

## EMSHIP KEY POINTS

- > An interdisciplinary combination of technical, scientific and management skills obtained through a worldwide unique qualification programme supported by six leading European universities, offering excellent career opportunities to graduates.
- > Four different specializations offered during the third semester, after a one-year common core.
- > The opportunity to experience a variety of academic and cultural environments through a mobility scheme covering three different countries.
- > An international network of associated universities and industries.

## LANGUAGE

All the lectures will be in English.

French, Italian, German, Romanian and Polish language courses will be available.

A four weeks compact Course of English will be available at the University of Liège before the start of the first semester.

## SCHOLARSHIPS

In addition to the self supported students paying the full tuition fees, selected students may receive various scholarships:

-ERASMUS MUNDUS scholarship:

online application only from Sept. to Dec. (each year) using website [www.emship.eu](http://www.emship.eu). Excellent applicants from outside EU as well as from EU countries will be granted scholarships covering the tuition fees, travel to and from Europe and a monthly living allowance of € 500 (EU students) or € 1.000 (non-EU students) during the full duration of the course (18 months).

- INDUSTRIAL Scholarship: best candidates may be supported by the EMSHIP industrial partners. Application March-April (each year) to ULg/Prof Rigo.

- ACADEMIC Scholarship: for reduced tuition fees and/or living expenses (€ 400 to € 700/month). Application March-May (each year) to ULg/Prof Rigo.

## TUITION FEES

For the cycle of 90 credits (18 months):  
€ 9.450 for non European students  
€ 4.950 for EU Students

## APPLICATION

see <http://www.emship.eu>  
and follow the application procedure



## CONTACT

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MASTER OF ENGINEERING

# INTEGRATED ADVANCED SHIP DESIGN

**EMship**  
Advanced Design 

ERASMUS MUNDUS  
MASTER COURSE

[WWW.EMSHIP.EU](http://WWW.EMSHIP.EU)

## PRESENTATION OF EMSHIP

The objective of the EMship Master Course is to provide an outstanding university program in Naval Architecture, Ship Design and Shipbuilding through a 1.5 year - 90 ECTS Credits - Master Course.

This program is supported by the European Commission under the Erasmus Mundus funding scheme.



## ADMISSION CRITERIA

In order to be eligible, candidates will have to hold a BSc or a Master degree, corresponding either to a 5-year education program (300 ECTS), or to a 4-year education program completed with one year of professional experience.

Candidates with specific CVs are also invited to apply:

- > Engineering officers with 3-5 years sea service planning a career onshore.
- > Students seeking complementary education in deep sea transport, mega/motor yachts, sailing pleasure crafts and also in safer and cleaner navigation.
- > Engineers searching for advanced education in hydrodynamics in ship design, ship production, CAD, information technology and ship structures.

EMship directly relates to the future needs of the European and international marine industry.



## STUDY PROGRAM

### CONSORTIUM

The consortium is composed of six European institutions with a long standing tradition in the diverse fields of Ship Design and Marine engineering:

- > **University of Liège** (Belgium)  
coordinator of the program  
<http://www.anast.ulg.ac.be>
- > **Ecole Centrale de Nantes** (France)  
<http://www.ec-nantes.fr>
- > **Dunarea de Jos University of Galati** (Romania)  
<http://www.ugal.ro>
- > **University of Genoa** (Italy)  
<http://www.unige.it>
- > **University of Rostock** (Germany)  
<http://www.schiffbauforschung.de>
- > **West Pomeranian University of Technology** (Poland)  
<http://www.wtm.zut.edu.pl>

The consortium includes six associated partners from prestigious universities worldwide:

- > **University of Michigan** (USA)
- > **University of Osaka** (Japan)
- > **Federal University of Amazon** (Brazil)
- > **VIMARU Maritime University** (Vietnam)
- > **University of New South Wales** (Australia)
- > **University of Sciences and Technology of Oran** (Algeria)

A Strategic Advisory Board consisting of high level decision makers of leading European maritime companies and representatives from the associated universities worldwide will actively contribute to the continuous quality improvement.

The mobility scheme involves 3 semesters in 3 countries (within a selection of 6 countries):

The first and second semesters (60 credits) are dedicated to general lectures in Ship Design:

1 <sup>st</sup> semester: University of Liège (Belgium) Ship design, theory, structures & production 25 ECTS credits		2 <sup>nd</sup> semester: Ecole Centrale de Nantes (France) Ship hydrodynamics 25 ECTS credits	
Modules	ECTS	Modules	ECTS
Ship theory (static, dynamic and propulsion)	6	Water wave and sea state models for ship design	5
Ship structures and ship production	8	Seakeeping: theory & numerical modeling	5
Ship project & ship design	6	CFD for ship hydrodynamics	6
Electricity, ship equipment & diesel engines	2	Multi-objective optimisation for ship design	4
Design of high speed vessels	3	Experimental ship hydrodynamics	5
End of 2nd semester: Ecole Centrale de Nantes (France), 10 ECTS Credits Initiation of research & developpement, preparation to the final project and technical visits			

The third semester (30 credits) is dedicated to advanced lectures:

University of Galati (Romania) Maneuvering & propulsion 10 ECTS credits		University of Genoa (Italy) Sailing & motor yachts 10 ECTS credits	
Modules	ECTS	Modules	ECTS
Ship maneuvering	5	Theory and design of motor yachts	5
Ship propulsion	5	Theory and design of sailing yachts	5
University of Rostock (Germany) CAD, Ship production, information technology 10 ECTS credits		West Pomeranian University of Technology (Poland) Advanced ship structures 10 ECTS credits	
Modules (choose 2 amongst 3)	ECTS	Modules	ECTS
Information technology in ship design and production	5	Advanced ship structural mechanics	4
Ship production	5	Advanced ship production technology	3
Ocean engineering	5	Advanced ship structural design	3

**MASTER THESIS AND INTERNSHIP, 20 ECTS credits**  
Internship and master thesis with industry, coordinated by the university visited during the third semester

EMship Graduates will be awarded a Double Master Degree from University of Liège (Belgium) and Ecole Centrale de Nantes (France) and a diploma from the visited university for the third semester.