VNIVERSITAT DE VALÈNCIA

Course Guide
44956 Transport Economics

COURSE DATA

DATA SUBJECT

Code: 44956
Name: Transport Economics
Cycle: Master's Degree
ECTS Credits: 5
Academic year: 2026-27

STUDY (S)

Degree	Center	Acad. year	Period
2242 - Master's Degree in Economics	Facultat d'Economia	1	Second quarter

SUBJECT-MATTER

Degree	Subject-matter	Character
2242 - Master's Degree in Economics	Materia analítico-conceptual	ELECTIVES

COORDINATION

FEO VALERO MARIA CONCEPCION

CANTOS SANCHEZ PEDRO

SUMMARY

The main objective of Transport Economics is the study of the transport sector from an economic point of view. With this purpose different instruments, based on theoretical analysis as well as on other types of empirical or applied techniques, will be analyzed. In particular, the usual topics of transport economics will be studied: production and costs in transport, demand analysis, pricing and externalities, investment decisions in infrastructures and economic regulation in transport markets.

The transport economics is a field relatively young in the economic analysis that in recent years has undergone a remarkable development. Although in the first years, transport economics was mainly concerned with purely empirical or applied issues, the works that study the transport from a theoretical point of view have also grown in a very significant way.

PREVIOUS KNOWLEDGE

RELATIONSHIP TO OTHER SUBJECTS OF THE SAME DEGREE

There are no specified enrollment restrictions with other subjects of the curriculum.

OTHER REQUIREMENTS

It is advisable to study the topics of microeconomics, industrial economics and econometrics. Industrial economics models are an appropriate tool to solve some of the most common problems in transportation. The problem of natural monopolies, strategic interaction in transportation markets, information problems, contestable markets, and transportation pricing are just some of the issues that transportation economics is addressing thanks to the progress in industrial organization. On the empirical side, advan

COMPETENCES / LEARNING OUTCOMES

2242 - Master's Degree in Economics

Acquire linguistic and technological skills: ability to use English in the scientific field of economics and to use ICT in the field of economic study and research.

Acquire social skills to work in a team: capacity to coordinate activities, ethical and responsible commitment, leadership and mobilisation capacity, all of which are important for economic and team management.

Be able to technically analyse the contents of the official reports published by the most important international organisations (IMF, OECD, World Bank, WTO, etc.) and to produce professional reports for similar bodies.

Communicate orally and in writing using an inclusive and egalitarian language.

Desarrollar la capacidad crítica, impulsar la inquietud y el interés investigador en el ámbito de la economía, especializarse en el manejo de material bibliográfico, en la utilización de bases de datos económicas y programas matemáticos y estadísticoeconómetricos, así como aprender a transmitir de forma adecuada los resultados de investigadora a través de artículos científicos y
ponencias en congresos.

Design theoretical frameworks and advanced models for the empirical contrast between the theories of behaviour of economic agents and institutions.

Develop time management skills for learning: skills for organisation, planning and decision making in the process of learning advanced economics.

Gain the capacities of abstraction and logical reasoning that are essential for the creation of economic models: ability to express oneself using formal, graphic and symbolic languages, to apply analytical and mathematical methods to economics, and to relate and manipulate concepts according to a purpose.

Know how to analyse the models of imperfect competition in the markets, both under certainty and under imperfect and incomplete information.

Know how to identify the relevant market and the competition model that is best suited to the strategic behaviour of the agents in the market.

Know how to promote, in academic and professional contexts, technological, social or cultural progress in a knowledge-based society that is founded on the respect for: (a) fundamental rights and the principles of equal opportunities for men and women, which involves using an inclusive and egalitarian language that promotes the visibility of women; (b) the principles of equal opportunities and universal accessibility for

people with disabilities, and (c) the distinctive values of a culture of peace and democratic values.

Know the role of the state in the analysis of markets and institutions.

Students should apply acquired knowledge to solve problems in unfamiliar contexts within their field of study, including multidisciplinary scenarios.

Students should be able to integrate knowledge and address the complexity of making informed judgments based on incomplete or limited information, including reflections on the social and ethical responsibilities associated with the application of their knowledge and judgments.

Students should communicate conclusions and underlying knowledge clearly and unambiguously to both specialized and non-specialized audiences.

Students should demonstrate self-directed learning skills for continued academic growth.

Students should possess and understand foundational knowledge that enables original thinking and research in the field.

Use the knowledge gained to identify career prospects and sources of employment, and acquire the personal skills that facilitate professional insertion and development. To that end, students should know and know how to use job search techniques and tools and consider entrepreneurship as a professional alternative.

DESCRIPTION OF CONTENTS

1. Production and costs in transport

- Definition of outputs and inputs in transport
- Partial indexes of productivity
- Econometric and non-econometric approaches to measure productivity and efficieny
- Definition of transport costs: producer, user and externalities
- Producer costs:
- User costs: the congestion.

De Rus et al, chap 2 and 3
Button, chap 3 and 5
Small and Verhoef, chap 3

2. Pricing in transport

- First best pricing: pros and cons
- Second best pricing: systems of price discrimination, Ramsey-pricing or cross-subsidies.
- Pricing under capacity restrictions and external costs (congestion and Möhring effect)

De Rus et al, chap 5
Small and Verhoef, chap 5
Button, chap 11 and 12

3. Externalities

- Definition and types of externalities
- Environmental externalities
- Safety externalities
De Rus et al, chap 8
Button, chap 6 and 8
Small and Verhoef, chap 5

4. Investment in transport infrastructures

- Introduction to the Cost-Benefit Analysis
- Decision criteria
- Equity and uncertainty in the CBA.
De Rus et al, chap 7
Small and Verhoef, chap 5
Button, chap 11 and 12

5. Economic regulation in transport

- Regulation for technological reasons.
- Regulation for social interest or externalities
- Different regulatory mechanisms:
o Limits on firms profitability
o Limits on prices or quality
De Rus et al, chap 6
Button, chap 14
Small and Verhoef, chap 6

6. Transport demand

- Approaches to characterize transport demand (aggregate vs disaggregated)
- Theoretical background: from the neoclassical model of consumer behaviour to the random utility model.
- Discrete choice models
- The value of time
- Policy indicators
- Example of application: modelling of modal choice

De Rus et al, chap 4
Ben-Akiva, M. and Lerman, R.S., chap 3
Ortúzar, J. de D. and Willumsen, L.G., chap 7

WORKLOAD

PRESENCIAL ACTIVITIES

Activity	Hours
Theory	40,00
Classroom practices	10,00
Total hours	**50,00**

NON PRESENCIAL ACTIVITIES

Activity	Hours
Attendance at other activities	0,00
Individual or group project	0,00
Independent study and work	0,00
Preparation of lessons	0,00
Preparation for assessment activities	0,00
Resolution of case studies	0,00
Total hours	**0,00**

TEACHING METHODOLOGY

A global approach will be used because the main transport problems are common to all modes of transport (but with some variations). However, throughout the different lessons, applications will be provided to specific situations and means of transport. The purpose with this approach is twofold. On the one hand, it aims to introduce the student to a field of research that in recent years has experienced a remarkable development in economic analysis, and on the other hand, to offer the student a large number of ideas and lines of work that can guide their research future. For this reason, a longer list of references will be provided to the students interested in a particular topic.

The methodology will combine theoretical and practical sessions. In the theoretical sessions, the teacher will develop the content of the topics proposed in the teaching guide. In the practical sessions some exercises that previously have been placed at the virtual classroom will be solved. Likewise, the students, grouped in groups, will present in a summarized way some articles that serve to illustrate the concepts and analysis previously presented in the theoretical sessions.

EVALUATION

The subject will be evaluated from the following procedure:

1. A written exam at the end of the semester (up to 7 points).

2. The evaluation of the practical activities developed by the student during the course (up to 3 points). This evaluation will be composed of the assessment of the exercises delivered by each student, as well as the presentations made in class.

REFERENCES

- Button, K. (2010). Transport economics, Edward Elgar Publishing Limited De Rus, G., J. Campos y G. Nombela (2003). Economía del transporte. Antoni Bosch, editor. Small, K. and E. Verhoef (2007). The Economics of Urban Transportation, Routledge Winston, C. (1985). Conceptual developments in the economics of transportation: An interpretative survey. Journal of Economic Literature, vol. 23, 57-94 De Palma, A., R. Lindsey, E. Quinet, R. Vickerman (Eds.), Handbook in Transport Economics, Edward Elgar, Cheltenham, UK and Northampton, Mass, USA (2011), pp. 708-725
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- Ben-Akiva, M. y Lerman, R.S (1985). Discrete Choice Analysis, MIT Press, editor.
- Ortúzar, J. de D. y Willumsen, L.G., (2011). Modelling Transport, Wiley, editores.