

Mobility, Logistics and Transport

Code: 104542
ECTS Credits: 6

Degree	Type	Year	Semester
2503743 Management of Smart and Sustainable Cities	OB	3	1

The proposed teaching and assessment methodology that appear in the guide may be subject to changes as a result of the restrictions to face-to-face class attendance imposed by the health authorities.

Contact

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Use of Languages

Principal working language: catalan (cat)
Some groups entirely in English: No
Some groups entirely in Catalan: Yes
Some groups entirely in Spanish: No

Teachers

Oriol Marquet Sarda
Irene Gómez Varo

Prerequisites

There are no prerequisites.

Objectives and Contextualisation

This subject aims to study mobility and transport within the framework of the new paradigm of sustainability. More specifically, the following specific objectives are raised.

- Know the basic concepts of mobility
- Understand the complex relationship between mobility and territory
- Know the limits and impacts associated with the current mobility model
- Understand and be able to predict the positive and negative externalities of future developments in terms of mobility and transport
- Know the main methodologies of study of mobility
- Know the necessary instruments and their methodologies for the management of mobility

Competences

- Generate innovative and competitive proposals in professional activity.
- Identify and use different sources, models and data bases of information generated by urban activity, as well as their principles of operation, access policies and standards.

- Measure the technological infrastructure necessary to respond to the needs of cities, understanding the interactions between technological, social and operational aspects of cities.
- Students must be capable of collecting and interpreting relevant data (usually within their area of study) in order to make statements that reflect social, scientific or ethical relevant issues.
- Students must develop the necessary learning skills to undertake further training with a high degree of autonomy.

Learning Outcomes

1. Analyse and model urban-mobility flows (traffic and public transport) in order to plan and manage the necessary services and infrastructures required to serve this area.
2. Apply methods and techniques for capturing, storing, modelling, analyzing and using data for the environmental management of mobility and territorial planning.
3. Be aware of required standards for processing information in each of the fields referred to.
4. Generate innovative and competitive proposals in professional activity.
5. Students must be capable of collecting and interpreting relevant data (usually within their area of study) in order to make statements that reflect social, scientific or ethical relevant issues.
6. Students must develop the necessary learning skills to undertake further training with a high degree of autonomy.

Content

1. Introduction to mobility
 - 1.1 What is mobility?
 - 1.2 The evolution of mobility: farther, faster, more distance
2. The modes of transport
 - 2.1 The modes of transport the instruments that move us
 - 2.2 Access to modes of transport
 - 2.3 Transport for everyone
3. The main determinants of the forms of mobility and transport
 - 3.1 Mobility and urban form
 - 3.2 Mobility and socio-economic factors
 - 3.3 Habits, ideology and beliefs behind the use of modes of transport
3. The costs of mobility
 - 3.1 Environmental costs
 - 3.2 Social costs
 - 3.3 Health costs
 - 3.4 Economic costs
5. Future scenarios: challenges and solutions in the context of the Smart City
 - 5.1 Defining the objectives of the future mobility model
 - 5.2 Clean technologies

5.3 Automation

5.4 Vehicles of personal mobility

5.5 Utopias

6. The sources to study mobility

6.1. Quantitative sources in the study of the supply

6.2. Quantitative sources in the study of demand

6.3. Qualitative sources in the study of mobility

Methodology

Methodology

The teaching methodology will consist of:

- Theoretical classes
- Sessions for debate and critical analysis of multimedia media
- Active participation in class discussions
- Presentation of the work
- Course reading

Annotation: Within the schedule set by the centre or degree programme, 15 minutes of one class will be reserved for students to evaluate their lecturers and their courses or modules through questionnaires.

Activities

Title	Hours	ECTS	Learning Outcomes
Type: Directed			
Practical sessions and class debates	20	0.8	1, 2
Theoretical classes	37	1.48	3, 6, 5
Type: Supervised			
Class project	20	0.8	4
Individual or small group tutorization	10	0.4	4
Type: Autonomous			
Preparation of written exams	18	0.72	6
Readings	18	0.72	3, 5

Assessment

The final mark will be obtained from:

Exam: 40%

Final project: 40%

Practices and participation: 20%

To be evaluated you will need:

- Do the exam
- Deliver the work
- Have delivered at least 70% of the practices

Otherwise the note will be considered as non-evaluable.

There will be only reassessment of the exam

The copying or plagiarism of material, both in the case of works and in the case of examinations, constitute a crime that will be sanctioned with a zero to the activity. In case of recidivism, the whole subject will be used. Let's remember that a "copy" is considered a work that reproduces all or most of the work of one or more partners. "Plagiarism" is the fact of presenting all or part of a text of an author as its own, without mentioning the sources, being in paper format in digital format. See UAB documentation on "plagiarism" at: http://wuster.uab.es/web_argumenta_obert/unit_20/sot_2_01.html

Assessment Activities

Title	Weighting	Hours	ECTS	Learning Outcomes
Class project	20%	12	0.48	2, 5
Exam	40%	3	0.12	2, 3, 6
Practic exercises and participation	40%	12	0.48	1, 3, 4, 6

Bibliography

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Software

Excel, Word or similar.