

# Dissertation Thesis

## (1) GENERAL

<b>SCHOOL</b>	SCHOOL OF INFORMATION SCIENCES & TECHNOLOGY		
<b>ACADEMIC UNIT</b>	DEPARTMENT OF STATISTICS		
<b>LEVEL OF STUDIES</b>	POSTGRADUATE		
<b>COURSE CODE</b>		<b>SEMESTER</b>	<b>3 OR 5</b>
<b>COURSE TITLE</b>	Dissertation Thesis		
<b>INDEPENDENT TEACHING ACTIVITIES</b>		<b>WEEKLY TEACHING HOURS</b>	<b>CREDITS</b>
		0	30
<b>COURSE TYPE</b>	Background Specialization		
<b>PREREQUISITE COURSES:</b>			
<b>LANGUAGE OF INSTRUCTION and EXAMINATIONS:</b>	ENGLISH		
<b>COURSE DELIVERY METHOD</b>	Distance		
<b>IS THE COURSE OFFERED TO ERASMUS STUDENTS</b>	YES		
<b>COURSE WEBSITE (URL)</b>	<a href="https://cloud.aueb.gr/index.php/s/JEMgSGk82LCeR5e">https://cloud.aueb.gr/index.php/s/JEMgSGk82LCeR5e</a>		

## (2) LEARNING OUTCOMES

<b>Learning outcomes</b>
<p>The MSc Thesis aims to provide the student with the opportunity to:</p> <ul style="list-style-type: none"> <li>• develop and apply research methods to topics of scientific interest related to the field of study of the MSc program;</li> <li>• deepen their understanding of the topic under investigation;</li> <li>• review and critically engage with the existing literature;</li> <li>• develop critical thinking by formulating appropriate research hypotheses;</li> <li>• collect and appropriately analyze empirical data;</li> <li>• acquire skills in investigation and drawing evidence-based conclusions;</li> <li>• develop data storytelling skills for the effective communication of analytical findings to partners from collaborating companies, organizations, or sports teams;</li> <li>• identify and collect data from appropriate sources.</li> </ul>
<b>General Competences</b>
<p>The general competencies to be developed are the following:</p> <ul style="list-style-type: none"> <li>• Ability to search for, analyze, and synthesize data and information using appropriate technologies.</li> <li>• Ability to generate new research ideas and methodologies.</li> <li>• Ability to use existing methodologies and tools, as well as to develop new ones.</li> <li>• Ability to foster creative and inductive thinking.</li> </ul>

- Ability to develop research skills consistent with the completion of a postgraduate degree
- Ability to produce a coherent and logically structured text demonstrating research competence and the capacity for independent work.
- Ability to address issues related to research design, methodology, ethics, and theoretical reasoning.
- Ability to develop skills in independent research.

### (3) SYLLABUS

The preparation of the Master’s Thesis involves the writing of a research study by the student, in which the existing literature is reviewed, research hypotheses are formulated, existing methodologies are examined and extended, relevant data are collected and processed, empirical results are presented, and conclusions are drawn.

The content of the thesis typically includes some of the following sections: Abstract, Introduction, Literature Review, Research Methodology, Data Description, Empirical Results, Simulations to support the findings, Summary and Conclusions, References, and Appendices.

### (4) TEACHING and LEARNING METHODS - EVALUATION

<b>DELIVERY</b> <i>Face-to-face, Distance learning, etc.</i>	Distance	
<b>METHOD AND FREQUENCY OF COMMUNICATING WITH THE STUDENTS</b>	Remotely via email Weekly virtual or in-person meetings	
<b>ENSURING COMMUNICATION AMONG STUDENTS</b>	Teleconference, Chat via eclass and/ or TEAMS	
<b>USE OF INFORMATION AND COMMUNICATIONS TECHNOLOGY</b>	MS Teams, e-class, MS Outlook, R, Python	
<b>REQUIRED EQUIPMENT AND TECHNOLOGY KNOWLEDGE</b>	Camera, mic, PC, MS Office, and TEAMS	
<b>COURSE POLICY ON PLAGIARISM AND PLAGIARISM DETECTION TOOLS</b>	Turnitin	
<b>COURSE POLICY ON USE OF AI TOOLS</b>	The use of Artificial Intelligence is permitted with explicit reference to the bibliography (2) for the verbal correction of assignments and as long as students have understood the basic principles and methods of the course.	
<b>TEACHING METHODS</b>	<b>Activity</b>	<b>Semester workload</b>
	Thesis writing	150
	Literature study	250
	Analysis and problem solving	350
	Course total	<b>750</b>

<p><b>STUDENT PERFORMANCE EVALUATION</b></p>	<p>The evaluation of the Master’s Thesis is based on a set of criteria assessing each section as well as its overall quality. The thesis must be 70–100 pages in length, in accordance with the MSc thesis writing guidelines.</p> <p>The thesis is checked for plagiarism and AI-generated content using Turnitin.</p> <p>The thesis is evaluated by a three-member examination committee consisting of the supervisor and two additional faculty members or instructors of the MSc program. The student is required to present the thesis before the committee. The committee assesses the quality of the written thesis, the student’s performance during the presentation, and their ability to respond to questions, taking into account their understanding of the thesis subject.</p>
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**(5) RECOMMENDED BIBLIOGRAPHY**

<ul style="list-style-type: none"> <li>• Regulations for Writing and Submitting the MSc Thesis.</li> <li>• Guidelines for Writing the MSc Thesis.</li> <li>• McCullagh, P. (2023). Ten projects in applied statistics. Springer Nature.</li> </ul>
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