Master Thesis (ECTS 30)*

COURSE OUTLINE

(1) GENERAL

SCHOOL	MARITIME AND INDUSTRIAL STUDIES		
ACADEMIC UNIT	MARITIME STUDIES		
LEVEL OF STUDIES	POSTGRADUATE		
COURSE CODE	**ΕΡΓ-1**	**SEMESTER**	C
COURSE TITLE	Master Thesis		

INDEPENDENT TEACHING ACTIVITIES *if credits are awarded for separate components of the course, e.g. lectures, laboratory exercises, etc. If the credits are awarded for the whole of the course, give the weekly teaching hours and the total credits*	**WEEKLY TEACHING HOURS**	**CREDITS**
		30
Add rows if necessary. The organisation of teaching and the teaching methods used are described in detail at (d).		

COURSE TYPE *general background, special background, specialised general knowledge, skills development*	General Background
PREREQUISITE COURSES:	NO
LANGUAGE OF INSTRUCTION and EXAMINATIONS:	GREEK AND ENGLISH
IS THE COURSE OFFERED TO ERASMUS STUDENTS	NO
COURSE WEBSITE (URL)	

(2) LEARNING OUTCOMES

Learning outcomes

The course learning outcomes, specific knowledge, skills and competences of an appropriate level, which the students will acquire with the successful completion of the course are described.

Consult Appendix A

- *Description of the level of learning outcomes for each qualifications cycle, according to the Qualifications Framework of the European Higher Education Area*
- *Descriptors for Levels 6, 7 & 8 of the European Qualifications Framework for Lifelong Learning and Appendix B*
- *Guidelines for writing Learning Outcomes*

The Master Thesis is a scientific paper which aims at the in-depth engagement of the student with a specific cutting-edge topic that concerns the shipping industry. The goal is the utilization and further development on the part of the student of the knowledge and skills acquired from the courses of the first semesters of the Program. Each thesis must demonstrate advanced theoretical knowledge, practical skills, critical thinking, ability to analyze and formulate problems and research ability of the graduate student. It may refer to empirical, theoretical or applied topics and be carried out in collaboration with a private or public body dealing with related subjects. The Master Thesis must be characterized by elements of originality and have a research character. The nature of the work can be (a) bibliographic/synthetic and concern the gathering, overview, critical evaluation and synthesis of existing knowledge and information, (b) analytical/computational and concern the creation, improvement, or application of methods, techniques, models for the utilization and processing of elements or laboratory or field measurement data, (c) methodological and refers to the utilization of existing knowledge and information in combination with theoretical and methodological approaches for the description and interpretation of a phenomenon or topic, or (d) a combination of above.

General Competences

Taking into consideration the general competences that the degree-holder must acquire (as these appear in the Diploma Supplement and appear below), at which of the following does the course aim?

Search for, analysis and synthesis of data and information, with the use of the necessary technology *Adapting to new situations* *Decision-making* *Working independently* *Team work* *Working in an international environment* *Working in an interdisciplinary environment* *Production of new research ideas*	*Project planning and management* *Respect for difference and multiculturalism* *Respect for the natural environment* *Showing social, professional and ethical responsibility and sensitivity to gender issues* *Criticism and self-criticism* *Production of free, creative and inductive thinking* *……* *Others…* *…….*
Search for, analysis and synthesis of data and information, with the use of the necessary technology Working independently Working in an interdisciplinary environment Production of new research ideas	
Project planning and management Production of free, creative and inductive thinking	

(3) SYLLABUS

The elaboration of a master thesis aims to address issues in order to solve, at a theoretical and applied (implementation) level, one or more problems that are part of the Department's scientific field and to implement a technology or idea. In this way, the student is provided with the opportunity to synthesize and use the knowledge acquired during his studies.
Thesis can be:
I. Research / Theoretical: focus on developing a new theoretical model or extending an existing one and applying it to problem solving,
II. Research / Development: focus on developing a "new" system, based on existing theory and usually consists the dominant part of the work, so that its application can be demonstrated, and
III. Application: focus on developing a large application useful in an area of interest using one or more software packages, tools, or appropriate hardware
The Master Thesis must include a set of activities, which extend to all phases of the elaboration and which can guarantee a successful outcome in every respect. The results of these activities are summarized in the text of the Thesis which may include:
1. Description and analysis of the thesis topic, in a way that the reader understands the object of the thesis, the working hypotheses and the dimensions of the solution space.
2. Analysis of the current situation in the relevant scientific subjects, presenting the basic concepts and requirements of the problem, the research or other results on which the work is based, and the objectives of the thesis in relation to the international best practice (state-of-the-art).
3. Description of the assumptions and the implementation methodology of the work.
4. Description of the solution. This description may include the theoretical solution (theorems, analysis models, algorithms, etc.) and / or implementation of a system in relation to the use cases specified during the analysis.
5. Thesis final conclusions that will include data for the evaluation of the solution (theoretical evaluation, list of measurements or evaluations).
6. Bibliography Analysis that includes all the books, papers, or other supplementary bibliography, sources, etc. used in the text or footnotes
7. Appendices containing all the tools used, along with instructions for using and managing the software / hardware, and the possible future extension of the solutions.

(4) TEACHING and LEARNING METHODS - EVALUATION

DELIVERY *Face-to-face, Distance learning, etc.*	Face-to-face communication of the student with the supervising faculty member. Implementation in research laboratories. Remote study and implementation. Telemeetings
USE OF INFORMATION AND COMMUNICATIONS TECHNOLOGY *Use of ICT in teaching, laboratory education, communication with students*	Use of specialized software for simulation or design or programming or statistical processing or digital processing, depending on the requirements of the subject. Use of teleconference platforms to communicate with the supervising faculty member.

TEACHING METHODS *The manner and methods of teaching are described in detail.* *Lectures, seminars, laboratory practice, fieldwork, study and analysis of bibliography, tutorials, placements, clinical practice, art workshop, interactive teaching, educational visits, project, essay writing, artistic creativity, etc.*	***Activity***	***Semester workload***
	Bibliography Study and Analysis	150 hours
	Thesis Elaboration: analysis, design, programming, simulation, construction, evaluation, etc.	550 hours
The student's study hours for each learning activity are given as well as the hours of non-directed study according to the principles of the ECTS	Master Thesis writing, preparing presentation	200 hours
	Course total	***900***

STUDENT PERFORMANCE EVALUATION *Description of the evaluation procedure* *Language of evaluation, methods of evaluation, summative or conclusive, multiple choice questionnaires, short-answer questions, open-ended questions, problem solving, written work, essay/report, oral examination, public presentation, laboratory work, clinical examination of patient, art interpretation, other* *Specifically-defined evaluation criteria are given, and if and where they are accessible to students.*	Submission of a detailed technical report of the elaborated research / implementation and its results. • The evaluation of the master thesis is done by a three-member examination committee of faculty members of the department who have relevant research background with the thesis. The Committee may be supplemented by faculty members or research associates of another Department. Committee. • For the grading each member of the committee takes into account the following: o The originality of the subject and its difficulty degree. o The understanding of the subject o The investigation methodology o The implementation o The presentation o The technical text of the thesis o The achievement degree of the goal of thesis

(5) ATTACHED BIBLIOGRAPHY

- Suggested bibliography:

- Related academic journals: