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Università Iuav  
di Venezia

## Sustainable transportation and smart maritime mobility master's degree



# Sustainable transportation and smart maritime mobility master's degree

## Why Università Iuav di Venezia

Venice, an incomparable architectural and urban model, is also the ideal context to study mobility issues: the main modes of transport, from water to land and air, operate and interact in a single integrated system.

Università Iuav di Venezia, with its renowned tradition in urban studies and spatial planning, offers valuable learning opportunities. In particular, the master's degree in "Sustainable Transportation and Smart Maritime Mobility" provides a competitive educational offer in the national context on mobility and transport-related topics: students can benefit from internships in major companies and organisations operating in this sector, study experiences abroad and integrated workshops, which are an element that distinguishes Iuav educational offer. Within these workshops (four in total, one per semester), it is possible to experiment with the design of aspects related to mobility by integrating it with other disciplines, each different and complementary to the other. This approach makes it possible to tackle complex problems, reinterpret existing theoretical models and develop in students a critical capacity for their optimal use.

## Studying Sustainable Transportation

The master's degree aims to anticipate the consequences of an ongoing global trend in the field of transport and mobility: the digitalisation and automation of the sector. They require interaction with increasingly complex tools and more extensive skills that need adequate technical training. In response to these challenges, the master's degree aims to train the future infrastructure and mobility manager.

**Key features:** the aspects of transport and mobility covered by the study programme are diverse and provide a holistic view of the challenges to be faced; other programmes deal with transport-related aspects mainly in terms of sector-specific aspects (e.g. safety and logistics, vehicle design). Teaching is conducted entirely in English, thus ensuring that students can experience a global context. From a thematic point of view, the focus on coastal areas (with their complexity and multiple interactions) characterises the course and provides an original interpretative approach. The presence of humanistic subjects, specifically included in the curriculum, allows students to complement the technical skills traditionally associated with the professional profile of the engineer. The integrated workshops provide an opportunity to experiment with the

relationships between mobility and other areas of expertise with an interdisciplinary perspective, which is typical of this sector.

### **Careers**

Professional profile: infrastructure and mobility manager.

This role is intended as a professional capable of facing and solving complex challenges in transport planning, design, implementation, management, maintenance, and preservation of (large) transport works and infrastructures.

The mobility aspect is the central element of the study programme, with a focus on both passenger and freight transport. The master's degree is a synthesis of elements related to transport planning and policies, plus the aspects of the design and management of (physical and digital) networks as well as of individual artefacts.

### **Entry requirements**

Admission to the master's degree in Sustainable Transportation and Smart Maritime Mobility is open

to candidates with a bachelor's degree in the field covered by the L-07 ministerial degree code (civil and environmental engineering).

Admission is also open to those who hold a bachelor's degree from other fields or a three-year university diploma or equivalent qualification, provided that they are able to ascertain the possession of 30 credits (at least 12 CFU for core activities) in one or more sectors belonging to the topics of the L-07 ministerial degree code.

Furthermore, candidates are required to possess adequate personal preparation

and knowledge of the English language (certified level B2 or higher of the CEFR), including subject-related lexicons.

### **Courses**

#### **First year**

Large infrastructures in the coastal landscape (project and maintenance) studio

*Module 1 (6 credits) - Structural safety and reliability of near-shore maritime infrastructures*

*Module 2 (6 credits) - Infrastructural networks in the coastal landscape*

Maritime transportation and land use planning studio

*Module 1 (6 credits) - Design and construction of transportation infrastructures*

*Module 2 (6 credits) - Territorial planning in coastal areas*

Structural design and principles of risk assessment of infrastructures in coastal areas (6 credits)

Smart Maritime logistic and freight movement (6 credits)

Traffic engineering and control (6 credits)

Artificial intelligence and data science for transportation (6 credits)

One among the following courses (6 credits)

System analysis in coastal areas

Modelling and data analysis for coastal engineering

Marine fluid dynamic and coastal engineering

Geopolitics and energy analysis through the Mediterranean Sea

Introduction to marine environment - Ocean and climate

## Second year

Advances in passenger mobility studio

*Module 1 (6 credits) - Intelligent transportation system and shared mobility*

*Module 2 (3 credits) - Transport policy and governance*

*Module 3 (3 credits) - Applied energy*

Design and operation of freight maritime transport studio

*Module 1 (6 credits) - Design and construction of ports and onshore landscapes*

*Module 2 (3 credits) - Warehouse engineering and logistic modelling*

*Module 3 (3 credits) - Supply chain management*

Transport planning and management (6 credits)

Interdisciplinary energy analysis and environmental economics (6 credits)

Learning activities, chosen by students (12 credits)

Final Exam (9 credits)

Internship in-house or abroad (9 credits)

## contacts

Università Iuav di Venezia

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