Course Syllabus

TECH 491-SIS
Innovation in Public Transportation Systems
in the European Union

Course Description

As societies become ever more mobile, the European Union faces challenges to respond to the increased demand for public transportation systems that are fast, efficient, and environmentally friendly. Transportation drives trade and economic growth, contributing to employment and overall prosperity. Europe is a leader in transport innovation, implementing strategies, programs, initiatives, and investments for public transportation system improvements across the EU. Throughout this course, students will explore transport policy in the EU, the organizations involved, and the way that public transportation has evolved in the EU in general and in the Netherlands, France, Italy, and Greece in particular. Students will consider the remaining challenges to transport innovation and the future for systems and policy in the European Union.

This Supervised Independent Study (SIS) course will guide students through the basics of innovation in public transportation systems in the European Union, while providing the opportunity for an independent exploration of the subject.

Course Objectives

Upon successful completion of this course, students will be able to:

1. Understand transportation policies in the European Union and key organizations involved in decision-making, funding, and management of initiatives
2. Identify significant policy landmarks and innovations in transportation
3. Describe the main modes of transportation in the European Union and the successes and shortcomings of each
4. Analyze transportation in the EU in geographical and temporal capacities
5. Articulate the main challenges in transportation innovation in the European Union
6. Identify strengths and failures in the transportation systems in the Netherlands, France, Italy, and Greece
7. Describe the future outlook for innovation in public transportation systems in the European Union
Course Requirements

This course requires independent research, organization, and academic discipline. Students are expected to complete the required and additional readings in pace with their assignments and the course outline. Students will meet with their SIS Supervising Professor(s) regularly throughout the course for consultation and assistance. There will be an oral presentation, a midterm exam, a final exam, and three essay assignments.

Students are also required to participate in a minimum of three Forum-Nexus professional visits and three cultural visits. Students may also pursue individual visits to companies and organizations as part of their independent study.

Essay #1 (minimum length: 1,500 words)

- Explain the European Union’s transport policy. What is included? How does it work? What does it do for EU member countries?
- What are 3 of the major organizations/agencies involved in public transportation in the European Union? Describe their function and benefit to being involved.
- Describe a recent transport policy innovation and why it was important.

Essay #2 (minimum length: 1,500 words)

- Describe the primary means of transportation in the European Union. What are the pros and cons of each?
- Explain the most recent major innovation for each mode of transportation.
- Elaborate on the most widely used modes of public transportation in the Netherlands, France, Italy, and Greece. Why is one mode more widely used compared to another? What are the successes or downfalls of each?

Essay #3 (minimum length: 1,500 words)

- Explain the transportation challenges related to the topics of:
  - Congestion
  - Oil dependency
  - Sustainability
  - Infrastructure
- What have been the major innovations to approach each challenge?
- What does the future of public transportation in the European Union look like? What innovations are on the horizon? Share any information specific to the Netherlands, France, Italy, or Greece.

Presentation

Deliver a 15-minute PowerPoint presentation summarizing the main findings of your independent study. Required components include:

- Summary of your goals and objectives
- Overview of public transportation in the European Union
- Overview of recent and upcoming innovations
- Comparison and analysis of the Netherlands, France, Italy, and Greece
- Reflection on what you’ve learned through the SIS course

Required Reading

The EU Explained: Transport
The European Commission, 2014
Available to download online at europa.eu/european-union/file/1232
Recommended Readings

European Commission, 2017

Transportation in Europe
by Logan Grant McPherson
2016

Urban Transportation Innovations Worldwide: A Handbook of Best Practices Outside the United States
by Roger L. Kemp and Carl J. Stephani
McFarland & Company, Inc., 2015

EU Railway Policy-Making: On Track?
by H. Dyrhauge
Palgrave Macmillan, 2013

White Paper on Transport: Roadmap to a Single European Transport Area – Towards a Competitive and Resource-Efficient Transport System
European Commission, 2011

Innovation in European Freight Transportation: Basics, Methodology, and Case Studies for the European Markets
by Eva Savelsberg

Components of Final Grade

Midterm exam 20%
Final exam 20%
Essay #1 15%
Essay #2 15%
Essay #3 15%
Presentation 15%

Grading Scale

93-100 % A
90-92.9 % A-
87-89.9 % B+
83-86.9 % B
80-82.9 % B-
77-79.9 % C+
73-76.9 % C
70-72.9 % C-
67-69.9 % D+
63-66.9 % D
60-62.9 % D-
Below 60 % F
Course Outline

Module 1: Understanding the European Transport Policy and EU Institutions

- Why does the EU have a transport policy?
  - Transport history
  - Transport policy landmarks
- How does the EU transport policy work?
  - Legislation
  - Infrastructure
  - Research and innovation
- What EU transport policy does

- EU Institutions and Bodies
  - European Parliament Committee on Transport and Tourism
  - Council of the European Union Transport, Telecommunications, and Energy Council
  - European Commission Maritime Affairs and Fisheries Department
  - European Commission Mobility and Transport Department
  - European Economic and Social Committee Transport, Energy, Infrastructure and Information Society Section
  - EU Agencies:
    - European Aviation Safety Agency (EASA)
    - European Maritime Safety Agency (EMSA)
    - European Union Agency for Railways (ERA)
    - Innovation and Networks Executive Agency (INEA)
    - The European GNSS Supervisory Authority (GSA)

Module 2: Means of Transport in the EU

- The main means of transport
  - Rail
  - Aviation
  - Road
  - Maritime transport

- Public transportation in cities and metropolitan areas
  - City buses
  - Trolleybuses
  - Trams and light rail
  - Metro systems
  - Suburban passenger trains

- Intercity public transportation
  - Passenger trains
  - High-speed rail networks
  - Coaches
  - Airlines
  - Ferries

Module 3: The Geographical Scope of the Analysis

- The European Union in general
- Special emphasis on:
  - The Netherlands
  - France
  - Italy
  - Greece
Module 4: Temporal Scope of the Analysis
- Main innovations and highlights in the 19th century
- Main innovations and highlights in the 20th century
- Main innovations and highlights in the 21st century

Module 5: Challenges and Solutions
- Major challenges for European public transport
  - Congestion
  - Oil dependency
  - Greenhouse gas emissions and the growing emphasis on sustainability
  - Infrastructure
  - Competition
- Remarkable successes and failures
- Investment and Funding
  - The Connecting Europe Facility (CEF)
  - Transport infrastructure policy
- Coordination and cooperation among regions and countries
- The role of various levels of government
  - City government
  - Regional governments
  - National governments
  - Supranational entities, like the European Union
- The role of the private sector
  - National firms
  - Multinational companies

Module 6: The Future of Public Transportation in the EU
- The future of EU transport policy
- Salient comparisons with the U.S., Japan, China, and other countries
- Quality of life and viable cities
- The outlook for the next few decades

Schedule of Classes and Visits
The detailed schedule of classes, professional visits, and suggested cultural visits for each session is available online at www.forum-nexus.com/schedules.

Academic Integrity
Ramon Llull University, Franklin University Switzerland, and the Catholic University of the Sacred Heart place a high value on the integrity, good conduct, and academic honesty of all students. Students are expected to maintain high standards of academic integrity at all times. Any instance of academic dishonesty, including plagiarism, will result in a grade of F for the course.
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| 5/15 – 6/30 |          | **Pre-Program Preparation**  
Become familiar with the syllabus, identify additional readings, begin readings and research | 1      |
| 7/2    | Amsterdam| **Essay #1 Due**                                 |        |
| 7/2 - 7/3| Amsterdam| **Meeting with SIS Supervising Professor(s)** |        |
|        |          | **Complete Readings and Research**               |        |
| 7/5    | Paris    | **Essay #2 Due**                                 |        |
| 7/10-7/11 | Chamonix| **Meeting with SIS Supervising Professor(s)** |        |
|        |          | **Complete Readings and Research**               | 2      |
| 7/12   | Chamonix | **Midterm Exam**                                 |        |
| 7/16   | Milan    | **Meeting with SIS Supervising Professor(s)** |        |
|        |          | **Complete Readings and Research**               | 3 - 4  |
| 7/20   | Rome     | **Essay #3 Due**                                 |        |
| 7/23   | Rhodes   | **Meeting with SIS Supervising Professor(s)** |        |
|        |          | **Complete Readings and Research**               | 5      |
| 7/26   | Rhodes   | **Final Exam**                                   |        |
| 7/27   | Rhodes   | **Final Presentation**                           |        |