

MASTER'S THESIS

(1) GENERAL

SCHOOL	SCHOOL OF SCIENCES		
ACADEMIC UNIT	PHYSICS DEPARTMENT		
LEVEL OF STUDIES	GRADUATE		
COURSE CODE		SEMESTER	3 RD
COURSE TITLE	MASTER'S THESIS		
INDEPENDENT TEACHING ACTIVITIES <i>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</i>	WEEKLY TEACHING HOURS	CREDITS	
		30	
<i>Add rows if necessary. The organisation of teaching and the teaching methods used are described in detail at (d).</i>			
COURSE TYPE <i>general background, special background, specialised general knowledge, skills development</i>	Special background, specialised general knowledge, skills development		
PREREQUISITE COURSES:	All Courses of the Master's Program		
LANGUAGE OF INSTRUCTION and EXAMINATIONS:	Greek or English		
IS THE COURSE OFFERED TO ERASMUS STUDENTS	YES		
COURSE WEBSITE (URL)	https://physics.uoi.gr/en/node/53		

(2) LEARNING OUTCOMES

<p>Learning outcomes <i>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.</i> <i>Consult Appendix A</i></p> <ul style="list-style-type: none"> - 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 		
<p>The preparation of the Master's Thesis aims to train graduate students in the application of the knowledge acquired during the first two semesters in original scientific research. Upon completion of the MSc, each graduate student will be able to:</p> <ol style="list-style-type: none"> 1. To present in a comprehensive way an international literature review of the research field in which he/she worked. 2. To clearly reflect the purpose and originality of the research Master's Thesis in which he worked. 3. To describe in detail and the research methodology he followed. 4. To present his results in a complete and understandable way and to analyze-discuss them based on the international literature. 5. Clearly state the main scientific conclusions and potential further perspectives. 		
<p>General Competences <i>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?</i></p> <table style="width: 100%; border: none;"> <tr> <td style="width: 50%; border: none;"><i>Search for, analysis and synthesis of data and information, with the use of the necessary technology</i></td> <td style="width: 50%; border: none;"><i>Project planning and management Respect for difference and multiculturalism Respect for the natural environment</i></td> </tr> </table>	<i>Search for, analysis and synthesis of data and information, with the use of the necessary technology</i>	<i>Project planning and management Respect for difference and multiculturalism Respect for the natural environment</i>
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<i>Adapting to new situations</i> <i>Decision-making</i> <i>Working independently</i> <i>Team work</i> <i>Working in an international environment</i> <i>Working in an interdisciplinary environment</i> <i>Production of new research ideas</i>	<i>Showing social, professional and ethical responsibility and sensitivity to gender issues</i> <i>Criticism and self-criticism</i> <i>Production of free, creative and inductive thinking</i> ... <i>Others...</i>
<p>Search, analysis and synthesis of data and information. Project planning and management, Decision making, Independent work, Generating new research ideas. Working in an international and interdisciplinary environment. Respect for diversity and multiculturalism, respect for the natural environment. Demonstrate social, professional and ethical responsibility and sensitivity to gender and professional issues. Exercise of critical and self-critical thinking, promotion of free, creative and deductive thinking. Critical presentation of work using rigorous scientific criteria.</p>	

(3) SYLLABUS

Research, experimental or theoretical – or combined – study of an original scientific problem. Collection, processing of scientific data, experimental or bibliographical. Preparation of a scientific text with the content of the work. Presentation to the relevant three-member examination committee.

(4) TEACHING and LEARNING METHODS - EVALUATION

METHOD OF IMPLEMENTATION OF THE MASTER'S PROGRAM	Research project under the guidance of the supervisor-professor.	
USE OF INFORMATION AND COMMUNICATIONS TECHNOLOGY <i>Use of ICT in teaching, laboratory education, communication with students</i>	Use of the internet to search the literature, use of data analysis and presentation technologies.	
TEACHING METHODS <i>The manner and methods of teaching are described in detail.</i> <i>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.</i> <i>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</i>	Activity	Semester workload
	Topic Preparation	15 days
	Literature Study	Continuous
	(Experimental): Organisation-performing experiments, data collection. (Theoretical): Organisation-performing calculations	8-hour workday
	Scientific presentation of research progress to the supervisor	At least 4 hours per week
	Presentation to the Research Group	At least once every two months
	Report Writing	Once per semester
	Master's Thesis	2 months at the end of the master's program

<p style="text-align: center;">STUDENT PERFORMANCE EVALUATION</p> <p style="text-align: center;"><i>Description of the evaluation procedure</i></p> <p style="text-align: center;"><i>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</i></p> <p style="text-align: center;"><i>Specifically-defined evaluation criteria are given, and if and where they are accessible to students.</i></p>	<ul style="list-style-type: none"> • Originality and Quality of the scientific results of the Master's thesis (35%) • Quality and completeness of the written text of the Master's thesis (35%) • Quality of the oral presentation of the Master's thesis and of the answers given by the student during the presentation of the Master's thesis to the three-member examination committee (30%)
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(5) ATTACHED BIBLIOGRAPHY

The determination of the international bibliography pertinent to the subject matter of each Master's thesis is at the discretion of the supervising professor.