

SUBJECT TEACHING GUIDE

M2171 - Road surfaces

Master's Degree in civil Engineering, Canal and Port Engineering

Academic year 2022-2023

| 1. IDENTIFYING DATA | | | | | |
|----------------------------------|--|------------------|--------------------|------------------|------------------|
| Degree | Master's Degree in civil Engineering, Canal and Port Engineering | | | Type and Year | Optional. Year 2 |
| Faculty | School of civil Engineering | | | | |
| Discipline | SPECIALITY IN TRANSPORT, URBAN PLANNING AND LAND MANAGEMENT | | | | |
| Course unit title and code | M2171 - Road surfaces | | | | |
| Number of ECTS credits allocated | 3 | Term | Semester based (2) | | |
| Web | | | | | |
| Language of instruction | Spanish | English Friendly | No | Mode of delivery | Face-to-face |

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|------------------|--|--|--|--|--|
| Department | DPTO. TRANSPORTES Y TECNOLOGIA DE PROYECTOS Y PROCESOS | | | | |
| Name of lecturer | MIGUEL ANGEL CALZADA PEREZ | | | | |
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| Office | E.T.S. de Ingenieros de Caminos, Canales y Puertos. Planta: + 0. DESPACHO (0076) | | | | |
| Other lecturers | ANGEL VEGA ZAMANILLO | | | | |

3.1 LEARNING OUTCOMES

- Know and know how to apply the legislation and regulations regarding roads.
- Have basic knowledge to design, inspect, build and maintain road works

4. OBJECTIVES

The objective of the subject is to ensure that the student can apply the knowledge acquired in the design, project, construction, conservation and maintenance of roads, in a work context.

6. COURSE ORGANIZATION

| CONTENTS | |
|----------|--|
| 1 | -Introduction and types of pavements -Aggregates -Asphaltic binders. -Untreated granular layers -Granular layers treated -Auxiliary treatments -Chip seal paving |
| 2 | -Microagglomerates -Bituminous mixtures -Concrete pavement |
| 3 | Pavement pathology. -Auscultation and conservation: definitions, specifications, devices and tests. -Pavements design -Rehabilitation of pavements: road regulations and sizing. -Recycling of pavements: road regulations |

7. ASSESSMENT METHODS AND CRITERIA

| Description | Type | Final Eval. | Reassessn | % |
|---|-----------------------|-------------|-----------|---------------|
| theoric exam | Written exam | No | Yes | 50,00 |
| theoric exam | Others | No | Yes | 40,00 |
| Laboratory practices | Laboratory evaluation | No | No | 10,00 |
| TOTAL | | | | 100,00 |
| Observations | | | | |
| <p>Values in each recoverable test between 3.5 and 4.9, would allow to make the weighted average in both the ordinary and extraordinary call.</p> <p>The grades between 3.5 and 4.9 in the ordinary call are not maintained for the extraordinary call.</p> <p>In the event that an early call is granted, the evaluation of the subject will be complete. It will consist of a theory part, with a weight of 50% of the final grade; and another of exercises with a weight of 50% total. To be able to perform the average it will be necessary to obtain at least a 3.5 in each of the parts.</p> <p>Note: According to Royal Decree RD 1125/2003 on the European credit system and the qualification system in university degrees of an official nature and valid throughout the national territory, the results obtained by the student in each of the subjects of the curriculum will be graded according to the following numerical scale from 0 to 10, with an expression of one decimal place, to which may be added its corresponding qualitative qualification:</p> <p>0.0-4.9: Suspense (SS). 5.0-6.9: Approved (AP). 7.0-8.9: Notable (NT). 9.0-10: Outstanding (SB)</p> | | | | |
| Observations for part-time students | | | | |
| <p>Part-time students may choose to have their assessment as a full-time student, or take the two recoverable tests in the ordinary and extraordinary calls, which will consist of a theory part, weighing 50% of the final grade; and another of exercises with a weight of 50% total. To be able to perform the average it will be necessary to obtain at least a 3.5 in each of the parts. If a grade of at least 5 is achieved in any of the two recoverable tests of the ordinary call, it will be released for the extraordinary call. The conditions to pass the subject are the same as those included in the previous section of observations</p> | | | | |

8. BIBLIOGRAPHY AND TEACHING MATERIALS

BASIC

Apuntes y anotaciones de la asignatura
Normativa vigente