

Naval Architecture and Ocean Engineering Master Program

Universidad Politécnica de Madrid UPM
Naval Architecture, Maritime and Ocean Engineering School ETSIN



ESCUELA TÉCNICA SUPERIOR DE INGENIEROS NAVALES

Available courses in English per semester for local and Erasmus students

Year 2024 –2025



Naval Architecture Maritime, and Ocean Engineering School ETSIN

Founded in 1772 by king Carlos III, our School has been serving the Spanish and European society for more than 250 years. Now we are integrated in the Technical University of Madrid (UPM).

The scope of our programs include ability to prepare, build and maintain ships and ocean artifacts, knowledge of naval hydrodynamics, analysis of power plants and ship propulsion and knowledge of economics and business management in maritime context among other abilities.

Our official programs include:

- [Bachelor on Naval Architecture](#)
- [Bachelor on Maritime Engineering](#)
- [Master on Naval Architecture and Ocean Engineering](#)

Our Bachelor programs are taught in Spanish. A number of courses (presented herein) in the master program are taught in English.

- **Decarbonisation and Climate Change**
- **Structures**
- **Digital Transformation**
- **Yacht Design**
- **Offshore Engineering and Ocean Renewable Energy.**





Internationalization

ETSIN by means of UPM international delegations is present in the five continents, highlighting the ones in US, China and Brazil.

Currently, ETSIN has more than 20 international agreements with highly esteemed European, American and Asian universities, with different exchange programs such as ERASMUS+, Athens, Magalhães, Global E3, etc. We also have an [ERASMUS MUNDUS Master Program](#) with several European Universities.

Training and Practice

As part of our Bachelor and Master Programs, our student can complete their studies with a professional stage at a Company, Department or Research Institution. Currently, we maintain educational cooperation agreements with more than 30 leading national and international companies in their sectors, among others: Navantia, PYMAR, ANAVE, Siport, Siemens, Iberdrola, INTA-CEHIPAR, etc.

Doctorate

This program completes the three cycles of the University programs in the area of Naval Architecture and Maritime and Ocean Engineering. Our aim is to provide society with Doctors which are able to promote research and innovation on this area. The ultimate object is to promote a sustainable use of oceans. Among our lines of interest are: advanced hydrodynamics, both experimental and numerical, design of ships and ocean artifacts, fuel cells applied to ocean engineering, structures and materials, aquaculture, safety, maritime transport and renewable energy, among other lines.

Online Presentation of Master's Courses

There will be online presentations of the master courses. During those presentations, some of the professors involved in the courses will be present as well as fellow students. Date/times for these presentations will be announced in this [link](#).

Also, you can write an email marta.ruiz@upm.es and you will be notified of dates/times/zoom-link.



Available courses in English per semester in UPM Naval Architecture and Ocean Engineering Master Program

AUTUMN SEMESTER – 52 ECTS

Project and Construction of Offshore Systems

83000131
5ECTS

Hydrodynamic simulation in marine renewables and offshore operations

83000116
6ECTS

Power plants and alternative fuels in the marine environment

83000089
6ECTS

Nuclear energy in surface ships, submarines and floating systems

83000088
6ECTS

Integrated Management of Marine Renewable Installations

83000117
6ECT

Integrated Logistics Support

83000004
3ECTS

Advanced Mathematics

83000024
5ECTS

Master Thesis

83000020
15ECTS

SPRING SEMESTER – 49.5 ECTS

Advanced Yacht Design

83000105
6ECTS

Dynamics of Offshore Systems

83000008
4.5ECTS

Ship Dynamics

83000007
4ECTS

Advanced Design of Naval and Offshore Structures

83000095
6ECTS

Digital Transformation Projects

83000100
6ECTS

Advanced Ship Hydrodynamics

83000006
4ECTS

Hydrodynamics of Hulls and Propellers

83000087
4ECTS





























Master Thesis

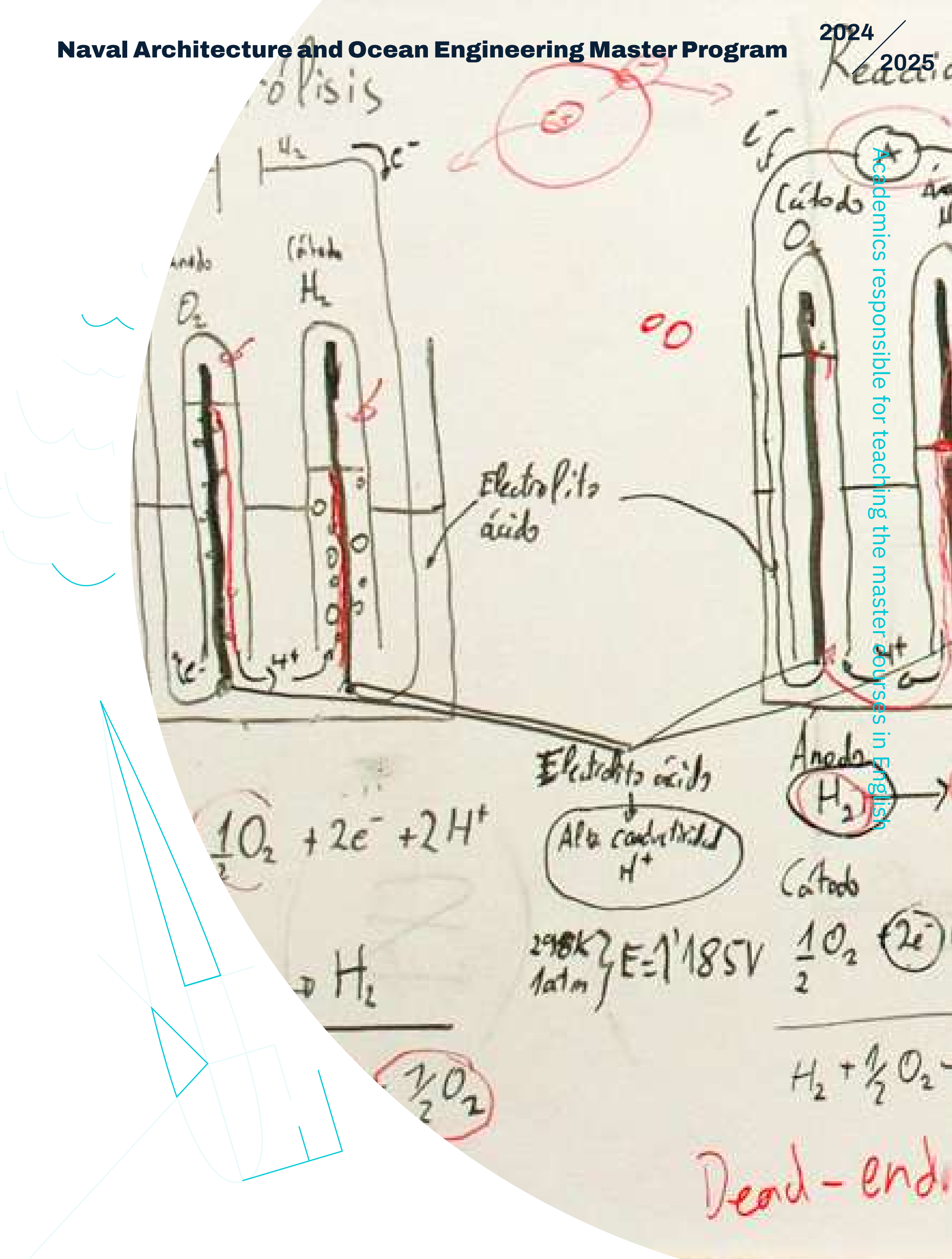
83000020
15ECTS



Available courses in english per semester

Academics responsible for teaching the master courses in English

<p>Antonio Crucelaegui Corvinos</p> <p>in   </p>	<p>Integrated Logistics Support</p>
<p>Antonio Medina Manuel</p> <p>in    </p>	<p>Hydrodynamic simulation in marine renewables and offshore operations</p>
<p>Antonio Souto-Iglesias</p> <p>in    </p>	<p>Dynamics of Offshore Systems Ship Dynamics Hydrodynamics of Hulls and Propellers Advanced Ship Hydrodynamics</p>
<p>Diana Cuervo Gómez</p> <p>in   </p>	<p>Nuclear energy in surface ships, submarines, and floating systems</p>
<p>Fabricio Maciá</p> <p>in    </p>	<p>Advanced Mathematics</p>
<p>Francisco Mata Álvarez-Santullano</p> <p>  </p>	<p>Hydrodynamics of Hulls and Propellers Ship Dynamics</p>
<p>Jaime Moreu Gamazo</p> <p>in   </p>	<p>Advanced Design of Naval and Offshore Structures</p>
<p>Javier Calderón Sánchez</p> <p>in    </p>	<p>Hydrodynamic simulation in marine renewables and offshore operations Ship Dynamics Advanced Ship Hydrodynamics</p>



Academics responsible for teaching the master courses in English

<p>José Luis Morán</p> <p>in G   </p>	<p>Integrated Management of Marine Renewable Installations</p>
<p>Julio García Espinosa</p> <p>in G   </p>	<p>Integrated Management of Marine Renewable Installations</p>
<p>Manolo Ruiz de Elvira</p> <p>in  </p>	<p>Advanced Yacht Design</p>
<p>Miguel Taboada Gosálvez</p> <p>in  </p>	<p>Project and Construction of Offshore Systems</p>
<p>Rafael D'Amore Domenech</p> <p>in G   </p>	<p>Power plants and alternative fuels in the marine environment</p>
<p>Rafael de Góngora Escrivá de Romaní</p> <p>in  </p>	<p>Digital Transformation Projects</p>
<p>Rodrigo Pérez Fernández</p> <p>  </p>	<p>Digital Transformation Projects</p>
<p>All faculty: to be agreed upon.</p>	<p>Master Thesis</p>

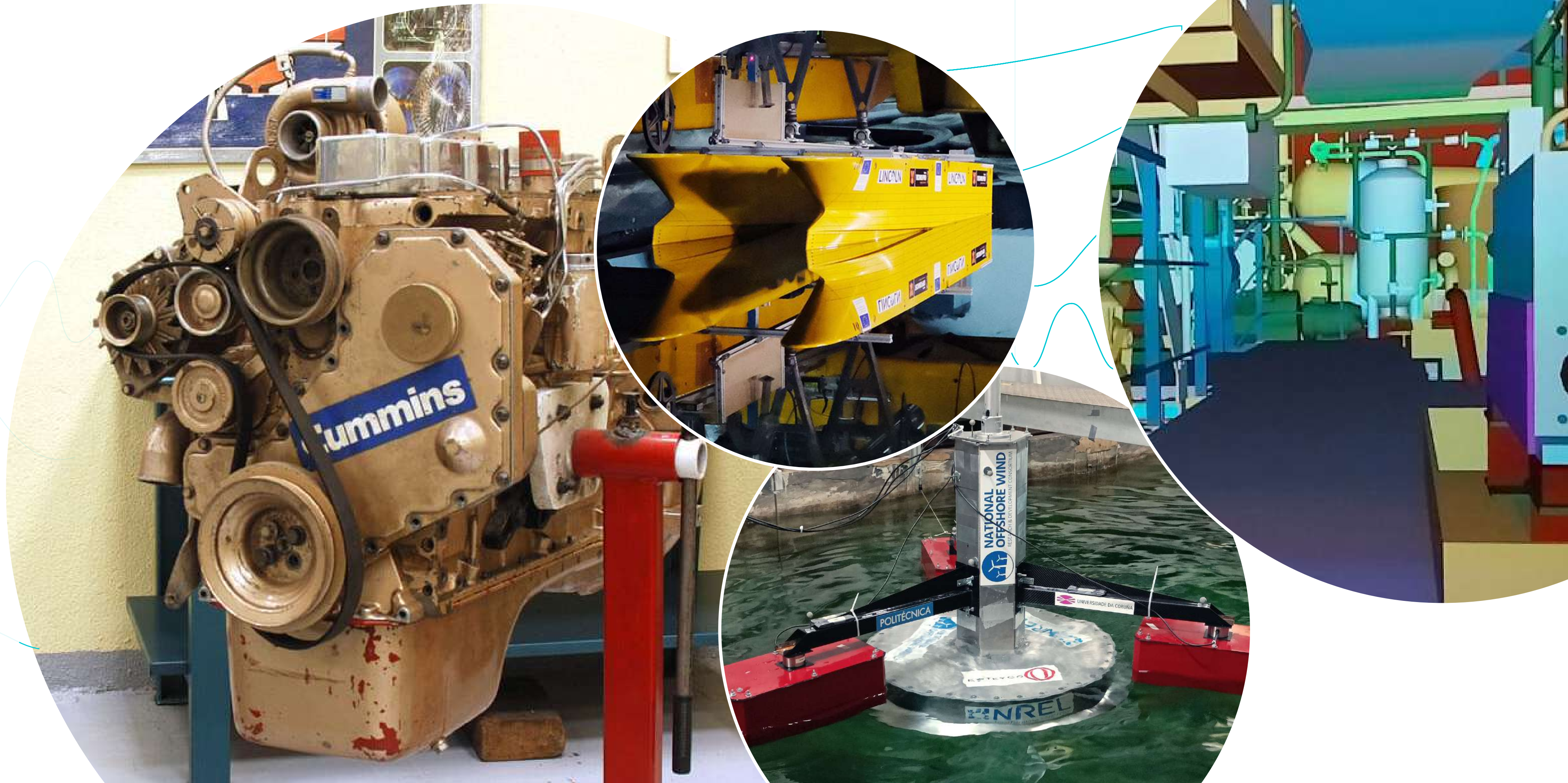


Manolo Ruiz de Elvira. America's cup designer. 4 times winner. Advanced Yacht Design course

Academics responsible for teaching the master courses in English

Facilities

Among our facilities we have a large model basin of 100 m length, 3D visualization facility, motor test banks, fuel cells, materials and electrotechnical laboratories.



Accommodation

The best way to find accommodation is to check the different possibilities available in order to book provisional accommodation in Madrid before you arrive.

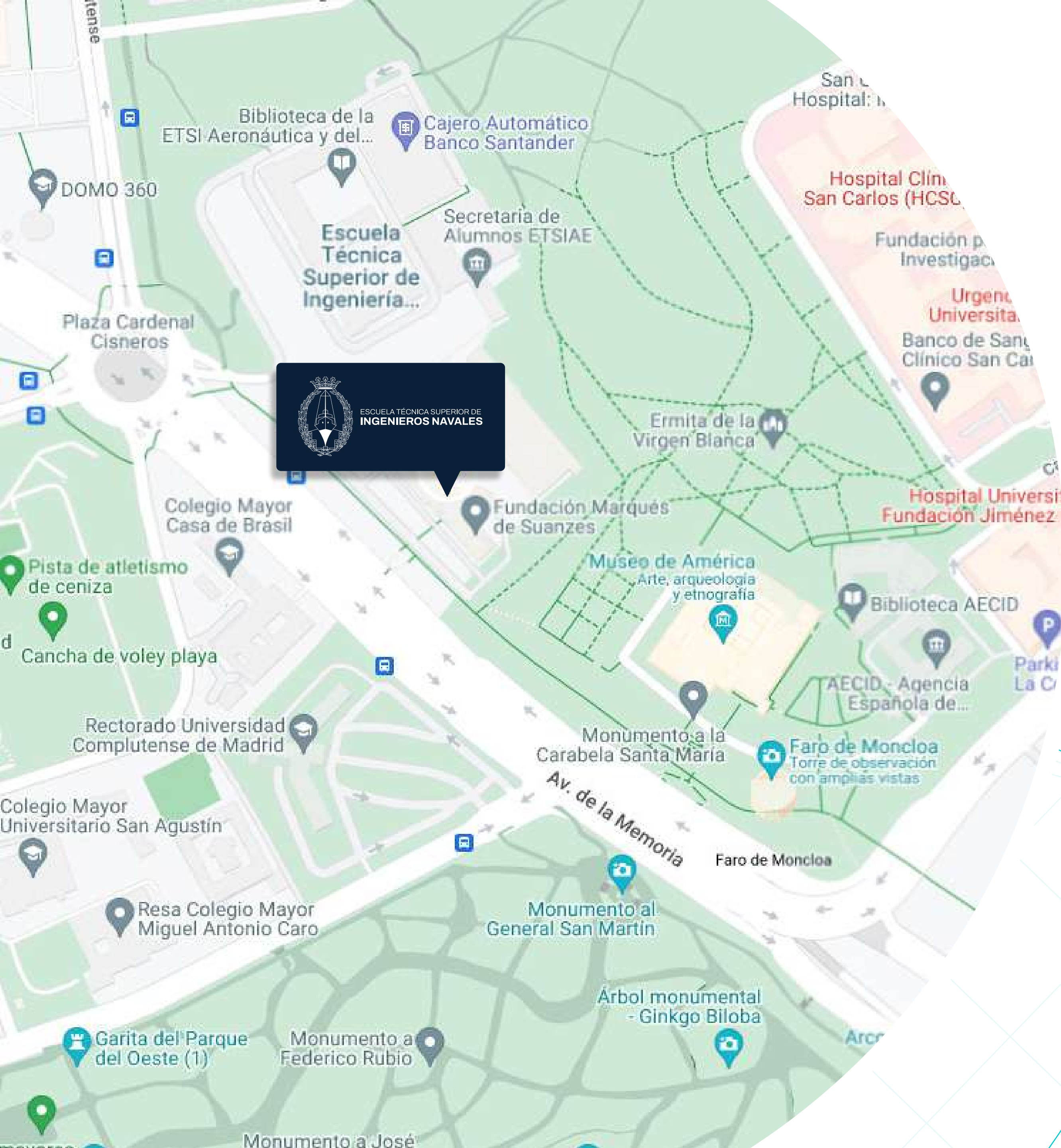
If you have not organised accommodation in advance, it is recommended that you arrive to Madrid at least 10 days before the course begins so that you can arrange your accommodation. You can go to the Student Accommodation Office (Oficina de Alojamiento de Estudiantes), to the Student Mobility Office (Oficina de Movilidad de Estudiantes) and/or to ETSIN Practice and Mobility Office.

More information can be found [here](#).

#NotOnlyAcademics

There are plenty of student associations, such as sport club, model kit club, IT club, sailing club, tuna (a group that sing and play guitar, lute and bandurria) and alumni ETSIN. There are also teams of students that have participated in international engineering competitions such as Hydrocontest, RoboSub, etc.





Location and contact

We are few underground stops to Madrid downtown (Puerta del Sol)

[C7QG+J8 Madrid](#)

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POLITÉCNICA



ESCUELA TÉCNICA SUPERIOR DE
INGENIEROS NAVALES