECISOCOPB - Sustainability, Social and Environmental Impact

Last modified: 18/06/2024

Unit in charge: Teaching unit:	Barcelona School of Civil 751 - DECA - Departmen	Engineering t of Civil and Environmental Engineering.		-,,
Degree:	BACHELOR'S DEGREE IN	CIVIL ENGINEERING (Syllabus 2020). (Optional subjection of the sub	ct).	
Academic year: 2024	ECTS Credits: 4.5	Languages: Catalan		

LECTURER

Coordinating lecturer:	MIRIAM VILLARES JUNYENT
Others:	ELISABETH ROCA BOSCH, MIRIAM VILLARES JUNYENT

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)

14410. Knowledge of the typology and calculation bases of prefabricated elements and their application in manufacturing processes. (Specific technology module: Civil Construction)

14411. Knowledge about the project, calculation, construction and maintenance of building works in terms of structure, finishes, facilities and own equipment. (Specific technology module: Civil Construction)

14413. Capacity for the construction and conservation of roads, as well as for the dimensioning, the project and the elements that make up the basic road equipment. (Specific technology module: Civil Construction)

14414. Capacity for the construction and conservation of railway lines with knowledge to apply specific technical regulations and differentiating the characteristics of the mobile material. (Specific technology module: Civil Construction)

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)

TEACHING METHODOLOGY

The course consists of 2 hours per week of classroom activity (large size group) and 1 hours weekly (medium size group).

The 1.5 hours in the large size groups are devoted to theoretical lectures, in which the teacher presents the basic concepts and topics of the subject, shows examples and solves exercises.

The 1.5 hours in the medium size groups is devoted to solving practical problems with greater interaction with the students. The objective of these practical exercises is to consolidate the general and specific learning objectives.

Support material in the form of a detailed teaching plan is provided using the virtual campus ATENEA: content, program of learning and assessment activities conducted and literature.

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

Definition and concept of social-environmental impact. Methods of evaluating socio-environmental impact. Socio-environmental problems in the urban and territorial environment. Case studies, framed in urban and territorial areas and linked to transformations in planning: coastal spaces, open spaces, urbanization, road infrastructures.

Ability to assess the social impact of an infrastructure and the modifying effect it produces in the territory.

Provide the student with basic knowledge about the social impact of public works from the different analysis methods and case studies. Understand the basic concepts that are used in the field of urban planning and civil engineering. Know the main effects of infrastructures in the urban environment and understand the modifying effect that infrastructures produce on the territory, potentials and weaknesses of the cause-effect relationship.

Provide students with basic knowledge about the social impact of public works from the different methods of analysis and case studies. Understand the basic concepts used in the field of urban planning and civil engineering.

STUDY LOAD

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

Total learning time: 112.5 h

CONTENTS

The concept and evolution of social impact

Description:

Description The definition and concept of social impact. The social perception of impacts. The historical and territorial context of social awareness.

The content of impact assessment studies. The evaluation of the social and urban aspects. Valuation methods: quantitative and qualitative

Description and analysis of the main normative texts.

Social impact assessment: qualitative methodologies and quantitative methodologies Description The content of impact assessment studies. The evaluation of social and urban issues. Valuation methods: quantitative and qualitative.

Specific objectives:

Objectives To introduce the subject. Understand the transformative potential of public works on the territory and society. To make it known in the historical context from the second half of the 20th century to the present day.

Objectives To make students understand the impact of public works projects on the physical, social and environmental environment from the different methods of quantitative and qualitative assessment. Explain the main valuation methods. Understand the administrative procedure of current regulations.

Objectives To make known the current legislation and the administrative hierarchy in the different territorial frameworks

Full-or-part-time: 2h 30m Theory classes: 0h 30m Practical classes: 0h 15m Guided activities: 0h 15m Self study : 1h 30m



SOCIO-ENVIRONMENTAL IMPACTS ON THE URBAN ENVIRONMENT

Description:

Description The impacts on the population, on the landscape of the city, on the environment and its balance, on mobility, on services and equipment. The effects linked to the period of works Objectives To understand and reflect on the effects of the infrastructures in the city

Description The study of the environment: the affected neighborhoods. Identification and description of impacts: the barrier effect, the visual impact, the impact on the landscape, the noise, the impact on the equipment. The impacts linked to the works period. The measures taken. The transformations produced Objectives To understand the transformative effect of the infrastructures in the city

Impacts of large infrastructures and urban quality. The cases of the transformations of Sants and La Sagrera with the arrival of the TAV Description The study of the affected neighborhoods. Analysis of the proposals and solutions adopted. The transformations on the urban form Objectives To analyze and to value the changes that produce the great infrastructures in the urban weave

Specific objectives:

Objectives To understand and reflect on the effects of infrastructures in the city

Full-or-part-time: 24h

Theory classes: 10h Self study : 14h

THE SOCIAL, ECONOMIC AND ENVIRONMENTAL IMPACTS OF INFRASTRUCTURES ON THE TERRITORY

Description:

Description The direct effects in the period of works and in the operation of the infrastructures The effects induced in the economic activities and the sector of the production (the industrial location, the creation of technological parks, the tertiary and commercial location, the transformations in the agricultural sector, in the tourism sector). Impacts on city hierarchy and residential expansion / concentration. Objectives To understand the modifying effect that the infrastructures produce on the territory, potentialities and weaknesses of the relation cause effect.

The effects of road infrastructure transformations. The case of the Llobregat Axis Description The historical background: planning and projects of the Llobregat axis. The evolution of the Llobregat axis within the structure of the Catalan road network: connection with the Pyrenees and international route. Socio-economic effects: Impacts on the structuring of the territory. Transformations in the productive structure.

Description The case study of the Ebro Delta canalization. The evolution of the deltaic environment. Socio-economic and institutional agents. The effects: the evolution in the population, agriculture, the protection of the natural spaces. The transformations: the case of the mini-transfer of water to Tarragona, the water conflict and the consequences of the PHN. Description Case study of the intervention in beach regeneration. Description of the coastal environment, the uses and problems of the coast in Catalonia. Technical interventions and management on the beaches. The effects of transformations. Objectives To understand the modifying effect that the interventions and technical actions produce on the open spaces, potentialities and weaknesses of the relation cause effect.

Specific objectives:

Objectives To understand the modifying effect that the infrastructures produce on the territory, potentialities and weaknesses of the relation cause effect.

Objectives: to understand the modifying effects on the territory

Objectives To understand the modifying effect that the interventions and technical actions produce on the open spaces, potentialities and weaknesses of the relation cause effect.

Full-or-part-time: 28h 47m Theory classes: 12h Self study : 16h 47m



Sustainability

Description:

cThe historical context of the appearance of environmental concern and the development discourse is presented sustainable, its institutionalization until the 2030 Agenda and the 17 ODS. It explains how environmental policies have been deployed to protect the territory, from the point of view of protection from natural spaces and biodiversity to the arrangement of the landscape and its integration in planning urban planningontent english

Specific objectives:

1. Know practices to promote the sustainable development of the territory, both natural (PN, PEIM, etc.) and built (urban ecology, sustainable city, etc.).

2. Know the concepts of global transformation of social equity and participatory process.

Full-or-part-time: 2h 30m Theory classes: 0h 30m Practical classes: 0h 15m Laboratory classes: 0h 15m Self study : 1h 30m

ACTIVITIES

Description:

Knowledge of the population. Assessment Activity Description Assessment exercise Objectives Assess knowledge

Specific objectives: Objectives To assess knowledge

Full-or-part-time: 26h 24m Laboratory classes: 11h Self study : 15h 24m

GRADING SYSTEM

The subject's grade is obtained from the continuous assessment grades.

Continuous assessment consists of:

- 3 individual assignments made during the course, (related to activities inside and outside the classroom). 40% of the grade
- 1 group work, carried out throughout the course. 50% of the grade
- Monitoring and participation in classes inside and outside the classroom. a 10%

Criteria for re-evaluation qualification and eligibility: students that failed the ordinary evaluation and have regularly attended all evaluation tests will have the opportunity of carrying out a re-evaluation test during the period specified in the academic calendar. Students who have already passed the test or were qualified as non-attending will not be admitted to the re-evaluation test. The maximum mark for the re-evaluation exam will be five over ten (5.0). The non-attendance of a student to the re-evaluation test, in the date specified will not grant access to further re-evaluation tests. Students unable to attend any of the continuous assessment tests due to certifiable force majeure will be ensured extraordinary evaluation periods.

These tests must be authorized by the corresponding Head of Studies, at the request of the professor responsible for the course, and will be carried out within the corresponding academic period.

Si l'estudiant que es presenta a la reavaluació no supera l'assignatura, es conserva la nota més alta entre el resultat de l'avaluació ordinària i el de la reavaluació.



BIBLIOGRAPHY

Basic:

- Riera, P. Avaluació d'impacte ambiental. Barcelona: Generalitat de Catalunya, Departament de Medi Ambient, 2000. ISBN 8449700868.

- Nogueira, A. (dir). Evaluación de impacto ambiental: evolución normativo-jurisprudencial, cuestiones procedimentales y aplicación sectorial. Barcelona: Atelier, 2009. ISBN 9788496758896.

- Pardo, M. La evaluación del impacto ambiental y social para el siglo XXI: teorías, procesos, metodología. 1a ed. Madrid: Fundamentos, 2002. ISBN 8424509447.

- Baigorri, A. (ed.). Transiciones ambientales y participación: estudios de sociología ambiental [on line]. Salamanca: Amarú, 2012 [Consultation: 15/10/2024]. Available on: <u>http://es.scribd.com/doc/118519108/Transiciones-Ambientales-Web-r2</u>. ISBN 9788481963472.

Complementary:

- Nel·lo, O. Aquí, no!: els conflictes territorials a Catalunya. Barcelona: Empúries, 2003. ISBN 8475963803.

- Territori: observatori de projectes i debats territorials de Catalunya [on line]. [Consultation: 15/10/2024]. Available on: https://monsostenible.net/entitats/territori-observatori-de-projectes-i-debats-territorials-de-catalunya/.