

Syllabus of Record

Program: CET Barcelona

Course Code / Title: BC/MGMT 330 Transportation and Logistics Management

Contact Hours: 45

Recommended Credits: 3

Primary Discipline / Suggested Cross Listings: Management / International Business

Language of Instruction: English

Prerequisites / Requirements: Introductory Supply Chain or Operations Management course recommended

Description

Barcelona is a major international and regional hub for transportation and logistics, connecting major industries such as automotives, textiles, fashion, food, and tourism across Europe and beyond. This course offers students an opportunity to explore the essential role of transportation networks and logistics in facilitating trade and economic growth in a highly dynamic setting. With Barcelona's unique position as a gateway to the Mediterranean, the European markets and Latin America, students delve into the challenges and opportunities in optimizing transportation routes, managing logistics infrastructure, and enhancing sustainability. Leveraging Barcelona's rich logistics ecosystem as a living classroom, this course combines in-depth case studies with field-based learning experiences. Students engage in classroom sessions complemented by guest lectures from industry leaders and visits to key sites, such as the Port of Barcelona, cutting-edge manufacturing and logistics centers, and El Prat Airport. By the end of the course, students gain both theoretical knowledge and practical skills in designing and managing efficient, sustainable transportation and logistics systems. Immersed in Barcelona's forward-thinking transportation and logistics culture, students learn to tackle the challenges of global and regional transportation in one of Europe's most important logistics hubs.

Objectives

Through their participation in this course, students will:

- Understand the core elements of logistics and transportation systems in the global and local Barcelona / Catalonia context.
- Identify and describe the dynamics of key logistics and transportation decisions, including the design of the distribution network, choice of transportation modes and routes, location and design of distribution centres, and management of last mile logistics in the global and local Barcelona / Catalonia context.
- Assess how these decisions are made by leading companies and what influence these decisions have on the performance dimensions of flexibility, speed, reliability, accessibility, and cost in the global and local Barcelona / Catalonia context.
- Apply best practices to the challenges typical companies face in managing their logistics and transportation network, including how to innovate considering competitive pressures and external shocks in the global and local Barcelona / Catalonia context.

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Requirements

Active participation is essential in this course. **All assignments must be submitted via Canvas unless otherwise noted.**

Graded assignments include:

- **Participation:** Students are expected to attend each class and field study course component, as outlined in the CET Attendance Policy. Students are expected to read all assigned materials before the relevant class session and come prepared to participate thoughtfully in class discussions. Reading assignments are generally 20-30 pages per class session.
- **Homework:** 2 short response papers.
- **Quizzes:** 2 short quizzes to test students' comprehension of readings.
- **Group presentation:** 15 minutes, with 5 minutes for questions, using an element of the local context to illustrate concepts discussed in an assigned reading.
- **Individual final paper:** 8-10 pages on a topic determined in consultation with the faculty member.

Grading

The final grade is determined as follows:

- Participation (see rubric below) 15%
- Homework (2 at 5%) 10%
- Quizzes (2 at 10%) 20%
- Group presentation 25%
- Final paper 30%

Class Participation Grading Rubric

	A – 90-100% Exemplary	B – 80-89% Proficient	C – 70-79% Developing	D – 60-69% Unacceptable	F – 0-59% Missing
Frequency of class participation	Actively contributes 2+ times per meeting	Actively contributes at least 1 time per meeting	Actively contributes at least half of the time during term	Actively contributes less than half of the time during term	Does not contribute
Quality of class participation*	Contribution is always thoughtful, accurate, and constructive, frequently interacting with peers	Contribution is mostly thoughtful, accurate, and constructive, usually interacting with peers	Contribution is somewhat thoughtful, accurate, and constructive, sometimes interacting with peers	Contribution is rarely thoughtful, accurate, and constructive, rarely interacting with peers	Does not contribute or interact with peers
Level of class preparation	Always fully prepared and on task	Mostly prepared and on task	Somewhat prepared and on task	Rarely prepared and on task	Consistently unprepared and not on task

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Readings & Resources

Textbooks

Christopher, Martin. *Logistics & Supply Chain Management*. New York: Pearson, 2023.

Rudd, Jerry, *A Practical Guide to Logistics: An Introduction to Transport, Warehousing and Distribution*. New York: Kogan Page, 2024.

Other

USA Department of Commerce, International Trade Administration. Spain Country Commercial Guide. Distribution and Sales Channels
<https://www.trade.gov/country-commercial-guides/spain-distribution-sales-channels>

Further reading material will be provided throughout the course.

Content

Topic 1 – Introduction to Transportation and Logistics in Barcelona / Catalonia

- The development of transportation in Barcelona, a historical overview
- Key concepts and terminology in transportation and logistics
- Key players in Barcelona's transportation and logistics sector (Port of Barcelona, Airport, SEAT, Mercabarna)
- Strategic location decisions in supply chain network design

Topic 2 – Going To Market, The Foundation of Transportation and Logistics

- Matching supply and demand
- Distribution channels as value delivery systems
- The omni-channel revolution
- Distribution strategy: should we operate our own logistics or contract out?
- Supply chain management versus logistics
- Network design optimization

Topic 3 – Modes of Transportation in Barcelona / Catalonia

- Road transportation: freight corridors
- Rail transportation: connections to Europe and Catalonia's rail network
- Maritime transport: Port of Barcelona operations and services
- Air Transport: Barcelona–El Prat Airport and its role in freight

Topic 4 – Barcelona's role in International Trade, a Leader in the Mediterranean and European Supply Chains

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- Incoterms and CMR Convention
- The role of the Port of Barcelona and Barcelona El Prat Airport in international trade
- Barcelona's Logistics Hubs and Freight Corridors
- Barcelona's infrastructure investments (Zona Franca)
- Customs procedures and compliance in the mediterranean region

Topic 5 – Supply Chain Management in Barcelona's Key Industries

- Automotive logistics (the case of SEAT's supply chain and exports)
- Food and agriculture supply chains (Mercabarna as a Case Study)
- Retail and E-commerce distribution in Barcelona
- Tourism supply chains in Barcelona / Catalonia

Topic 6 – Sustainable and Green Logistics in Barcelona

- Environmental impact of transportation in Barcelona and Catalonia
- Barcelona's Urban Mobility Plan (UMP), Barcelona's Climate Action Plan 2018-2030, Superblock Module and Emission Reduction Strategies
- Sustainable approaches and climate strategy of the Port of Barcelona

Topic 7 – Warehouse Management and Distribution Centers in Barcelona

- The physical infrastructure
- Warehouse management systems
- Barcelona's key warehousing locations (Zona Franca and Port)
- Warehouse automation and smart technologies in Barcelona

Topic 8 – Last Mile Logistics: Evaluating Alternatives in Barcelona

- Innovative technologies and the future of last mile delivery (drones, autonomous vehicles, and robotics)
- Sustainable last-mile solutions (Barcelona Living Lab, HALLO project)
- Impacts and customer expectations

Topic 9 – The Financial Impact of Logistics

- Breaking down logistics costs: a comprehensive analysis of fixed and variable expenses
- Cost optimization strategies in logistics: reducing expenses without compromising service
- Measuring and managing the financial impact of logistics on profit margins

Topic 10 – Future Trends in Transportation and Logistics in Barcelona and Beyond

- Autonomous delivery vehicles and Barcelona's mobility labs (Urban Mobility Lab, Barcelona Innova Lab Mobility)
- Barcelona's role in Europe's high-speed rail initiatives
- Smart city planning

** Syllabus is subject to minor changes in term-specific syllabus at instructor discretion.*