

COURSE OF STUDY Innovation, Governance and Sustainability

ACADEMIC YEAR 2023-2024

ACADEMIC SUBJECT Transport Economics and Sustainable Mobility

General information	
Year of the course	II
Academic calendar (starting and ending date)	I semester (18/09/2023 – 12/01/2024)
Credits (CFU/ETCS):	6
SSD	SECS-P/06
Language	Italian and English
Mode of attendance	Attendance is not mandatory but is strongly recommended

Professor/ Lecturer	
Name and Surname	Angela S. Bergantino (4 CFU) Ada Spiru (2 CFU)
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Telephone	
Department and address	Department of Economics, Management and Business Law, III floor (DEMEDI)
Virtual room	
Office Hours (and modalities: e.g., by appointment, on line, etc.)	Monday, 8:30 -11:00 A.M.

Work schedule			
Hours			
Total	Lectures	Hands-on (laboratory, workshops, working groups, seminars, field trips)	Out-of-class study hours/ Self-study hours
48	36	12	
CFU/ETCS			
6	4.5	1.5	

Learning Objectives	The course aims to provide students with skills related to transport infrastructures and services with particular reference not only to their role within economic systems but also to their impact on the environment and on the territorial context. In particular, at the end of the course the student will be able to: evaluate the market functioning for transport services and infrastructures; conduct demand forecasting studies and analyse traveller behaviour; identify the main characteristics of the transport offer; analyse the environmental impact of the different modes of transport and related investments; contextualize transport services and infrastructures within smart cities; guide the strategic and operational choices of public and private operators in relation to the transport of people and goods; evaluate the interactions between accessibility and tourism.
Course prerequisites	The course requires a good knowledge of fundamentals of Microeconomics, Production theory and Quantitative analysis, as well as a good command of English.

Teaching strategie	Frontal lessons with discussion. Exercises with presentations and discussion also by students. Seminars and meetings with professors from other universities,
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	entrepreneurs, managers, etc.
Expected learning outcomes in terms of	
Knowledge and understanding on:	<p>The course of Transport economics and sustainable mobility aims to provide students with analytical knowledge and useful tools for understanding and analysing the functioning of:</p> <ul style="list-style-type: none"> ○ transport and logistics markets ○ transport systems and infrastructures ○ strategic interactions between companies in the transport and logistics sector ○ main issues related to the ecological transition and technological innovation in the transport sector
Applying knowledge and understanding on:	<p>The student will be able to:</p> <ul style="list-style-type: none"> ○ apply the main theories of industrial organization and data analysis, also from an evaluation perspective ○ analyse the behaviour and performance of the main economic agents in the transport and infrastructure sector in different market conditions and structures ○ identify the strategic behaviours and investment and / or production choices of the companies that operate within these specific sectors
Soft skills	<ul style="list-style-type: none"> • <i>Making informed judgments and choices</i> The acquired knowledge will allow the student to: <ul style="list-style-type: none"> ○ independently evaluate the competitive dynamics of the transport sectors and the strategic behaviour of companies ○ identifying any critical issues, and to suggest possible policy solutions ○ evaluate investment choices and the economic-financial consequences of these choices • <i>Communicating knowledge and understanding</i> At the end of the course, the student will have acquired: <ul style="list-style-type: none"> ○ command of the technical language ○ he/she will be able to argue and discuss in an appropriate manner the topics of Transport Economics and Sustainable Mobility. ○ ability to use graphical analysis to illustrate economic phenomena • <i>Capacities to continue learning</i> At the end of the course, the student will be able to: <ul style="list-style-type: none"> ○ identify the main characteristics of the ecological transition within the mobility sector and transport infrastructure ○ the costs and benefits associated with ○ the resulting market structures and the supply planning and demand analysis tools
Syllabus	
Content knowledge	<p>The course aims to provide the analytical basis for understanding the strategies of transport companies and consumer behaviour (users, travellers, producers), which will be analysed in the light of the results of the modern theory of industrial organization. Transport economics and sustainable mobility provides the schemes, concepts, and tools useful for framing decision-making problems and for developing a rigorous capacity for strategic thinking and evaluation of choices.</p> <p>Course program:</p> <ul style="list-style-type: none"> • Fundamental concepts: introduction to transport economics and sustainable mobility.

	<ul style="list-style-type: none"> • Summary of the fundamentals of microeconomics applied to transport economics and networks. • Production: characteristics, organisation, functioning and market structure of the main transport sectors (LPT, short and long haul, passengers and goods, maritime-port, air, railway, road, etc.) and analysis of the main changes induced by the ecological transition in the various modal compartments. • Demand: Elasticity; Revealed and Stated Preferences; • Investments: Investment Choices, Evaluations, Cost Benefit Analysis. • Planning and Transport Policy: Planning documents. • Special topics: Transport, environment and ecological transition, regulatory models and regulatory actors, smart mobility, urban planning and smart city, tourism and accessibility, green logistics, the figure of the mobility manager.
Texts and readings	<ul style="list-style-type: none"> - Button K. J. (2022). Transport Economics, 4th edition, Edward Elgar, ISBN: 978178643566 8 <p>For attending students it will be possible to replace part of the text with:</p> <ul style="list-style-type: none"> - Bergantino A.S., A. Buongiorno e M. Intini (2021), Mobilità e sviluppo turistico sostenibile. una prospettiva economica, Carocci, ISBN: 9788829005642 (parte 1 e 2) - Lecture notes from the professor.
Notes, additional materials	To prepare for the exam, it is recommended to regularly carry out the exercises assigned by the professor and to prepare sector reports.
Repository	Lecture notes uploaded to the course Teams platform.

Assessment	
Assessment methods	Written exam. Classroom presentations and the drafting of reports on specific in-depth topics are also foreseen for attending students.
Assessment criteria	<p>The student must be able to:</p> <ul style="list-style-type: none"> • <i>Knowledge and understanding</i> <ul style="list-style-type: none"> ○ explain how the transport and logistics sectors work; ○ understand strategic interactions between businesses and major transport policy problems; • <i>Applying knowledge and understanding</i> <ul style="list-style-type: none"> ○ apply the main theories of industrial organization to analyse the behaviour and performance of transport and logistics companies in different market conditions and structures; • <i>Autonomy of judgment</i> <ul style="list-style-type: none"> ○ evaluate, with independent judgement, the dynamics that are affecting the transport sector following the energy transition, identifying the effects within the production chains and suggesting possible policy solutions; • <i>Communicating knowledge and understanding</i> <ul style="list-style-type: none"> ○ discuss and argue, using technical language, the main issues of transport economics; • <i>Communication skills</i> <ul style="list-style-type: none"> ○ discuss and argue, using technical language, the main issues of transport; ○ use graphic analysis; • <i>Capacities to continue learning</i> <ul style="list-style-type: none"> ○ analytically solve the main problems of the transport economy (quantity-optimal price; price differentiation, willingness to pay, evaluation of time and other attributes of transport services, etc.)

Final exam and grading criteria	<p>The test is written and is divided into two parts*:</p> <ul style="list-style-type: none"> • I part: open-ended questions on issues of transport economics and sustainable mobility (15 points); • II part: multiple choice and/or true or false questions (15 points). <p>During the exam it will not be possible to consult notes and/or texts. The use of a calculator will not be necessary and, therefore, no electronic calculation tool is permitted.</p> <p>*For attending students, an ad hoc test will be scheduled at the end of the course, which can be recorded at the first session. The overall mark will take into account the result obtained during the written test and the evaluation obtained from the supplementary activities carried out during the course (up to a maximum of 5 points).</p>
Further information	
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