

**Is the sea a dream for your future?  
Then, you can realize it.**

## ADVANCED MASTER IN "ADVANCED SKILLS IN SAFETY, ENVIRONMENT AND SECURITY AT SEA"

The Advanced Master (AM) is an English advanced technical educational path for European graduate students or working professionals who are involved in the design and production phases of merchant vessels and offshore plants.

### Are you a new graduated student?

AM fills the gap between theoretical knowledge given by Universities and industry performance practical requests. You will be able, therefore, to answer at maritime labour market needs related to high skilled and technical competences.

### Are you already working in the maritime sector?

AM increases the level of your competence on issues and technologies related to the safety and security of naval vessels and marine environment, through acquiring skills that will complete your professional practice, letting you move ahead in your career.

**DURATION:** 1500 hours, October 2017 - October 2018

**PLACE:** University of Trieste

### STRUCTURE:

**First phase:** 5 months and 520 hours of full time lessons taught by leading Italian and international academics and industry experts. During this phase, you will also attend specific study visits in Europe.

**Second phase:** 7 months' internship in European companies operating in the maritime sector where you will put into practice your early acquired knowledge. If currently employed you will be able to apply your new skills directly in your present job.

**CERTIFICATES:** Level 8 of European Qualifications Framework (EQF).

**COSTS:** 20 scholarships available.

### APPLICATION AND FURTHER INFORMATION:

[www.assess-project.com](http://www.assess-project.com)

### PARTNERS:



UNIVERSITÀ  
DEGLI STUDI DI TRIESTE  
Dipartimento di Ingegneria e Architettura



Lloyd's  
Register



Marine Technology Research Institute  
**INSEAN**

In Collaboration with

FINCANTIERI



1. Safety Basics	
1.1	Basic instruments used in ship design
1.2	Electrical power system
1.3	Concepts related to dependability and survivability
2. Overview of the Marine Regulatory framework and the Maritime Industry with specific contribution from Industry	
2.1	Overview of the Marine Industry 1
2.2	Overview of the Marine Industry 2
2.3	Overview of the Marine Industry 3
2.4	Overview of the Marine Regulatory Framework
2.5	Overview of the Ship Design and Building Process
2.6	Maritime Law
3. Fire Protection	
3.1	Protection Theory
3.2	Detection and Extinguishing
3.3	Certification Theory
3.4	Project Workshop on Pax Ships
4. Evacuation Process	
4.1	Rules framework
4.2	Life Saving Appliances
4.3	Evacuation analyses
5. Passenger Ships Specifics	
5.1	Safe Return to Port-part I
5.2	Alternative Design
5.3	Failure Mode and Effect Analysis
5.4	Safe Return to Port-part II
5.5	Risk Based Design: Concept, Process and Associated Techniques
6. Offshore Units, Special Ships and Crafts	
6.1	Offshore units
6.2	Passenger yachts
6.3	Small and large yachts
6.4	Special vessels
7. Environmental requirements and energy efficiency via simulation-based hull-form design and optimization techniques	
7.1	Fuel consumption optimization via weather routing
7.2	Simulation-based Design Optimization considering environmental and energy efficiency requirements
7.3	Deterministic and Stochastic Simulation-based Design Optimization Techniques and Applications - part I
7.4	Deterministic and Stochastic Simulation-based Design Optimization Techniques and Applications - part II
8. Scientific studies on environmental impacts including noise and acoustic	
8.1	The waste management on ships
8.2	Shipping noise and its impact on the marine environment
8.3	Building the blue growth knowledge potential: from marine data management to ecological modelling and hazards monitoring
9. Alternative Fuels and Hybrid Propulsion	
9.1	Fuels and power plants
9.2	Energy storage and recovery
9.3	Engine safety principles (SOLAS) + Emission Control principles MARPOL Annex VI
9.4	IGC and IGF code: applicability to engine manufacturer
9.5	Alternative Fuels
9.6	Manufacturing company and processes overview
10. Operational Safety and Security	
10.1	Cybersecurity 1
10.2	Cybersecurity 2
10.3	The Management of Safety and Security
10.4	Principle of decent work at sea. Maritime Labour Convention MLC 2006
10.5	Cybersecurity-Marine Application and Regulatory Framework
10.6	Operations in extreme environmental conditions: Cold Operations (Polar Code) and Extreme Events
11. PM Techniques and Soft Skills	
11.1	Projects, Organizations and Processes of Project Management
11.2	Managing integration and content of project
11.3	Times management and costs of the project
11.4	Procurement and risk management, and close-out of the project
11.5	Practical application of PM techniques and soft skills 1
11.6	Practical application of PM techniques and soft skills 2



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