

MSc - Master of Science – Nautical Sciences (100 ECTS)

Name of Study

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Introduction

The mission of the “Nautical Sciences” Master of Science Program, developed by the Merchant Marine Faculty of the “Mircea cel Bătrân” Naval Academy is to continue the Romanian Naval traditions, by developing general, specific and attitudinal competences, in order to facilitate our graduates to properly develop their own professional careers:

- in merchant worldwide fleet, capable to fulfill the needs of the managerial level (second officer, master) onboard any merchant vessel;
- for the Navy forces, capable to partially fulfill the requirements of the Executive or Commanding Officer onboard navy vessels.

This mission will be accomplished by applying all procedures and activities requested by the Academy’s Quality Management System and by the academic community aquis.

The values we want to implement for our success are:

- professionalism, sustainable activity, respect, honesty and a correct attitude towards other people and profession;
- the respect for other people, respect of the law, respect of the school’s traditions and virtues;

Full-time

Duration

3 semesters full time

Credits

90+10 ECTS

Level

Higher education

Degree

Master of Science- Nautical Sciences

Learning outcome

- To form new capabilities, that will allow the graduate to plan the voyage and navigate in every condition, routes, weather conditions, ice, poor visibility, traffic separation schemes, areas with significant tidal values;
- To develop the competence of accurately determining the vessel’s position by using any means;
- To apply advanced knowledge to the operation of navigational equipment, including determination of the compass error and admitted tolerance;
- To apply advanced knowledge to dangerous goods transport and handling;
- To apply advanced knowledge to the coordination of Search And Rescue Operations at sea;
- To develop the capacity to maintain navigational safety by using in the decision making procedure the radars, ARPA systems and other modern navigational systems;
- To develop the capability to understand and use a weather synoptical map and to forecast the weather for a specific area, using advanced meteorology and oceanography knowledge, including those relating to tropical cyclones, storms, oceanic currents, tides;
- To apply advanced knowledge to the principles and fundamentals of naval

architecture; to analyze the elements that affect the vessels' trim and stability, no matter if the ship is intact or damaged, and identifying the best needed action in order to maintain proper values;

- Developing advanced skills in usage of software products like Autoship and Autostructure.

- Qualified for doctoral studies.

Prerequisites

BSc in mechanical or marine technology engineering, or a documented, equivalent degree.

Structure and organization

The first year comprises 9 mandatory/core subjects. Each subject is scheduled for a given day of the week. This scheduling makes part time study possible.

The second year consists of more specialized studies, including projects and a master dissertation.

Aims and Goals

During the study semesters, we try to develop an advanced engineering point of view, in direct relation with the specific shipping industry issues and with all these ideas, to develop a highly professional ethics and management competences specific to the shipping industry. After graduating the Master of Science program, the students will be able to:

- carry out fundamental and applied researches on nautical sciences;
- achieve process and analyze experimental data;
- to properly act and work in complex and multicultural teams;
- efficiently communicate in English, either face to face or by using modern technologies;
- study / simulate naval hydrodynamics and hull structure calculus;
- properly use the computers;
- use thoroughly the maritime and commerce concepts in order to ensure a better management and administration of the vessel;

Teaching and working methods

Tutorials, seminars and groupwork, Problem-based learning and case studies, Oral and visual presentations, Project work and report writing, Fieldwork and practicals, Professional development planning

Internationalization

All subjects are taught in Romanian.

Code	Course title	Credits	O/V *)	Credits per semester		
				S1(A)	S2(S)	S3(A)
SN-01	Maritime navigation and navigation equipment	8	O	8		
SN-02	Safety in shipping	7	O	7		
SN-03	Ship handling in all weathers	8	O	8		
SN-04	CAD/CAE in initial ship design	7	O	7		
SN-05	Safety of life at sea and marine environment protection	7	O		7	
SN-06	Carriage and handling of dangerous goods	5	O		5	
SN-07	Navigational safety and ARPA	8	O		8	
SN-08	Watchkeeping team management	5	O		5	

SN-09	Maritime meteorology and oceanography	5	O		5	
SN-10	Management of stability, trim and structural load of the ship	7	O			7
SN-11	Safety management in ship operation	7	O			7
SN-12	Risk Management in shipping industry	6	O			6
SN-13	Maritime law-Litigations	4	O			4
SN-14	Ship management and administration	6	O			6
SN-15	MSc. dissertation, discipline oriented	10	O			10
	Total:			30	30	30+10

*) O - Mandatory course, V - Optional course