

#### Block view of the study programme

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#### Block 1

##### Mandatory courses at Uliege

###### Lectures in Mechanical Engineering

|            |  |    |    |    |     |   |
|------------|--|----|----|----|-----|---|
| MECA0018-2 | <i>Manufacturing processes</i> (english language) - Yves MARCHAL - [15h Labo., 11h Proj., 0,5d FW] | Q2 | 30 | -  | [+] | 5 |
| MECA0029-1 | <i>Theory of vibration</i> (english language) - JeanClaude GOLINVAL - [30h Proj.]                  | Q1 | 26 | 26 | [+] | 5 |
| MECA0462-2 | <i>Materials selection</i> (english language) - Anne MERTENS, Davide RUFFONI - [30h Proj., 1d FW]  | Q1 | 26 | 26 | [+] | 5 |
| GEST3162-1 | <i>Principles of management</i> (english language) - Michael GHILISSEN, François PICHHAULT         | Q1 | 25 | 25 | -   | 5 |

##### Elective courses

###### Single focus

###### Professional focus in Advanced ship design

|            |  |    |    |    |     |    |
|------------|--|----|----|----|-----|----|
| APRI0009-1 | <i>Integrated Design Project of Ships, Small Crafts &amp; High Speed vessels</i> (english language) - André HAGE, Philippe RIGO - [150h Proj., 5d FW]              | TA | 80 | -  | [+] | 15 |
| CNAV0021-1 | <i>Ship Theory : Statics and Dynamics</i> (english language) - André HAGE, Philippe RIGO   | Q2 | 32 | 20 | -   | 5  |
| CNAV0014-3 | <i>Ship and offshore structures and production (including 7 days technical visit)</i> (english language) - JeanDavid CAPRACE, Luc COURARD, Philippe RIGO - [7d FW] | Q2 | 40 | 60 | [+] | 7  |
| CNAV0022-1 | <i>Ship Equipment and Propulsion Systems</i> (english language) - André HAGE - [1d FW]   | Q2 | 20 | 20 | [+] | 3  |

Courses to be chosen among the following list:

###### Lectures in Mechanical engineering

*Notice* : Preferential choices for students of the "Advanced Ship Design" are MECA0036-2 and MECA0027-1

|            |   |    |    |    |     |   |
|------------|---|----|----|----|-----|---|
| MECA0036-2 | <i>Finite Element Method</i> (english language) - JeanPhilippe PONTHOT - [40h Proj.]                                      | Q2 | 26 | 26 | [+] | 5 |
| MECA0027-1 | <i>Structural and multidisciplinary optimization</i> (english language) - Pierre DUYSINX, Patricia TOSSINGS - [18h Proj.] | Q1 | 30 | 12 | [+] | 5 |
| MECA0031-2 | <i>Kinematics and dynamics of mechanisms</i> (english language) - Olivier BRULS - [40h Proj.]                             | Q2 | 30 | 20 | [+] | 5 |
| MECA0023-1 | <i>Advanced solid mechanics</i> (english language) - JeanPhilippe PONTHOT - [30h Proj.]                                   | Q1 | 26 | 26 | [+] | 5 |
| MECA0010-1 | <i>Reliability and stochastic modeling of engineering systems</i> (english language) - Maarten ARNST - [28h Proj.]        | Q1 | 16 | 16 | [+] | 5 |

#### Block 2

##### Mandatory courses at Uliege

###### Master Thesis and Internship

|            |   |   |   |   |   |    |
|------------|---|---|---|---|---|----|
| HULG9455-1 | <i>Master Thesis</i> (english language)                           | - | - | - | - | 25 |
| HULG9456-1 | <i>Internship in Companies or Laboratories</i> (english language) | - | - | - | - | 5  |

##### Elective courses

###### Choose a program at UPM, URO or ECN:

#### Polytechnic University of Madrid

##### Lectures in Offshore Renewable Energy

|            |   |   |   |   |            |
|------------|---|---|---|---|------------|
| HULG9449-1 | <i>Oceanology</i> (english language)                                  | - | - | - | <b>1,5</b> |
| HULG9450-1 | <i>Structural Design of OWT</i> (english language)                    | - | - | - | <b>8</b>   |
| HULG9451-1 | <i>Electric Generation and Export Technologies</i> (english language) | - | - | - | <b>5,5</b> |
| HULG9452-1 | <i>Manufacturing and Maritime Operations</i> (english language)       | - | - | - | <b>7</b>   |
| HULG9453-1 | <i>Project Operation and Management</i> (english language)            | - | - | - | <b>4</b>   |
| HULG9454-1 | <i>Structural Analysis of Offshore Platforms</i> (english language)   | - | - | - | <b>4</b>   |

#### Ecole Centrale de Nantes (ECN) - France

##### Marine Hydrodynamics

Choose 30 credits:

|            |   |   |   |   |          |
|------------|---|---|---|---|----------|
| HULG9411-1 | <i>General concepts of hydrodynamics</i> (english language)   | - | - | - | <b>4</b> |
| HULG9412-1 | <i>Water Waves and Sea States Modeling</i> (english language) | - | - | - | <b>4</b> |
| HULG9413-1 | <i>Waves Structure Interactions</i> (english language)        | - | - | - | <b>4</b> |
| HULG9414-1 | <i>Numerical hydrodynamics</i> (english language)             | - | - | - | <b>5</b> |
| HULG9415-1 | <i>Experimental hydrodynamics</i> (english language)          | - | - | - | <b>5</b> |
| HULG9416-1 | <i>Naval engineering</i> (english language)                   | - | - | - | <b>5</b> |
| HULG9417-1 | <i>French language</i>  | - | - | - | <b>3</b> |

#### West Pomeranian University of Technology Szczecin (ZUT) - Pologne

##### Ship Technology - Ocean Engineering

Choose 30 credits:

|            |  |   |   |   |          |
|------------|--|---|---|---|----------|
| HULG9418-1 | <i>Theory and design of floating and founded offshore systems</i> (english language) | - | - | - | <b>6</b> |
| HULG9419-1 | <i>Selected topics of the analysis of marine structures</i> (english language)       | - | - | - | <b>6</b> |
| HULG9420-1 | <i>Mathematical Models in ship theory</i> (english language)                         | - | - | - | <b>6</b> |
| HULG9421-1 | <i>IT in ship design and production</i> (english language)                           | - | - | - | <b>6</b> |
| HULG9422-1 | <i>Safety of ships under damaged conditions, in waves</i> (english language)         | - | - | - | <b>6</b> |
| HULG9423-1 | <i>Ocean Research technology</i> (english language)                                  | - | - | - | <b>6</b> |
| HULG9424-1 | <i>Team project</i> (english language)   | - | - | - | <b>6</b> |