

MARITIME DEPARTMENT

CONTACTS:

| | NAME AND TITLE | TEL./FAX | E-MAIL ADDRESS |
|-----------------------------|---------------------------------------|-------------------|--------------------------|
| HEAD OF THE DEPARTMENT | <u>Leonardo Marušić, PhD</u> | +385(0)23 200 670 | <u>lmarusic@unizd.hr</u> |
| VICE-HEAD OF THE DEPARTMENT | <u>Josip Orović, PhD</u> | +385(0)23 200 696 | <u>jorovic@unizd.hr</u> |
| SECRETARY | <u>Petra Radobuljac-Alcedo, MSc.*</u> | +385(0)23 311 090 | <u>psopic@unizd.hr</u> |
| ECTS COORDINATOR | <u>Marija Pijaca, PhD</u> | +385(0)23 200 654 | <u>mpijaca@unizd.hr</u> |

ADDRESS: Mihovila Pavlinovića 1
*Ante Kuzmanića 1
23 0000 Zadar
Croatia

URL: <http://pomorstvo.unizd.hr>

ACADEMIC STAFF:

| NAME | ACADEMIC TITLE | TEL. | E-MAIL ADDRESS | CONSULTATION HOURS |
|-----------------------|---------------------|---------|-------------------------|---------------------------------|
| Leonardo Marušić, PhD | Associate Professor | 200-670 | lmarusic@unizd.hr | By prior announcement by e-mail |
| Josip Orović, PhD | Associate Professor | 200-696 | jorovic@unizd.hr | By prior announcement by e-mail |
| Toni Bielić, PhD | Full Professor | 200-742 | tbielic@unizd.hr | By prior announcement by e-mail |
| Dino Županović, PhD | Associate Professor | 200-652 | dino.zupanovic@unizd.hr | By prior announcement by e-mail |
| Jelena Čulin, PhD | Associate Professor | 200-742 | jculin@unizd.hr | By prior announcement by e-mail |
| Ivan Gospić, PhD | Assistant Professor | 200-652 | igospic@unizd.hr | By prior announcement by e-mail |
| Marijan Gržan, PhD | Assistant Professor | 200-654 | magrzan@unizd.hr | By prior announcement by e-mail |
| Mate Kosor, PhD | Assistant Professor | 200-653 | makosor@unizd.hr | By prior announcement by e-mail |
| Mate Barić, PhD | Assistant Professor | 200-653 | mbaric@unizd.hr | By prior announcement by e-mail |
| Ivica Glavan, PhD | Assistant Professor | 203-010 | iglavan@unizd.hr | By prior announcement by e-mail |

| | | | | |
|--------------------|-------------------------|---------|----------------------|---------------------------------|
| Luka Grbić, PhD | Assistant Professor | | lugrbic@unizd.hr | By prior announcement by e-mail |
| Marija Pijaca, PhD | Assistant Professor | 200-654 | mpijaca@unizd.hr | Thur 11-12 |
| Igor Poljak, PhD | Assistant Professor | 200-653 | ipoljak@unizd.hr | By prior announcement by e-mail |
| Ana Gundić, PhD | Postdoctoral Researcher | | agundic@unizd.hr | Wed 11-13 |
| Dalibor Ivanišević | Teaching Assistant | | divanisevic@unizd.hr | By prior announcement by e-mail |
| Vlatko Knežević | Teaching Assistant | 200654 | vknezevi1@unizd.hr | By prior announcement by e-mail |
| Darko Pastorčić | Teaching Assistant | | dpastorci@unizd.hr | By prior announcement by e-mail |
| Ivan Toman | Teaching Assistant | 200-653 | itoman@unizd.hr | By prior announcement by e-mail |
| Roko Jelić | Teaching Assistant | 200-654 | rjelic@unizd.hr | By prior announcement by e-mail |

ABOUT US:

The Maritime Department (known as the Professional Faculty in Zadar) started working in the academic year 2001/2002 as a dislocated study of the Faculty of Maritime Studies of the University of Rijeka. The Maritime Department as a component of the University of Zadar (at first known as the Department of Transport and Maritime Studies) was founded at the end of the 2004.

Organizational units of the Department are two divisions, namely: Division of Nautical Studies, carrying out study program of Nautical Studies and Maritime Transport Technology, and Division of Maritime Engineering, carrying out study program of Marine Engineering and Maritime Transport Technology. After the department had been founded, from the academic year 2005/2006 mentioned study programs started functioning as the studies of the University of Zadar with new structure in line with the Bologna Declaration. The curriculums meet the requirements of STCW convention and The Regulation on Requirements for the Award of Ranks and Certification of Seafarers on Board Merchant Ships of the Republic of Croatia. The practical part of the teaching process takes place on board training vessel "Kraljica mora" and Jadrolinija vessels.

The Maritime Department pursues collaboration with maritime faculties in Croatia and Europe, shipping companies and other companies related to maritime sector in order to equip students with academic knowledge and professional competences needed for successful entry into the labour market.

The total number of the Department's employees is 19 (out of which there is 1 full professor and 2 associate professors, 9 assistant professors, 1 postdoctoral researcher, 6 teaching assistants). Teaching staff perform scientific research in the various fields of science, in accordance with multidisciplinary nature of maritime studies.

STUDY PROGRAMMES

Undergraduate university study programme of Marine Engineering and Maritime Transport Technology **(Single-major)**

Duration of the study: 3 years

Admission requirements: Finished four-year high school programme or an equivalent high school programme Leaving Certificate

Competencies acquired upon finishing the study programme:

Study program Marine Engineering and Technology Maritime Transport, at the undergraduate level, is intended for officers acquiring certification for chief engineer and second engineer officer, at the management level on a ship powered by the main propulsion machinery of over 3000 kW. Students are trained to manage the complex marine energy systems including management of engine room crew in operation, inspection, maintenance and fault diagnosis of marine machinery complex, by coordination of all internal and external competent entities in the process of exploitation. Learning outcomes at the undergraduate level include acquired basic knowledge and practical work in the field of marine engineering at the management level, thus bachelors acquire the following competences: to plan and conduct operations starting up and stopping the main propulsion engine and auxiliary machinery, including all associated support systems; to determine the capacity and performance of the main and auxiliary machines, to monitor operation of complex marine machinery, to control safety of the main engine complex; to manage fuel system and ballast; to supervise operation of the ship's electric power complex, to use automation, instrumentation and control systems as well internal communication systems; to monitor and stop ship's power plants such as marine diesel engines, marine boilers, and steam and gas turbines; to monitor refrigeration facilities including air-conditioning systems; to determine the stability, resistance and strength of the vessel; to monitor and maintain the ship's auxiliary machinery including heat exchangers, steering gear, cargo equipment and deck machinery; to monitor and maintain electrical machines and devices and to handle with the security systems of the ship including fire protection system. In all three

study years attention is paid to the contents in accordance with the STCW Convention which is necessary for obtaining the highest positions in the field of maritime affairs (second engineer officer on a ship powered by the main propulsion machinery of over 3000 kW and chief engineer on a ship powered by the main propulsion machinery of over 3000 kW).

Professional title acquired upon finishing the study programme:

Bachelor of Marine Engineering and Maritime Transport Technology

Course list by semesters:

| Course unit code | 1. SEMESTER | Status | Hours per week | | | ECTS |
|------------------|---|--|----------------|---|----|------|
| | | | L | S | E | |
| JES 101 | Maritime English JES 101 | obligatory | 1 | 0 | 2 | 4 |
| BRO 104 | Mathematics I | obligatory | 2 | 0 | 2 | 6 |
| BRO 106 | Engineering Mechanics I | obligatory | 3 | 0 | 2 | 6 |
| BRO 105 | Applied Computer Technology | obligatory | 2 | 0 | 2 | 4 |
| BRO 107 | Technology of Materials | obligatory | 3 | 0 | 2 | 5 |
| BRO 207 | Maritime Law | obligatory | 2 | 0 | 0 | 3 |
| BRO 108 | Physical Education | obligatory | 0 | 0 | 2 | 1 |
| | Technology of Materials and Welding Processes | Additional program for students who have not completed secondary maritime school | 30 | 0 | 30 | 0 |
| | 2. SEMESTER | | | | | |
| JES 102 | Maritime English JES 102 | obligatory | 1 | 0 | 2 | 4 |
| BRO 112 | Mathematics II | obligatory | 2 | 0 | 2 | 6 |
| BRO 110 | Marine Engineering Elements | obligatory | 3 | 0 | 2 | 6 |
| BRO 218 | Engineering Mechanics II | obligatory | 2 | 0 | 2 | 5 |
| BRO 209 | Marine Environment Protection | obligatory | 2 | 0 | 0 | 3 |
| BRO 101 | Marine Electrical and Electronic Engineering | obligatory | 4 | 0 | 2 | 6 |
| BRO 1081 | Physical Education | obligatory | 0 | 0 | 2 | 1 |
| | Special Program of Basic Safety On Board | Additional program for students who have not completed secondary maritime school | 36 | 0 | 19 | 0 |
| | 3. SEMESTER | | | | | |
| JES 203 | Maritime English JES 203 | obligatory | 1 | 0 | 2 | 4 |
| BRO 115 | Thermodynamics | obligatory | 4 | 0 | 2 | 7 |
| BRO 206 | Ship Construction and Stability | obligatory | 4 | 0 | 2 | 6 |
| BRO 113 | Safety at Sea | obligatory | 3 | 0 | 1 | 5 |
| BRO 205 | Fuels, Lubricants and Water | obligatory | 2 | 0 | 0 | 3 |
| BRO 216 | Organization and Management On Board | obligatory | 3 | 0 | 0 | 4 |
| BRO 103 | Physical Education | obligatory | 0 | 0 | 2 | 1 |
| | Marine Machinery and Systems | Additional program for students who have not | 30 | 0 | 30 | 0 |

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|--------------------|---|--|---|---|----|---|
| | | completed secondary maritime school | | | | |
| 4. SEMESTER | | | | | | |
| JES 204 | Maritime English JES 204 | obligatory | 1 | 0 | 2 | 4 |
| BRO 211 | Marine Diesel Engines | obligatory | 4 | 0 | 1 | 6 |
| BRO 220 | Marine Steam and Gas Turbines | obligatory | 2 | 0 | 1 | 4 |
| BRO 202 | Marine Steam Generators | obligatory | 2 | 0 | 1 | 4 |
| BRO 203 | Marine Auxiliary Machinery | obligatory | 4 | 0 | 1 | 6 |
| BRO 109 | Marine Electrical Machinery | obligatory | 4 | 0 | 2 | 6 |
| | On Board Training and Work in the Engine Room | Additional program for students who have not completed secondary maritime school | 0 | 0 | 60 | 0 |
| 5. SEMESTAR | | | | | | |
| BRO 210 | Automated Ship Propulsion | obligatory | 3 | 0 | 1 | 5 |
| BRO 219 | Ship Maintenance | obligatory | 2 | 0 | 1 | 4 |
| BRO 305 | Marine Refrigeration Plant | obligatory | 2 | 0 | 1 | 4 |
| BRO 213 | Marine Engineering Systems | obligatory | 2 | 0 | 0 | 3 |
| BRO 208 | Simulator Training I | obligatory | 1 | 0 | 2 | 4 |
| BRO 302 | Technical Supervision and Ship Classification | obligatory | 2 | 0 | 0 | 3 |
| JES 305 | Maritime English JES 305 | optional | 1 | 0 | 2 | 3 |
| BRO 304 | Maritime Medicine | optional | 2 | 0 | 1 | 4 |
| BRO 310 | Maritime Economics | optional | 2 | 0 | 1 | 4 |
| BRO 222 | Mechanisms and Vibrations | optional | 2 | 0 | 1 | 4 |
| BRO 246 | Ship Navigation | optional | 1 | 0 | 2 | 3 |
| 6. SEMESTAR | | | | | | |
| BRO 214 | Failure Diagnosis | obligatory | 2 | 0 | 1 | 4 |
| BRO 215 | Simulator Training II | obligatory | 1 | 0 | 2 | 4 |
| BRO 308 | On Board Training | obligatory | 0 | 0 | 2 | 2 |
| BRO 311 | Marine Hydraulics and Pneumatics | obligatory | 2 | 0 | 1 | 4 |
| BRO 312 | BSc Degree thesis | obligatory | 0 | 0 | 8 | 8 |
| JES 306 | Maritime English JES 306 | optional | 1 | 0 | 2 | 3 |
| NAU 319 | Inspection and Survey of Ships | optional | 2 | 0 | 0 | 3 |
| BRO 223 | Shipboard Energy Systems | optional | 2 | 0 | 1 | 4 |
| NAU 322 | Liquid Cargo Transport Technology | optional | 2 | 0 | 1 | 4 |
| ONO 103 | Traditional Maritime Terminology of the Croatian Adriatic | optional | 1 | 1 | 0 | 3 |

**Undergraduate university study programme of Nautical Studies and Maritime
Transport Technology (single-major)**

Duration of the study: 3 years

Admission requirements: Finished four-year high school programme or an equivalent high school programme Leaving Certificate

Competencies acquired upon finishing the study programme:

Undergraduate study of Nautical Studies and Maritime Transport Technology is organized so that as a result of the study program bachelors acquire basic nautical competencies such as planning, organizing, managing, leading and controlling. These competencies are realized through professional courses where problems of systematic use of vessel technological systems and managing of the vessel at the management level are addressed theoretically and practically. Bachelor nautical engineers have acquired the following competences: to apply different techniques and methods of transportation of goods and passengers by sea with the aim of training for independent and critical work in practice; to critically evaluate the conditions of vessel's exploitation in terms of stability control of the ship, to select and use different methods of ship-handling; to combine and use ship's equipment at the management level, to manage and lead a crew based on the teamwork at the management level; to analyze and choose the appropriate style of management in a multicultural environment, to provide basic medical care on board, to develop a plan, to improve protection and prevent pollution of the marine environment. Besides acquiring a nautical competences, undergraduate study of Nautical Studies and Maritime Transport Technology includes other study courses (Mathematics, Physics, English, etc.), with the aim of increasing the general competencies necessary for a complete higher education. In all three years attention is paid to the contents in accordance with the STCW Convention which is necessary for obtaining the highest positions in the field of maritime affairs (chief officer and master of a ship over 3000 gt).

Professional title acquired upon finishing the study programme:

Bachelor of Nautical Studies and Maritime Transport Technology

Course list by semesters:

| Course unit code | 1. SEMESTER | Status | Hours per week | | | ECTS |
|------------------|---|--|----------------|---|----|------|
| | | | L | S | E | |
| JEN 101 | Maritime English JEN 101 | obligatory | 2 | 0 | 2 | 5 |
| NAU 102 | Mathematics I | obligatory | 2 | 0 | 2 | 5 |
| NAU 118 | Physics | obligatory | 2 | 1 | 0 | 4 |
| NAU 104 | Applied Computer Technology | obligatory | 2 | 0 | 2 | 3 |
| NAU 105 | Fundamentals of Electrical Engineering | obligatory | 3 | 0 | 0 | 4 |
| NAU 108 | Means of Marine Transportation I | obligatory | 2 | 0 | 2 | 5 |
| NAU 115 | Marine Environment Protection | obligatory | 2 | 0 | 0 | 3 |
| NAU 122 | Physical Education | obligatory | 0 | 0 | 2 | 1 |
| | Fundamentals of Ship and Cargo | Additional program for students who have not completed secondary maritime school | 60 | 0 | 0 | 0 |
| | 2. SEMESTER | | | | | |
| JEN 102 | Maritime English JEN 102 | obligatory | 2 | 0 | 2 | 5 |
| NAU 110 | Mathematics II | obligatory | 2 | 0 | 1 | 5 |
| NAU 117 | Means of Marine Transportation II | obligatory | 2 | 0 | 2 | 5 |
| NAU 119 | Fundamentals of Marine Engineering | obligatory | 2 | 0 | 1 | 4 |
| NAU 111 | Maritime Public Law | obligatory | 2 | 0 | 0 | 3 |
| NAU 114 | Maritime Economics | obligatory | 2 | 0 | 0 | 2 |
| NAU 107 | Maritime Meteorology and Oceanography | obligatory | 3 | 0 | 1 | 4 |
| NAU 116 | Professional Practice | obligatory | 0 | 0 | 2 | 1 |
| NAU 109 | Physical Education | obligatory | 0 | 0 | 2 | 1 |
| | Special Program of Basic Safety On Board | Additional program for students who have not completed secondary maritime school | 36 | 0 | 19 | 0 |
| | 3. SEMESTER | | | | | |
| JEN 203 | Maritime English JEN 203 | obligatory | 1 | 0 | 2 | 4 |
| NAU 201 | Terrestrial Navigation | obligatory | 3 | 0 | 3 | 7 |
| NAU 208 | Celestial Navigation | obligatory | 2 | 0 | 2 | 5 |
| NAU 211 | Ship Maintenance | obligatory | 2 | 0 | 0 | 3 |
| NAU 209 | Cargo Handling I | obligatory | 3 | 0 | 2 | 6 |
| NAU 212 | Maritime Medicine | obligatory | 2 | 0 | 1 | 4 |
| NAU 216 | Physical Education | obligatory | 0 | 0 | 2 | 1 |
| | Observation and plotting radar installation and use of ARPA | Additional program for students who have not completed secondary maritime school | 17 | 0 | 33 | 0 |
| | 4. SEMESTER | | | | | |
| JEN 204 | Maritime English JEN 204 | obligatory | 1 | 0 | 2 | 4 |
| NAU 204 | Cargo Handling II | obligatory | 2 | 0 | 2 | 6 |
| NAU 112 | Safety at Sea | obligatory | 3 | 0 | 1 | 5 |
| NAU 207 | Maritime Property Law | obligatory | 3 | 0 | 0 | 4 |
| NAU 202 | Electronic Navigation | obligatory | 2 | 0 | 2 | 6 |
| NAU 205 | Organization and Management On Board | obligatory | 3 | 0 | 0 | 4 |

| | | | | | | |
|--------------------|---|--|----|---|---|---|
| NAU 218 | Physical Education | obligatory | 0 | 0 | 2 | 1 |
| | Basic Skills on Board | Additional program for students who have not completed secondary maritime school | 45 | 0 | 0 | 0 |
| 5. SEMESTER | | | | | | |
| JEN 305 | Maritime English JEN 305 | obligatory | 1 | 0 | 1 | 2 |
| NAU 215 | Ship Manoeuvring | obligatory | 3 | 0 | 2 | 5 |
| NAU 206 | Maritime Communications | obligatory | 2 | 0 | 3 | 5 |
| NAU 210 | Voyage Planning | obligatory | 2 | 0 | 2 | 4 |
| NAU 320 | Maritime Geography | optional | 2 | 1 | 0 | 4 |
| NAU 312 | Transport Insurance | optional | 2 | 1 | 0 | 5 |
| NAU 315 | Intermodal Transport Technology | optional | 2 | 1 | 0 | 3 |
| 6. SEMESTER | | | | | | |
| JEN 306 | Maritime English JEN 306 | obligatory | 1 | 0 | 1 | 2 |
| NAU 213 | Sailing Practice | obligatory | 0 | 0 | 2 | 2 |
| NAU 323 | BSc Degree exam | obligatory | 0 | 0 | 0 | 8 |
| NAU 322 | Liquid Cargo Transport Technology | obligatory | 2 | 0 | 1 | 4 |
| NAU 321 | Maritime Accidents and Risk Management | optional | 2 | 1 | 0 | 4 |
| NAU 319 | Inspection and Survey of Ships | optional | 2 | 0 | 0 | 3 |
| ONO 103 | Traditional Maritime Terminology of the Croatian Adriatic | optional | 1 | 1 | 0 | 3 |

Special Education Program for Seafarers

On the basis of the Senate decision from February 25, 2011, the Department is a representative of the lifelong education program called Special Education Program for Seafarers. Similar program was launched at other maritime higher education institutions (Faculty of Maritime Studies in Rijeka, Faculty of Maritime Studies in Split and the Maritime Department of the University of Dubrovnik). Teachers and external associates of the Department were entrusted with teaching activities within this program. The program was organized in accordance with the Ordinance amendments to the Ordinance on Vocations and Certificates of Competencies for Seafarers (OG 142/10). Study courses encompass obligatory contents according to the Convention STCW i.e. the Ordinance on Vocations and Certificates of Competencies for Seafarers at Merchant Navy Ships of the Republic of Croatia. After the attendants of the program had passed all exams, they may take an exam with the Department approval for the highest vocations in accordance with the Maritime Law (OG 181/04, 76/07, 146/08, and 61/11) and Ordinance on Amendments to the Ordinance on Vocations and Certificates of Competencies for Seafarers (OG 142/10). At the end of the program the attendant receives a certificate.