EMship+ key points

> An interdisciplinary combination of technical, scientific and management skills obtained through a worldwide unique qualification program supported by nine leading universities, offering a double degree Master diploma and excellent career opportunities to graduates.

> Four different specializations offered during the second year, after a one-year common core.

> The opportunity to experience a variety of academic and cultural environments through a mobility scheme covering two or three different countries.

> An international network of associated universities and industrial partners.

Tuition fees (with health insurance)

> 8.500 € per year for Non-EU students

> 4.500 € per year for EU-students.

Scholarships

Scholarships from European Union (EACEA) are available covering living expenses (1000 €/month), travel expenses, health insurance and full tuition fees.

Language

> All the lectures are in English.

> French, German, Polish and Spanish language courses are available in corresponding 2nd year universities.

Job prospects

> ship and marine structures design

> numerical simulation for fluids and structures

> marine renewable energies

> building and maintenance in shipyards

> safety and sustainability management

> …

Application

Online on http://www.emship.eu

Contact

Professor Philippe RIGO
ANAST – Naval Architecture
University of Liège
Quartier Polytech 1
9, allée de la découverte, bât B52/3
4000 LIEGE - Belgium
Email : emship@uliege.be
Tel:+32 4 366 93 66
**EMship+**

The EMship+ Master Course provides an outstanding university program in Naval Architecture, Ship and Offshore Design in 2 years - 120 ECTS Credits - Master Course

**Consortium**

The consortium is composed of nine European universities with a strong expertise in the diverse fields of Marine Engineering:

- **University of Liège** (Belgium) coordinator of the program [http://www.anastulg.ac.be](http://www.anastulg.ac.be)
- **University of Rostock** (Germany) [http://www.schiffbauforschung.de](http://www.schiffbauforschung.de)
- **West Pomeranian University of Technology** (Poland) [http://www.wtm.zut.edu.pl](http://www.wtm.zut.edu.pl)
- **Polytechnic University of Madrid** (UPM) [http://www.upm.es/internacional](http://www.upm.es/internacional)
- **Centrale Nantes** (France) [http://www.ec-nantes.fr](http://www.ec-nantes.fr)
- **Dunarea de Jos University of Galati** (Romania) [http://www.ugal.ro](http://www.ugal.ro)
- **ICAM - Institut Catholique d’Arts et Métiers** (France) [http://www.unige.it](http://www.unige.it)
- **University of Genova** (Italy) [http://www.unige.it](http://www.unige.it)
- **Southampton Solent University** (UK) [http://www.solent.ac.uk/](http://www.solent.ac.uk/)

The consortium includes seven associated partners from prestigious universities worldwide:

- **University of Michigan** (USA)
- **University of Osaka** (Japan)
- **Istanbul Technical University** (Turkey)
- **Federal University of Rio de Janeiro** (Brasil)
- **Pusan National University** (South Korea)
- **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 actively contribute to the total quality management.

Candidates with specific CVs are also invited to apply:

Engineers searching for advanced education in:

- Hydrodynamic and structural analyses of ships and offshore structures
- CAD and information technology
- Shipyard and production technology
- Commercial ships, mega/motor yachts, sailing pleasure crafts, ...
- Offshore Wind Energy (Supply vessels, Offshore wind turbines, FOWT, ...)
- Ocean Engineering (Oil and Gas technology)

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

**Admission criteria**

Some pre-requisites in mathematics, physics, solid mechanics, materials science, fluid mechanics, dynamics of mechanical systems and computer programming are required.

English B2 level (TOEFL) or equivalent is required too.

**Study Program**

The mobility scheme involves 2 years in 2 (or 3) countries:

The first year (60 credits) is dedicated to general lectures in mechanical engineering (1st semester) and in Advanced Ship Design (2nd semester) in University of Liège.

<table>
<thead>
<tr>
<th>1st YEAR University of Liège (Belgium)</th>
<th>30 ECTS</th>
<th>2nd semester: Advanced ship design</th>
<th>30 ECTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mandatory Modules</td>
<td>ECTS</td>
<td>Mandatory Modules</td>
<td>ECTS</td>
</tr>
<tr>
<td>Manufacturing Process</td>
<td>5</td>
<td>Integrated design project of ships, small crafts and high speed vessels</td>
<td>15</td>
</tr>
<tr>
<td>Theory of Vibration</td>
<td>5</td>
<td>Ship theory : statics and dynamics</td>
<td>5</td>
</tr>
<tr>
<td>Materials selection</td>
<td>5</td>
<td>Ship &amp; offshore structures</td>
<td>5</td>
</tr>
<tr>
<td>Principles of Management</td>
<td>5</td>
<td>Ship equipment &amp; propulsion systems</td>
<td>5</td>
</tr>
<tr>
<td>Electives modules in computational mechanics</td>
<td>10</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

The second year is dedicated to advanced lectures in one of the four universities below (1st semester, 30 ECTS) and Master Thesis & Internship (2nd semester, 30 ECTS)

<table>
<thead>
<tr>
<th>University of Rostock (Germany)</th>
<th>West Pomeranian University of Technology (Poland)</th>
<th>Centrale Nantes (France)</th>
<th>Polytechnic University of Madrid (Spain)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ship Technology &amp; Ocean Engineering</td>
<td>Advanced ship &amp; offshore structures</td>
<td>Hydrodynamics for Ocean Engineering</td>
<td>Offshore wind &amp; renewable Marine energy</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Modules (4 to be selected among 6)</th>
<th>ECTS</th>
<th>Modules</th>
<th>ECTS</th>
<th>Modules</th>
<th>ECTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Theory and Design of Floating and Founded Offshore Systems</td>
<td>6</td>
<td>Design of Ship and Offshore Structures</td>
<td>6</td>
<td>General concepts of Hydrodynamics</td>
<td>4</td>
</tr>
<tr>
<td>Selected Topics of the Analysis of Marine Structures</td>
<td>6</td>
<td>Mechanics of Ship and Offshore Structures</td>
<td>6</td>
<td>Water Waves and Sea States Modelling</td>
<td>4</td>
</tr>
<tr>
<td>Mathematical Models in Ship Theory</td>
<td>6</td>
<td>Production Technology of Ship and Offshore Structures</td>
<td>6</td>
<td>Waves-structure Interactions</td>
<td>4</td>
</tr>
<tr>
<td>IT in Ship Design and Production</td>
<td>6</td>
<td>Marine Power Engineering</td>
<td>3</td>
<td>Numerical Hydrodynamics</td>
<td>5</td>
</tr>
<tr>
<td>Safety of Ships under Damaged Conditions in Waves</td>
<td>6</td>
<td>Cost Benefit Analysis and Optimisation of Business Projects in Marine Industry</td>
<td>3</td>
<td>Experimental Hydrodynamics</td>
<td>4</td>
</tr>
<tr>
<td>Ocean Research Technology</td>
<td>6</td>
<td>Elective modules (2 to be selected among 4, 3 ECTS each): Equipment of Ship and Offshore Structures, Nonlinear Finite Element Analysis, Offshore Maneuverability, Nautical Operations</td>
<td>6</td>
<td>Naval Engineering, Ship Maneuverability, Multi-objective Optimization, CFD Tools for Ship Simulation</td>
<td>5</td>
</tr>
<tr>
<td>Team project (mandatory)</td>
<td>6</td>
<td>French Language</td>
<td>4</td>
<td>Structural Analysis of Offshore Platforms</td>
<td>4</td>
</tr>
</tbody>
</table>

**MASTER THESIS and INTERNSHIP: 30 ECTS credits**

They are prepared under the supervision of the university where students are enrolled for the 2nd year.

They can be undertaken in companies, shipyards or in universities from the EMSHIP+ consortium and world-recognized universities.

EMSHIP graduates will be awarded a double degree from University of Liège and the relevant 2nd year university.

The EMship+ program is supported by the WEGEMT organisation ([www.wegemt.org](http://www.wegemt.org)).