



MSc program “Biomedical Engineering and Technology”

Department of Biomedical Engineering

University of West Attica

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Guidelines for diploma thesis

1. General description

The Diploma Thesis is compulsory for all students of the MSc Program. The Diploma Thesis is supervised by one member of the teaching staff of the Program (Supervisor) and involves a/ review of the literature on the topic of the thesis, b/ implementation of a theoretical, computational or experimental approach related to the topic of the thesis, c/ extraction and analysis of the results of the approach, d/ discussion and interpretation of results along with comparison with similar studies presented in literature and e/ summary of the most important findings in the form of conclusions.

The Diploma Thesis is an independent scientific and systematic project to the analysis of a topic, which is based on existing literature and research. At the same time, the student utilizes the knowledge and skills acquired during his/her studies.

Through the Diploma Thesis, the student under the guidance of the supervisor is called to develop the skills of critical and combinatorial thinking, organization and analysis for in-depth investigation of a distinct subject of specialization that interests him/her, applying the systematic and scientific approach. In this sense, the elaboration of the Diploma Thesis is considered crucial and through it provides the postgraduate student the opportunity for synthesis and utilization, both in theoretical and experimental field, of the knowledge acquired during his/her studies, so that promote scientific thinking and research.

2. Types

In terms of its type, a Diploma Thesis can, indicatively, be:

- Research - theoretical, when it concerns the development of a new theoretical model or extension of an existing one and its application in problem solving.
- Research - development in which an experimental device or assembly is designed and / or constructed, experimental measurements are performed and / or processed, a computational methodology or an algorithmic scheme is developed.

- Empirical investigation of a problem with data collection, processing, analysis and documentation.
- Study of an issue of technological interest which is investigated in detail or computationally in the light of the research approach.
- Independent synthesis of a topic with detailed presentation of basic concepts, current and future trends, and documented critique.

3. Content

The content of the Diploma Thesis is shaped according to the subject of specialization under study. Indicatively, the basic stages for its successful completion are:

1. Analysis and understanding of the subject of specialization under study.
2. Critical review of the relevant literature.
3. Organize and design a research plan and the steps required to complete the topic.
4. Technical and theoretical documentation of the solution methodology.
5. Complete the required steps according to the selected solution approach.
6. Analysis of the results and conduct of the respective conclusions.
7. Public defense of the Diploma Thesis.

4. Learning outcomes

Upon successful completion of the Diploma Thesis, the student should be able to:

- Clearly recognize the limits of a problem to be solved and fully recognize all its basic and secondary aspects, focusing on the key points.
- To use in a critical and synthetic spirit the available bibliography for a specific thematic area.
- To design a research plan and to develop an appropriate methodology for approaching and investigating a topic under study.
- To substantiate his views and arguments.
- To know how to write a scientific essay.
- Recognize and evaluate the reliability and validity of the results of solving a problem.
- To successfully make a complete presentation of a topic.

5. Assignment of Diploma Thesis

- The student, after consultation with the proposed supervisor, submits an application for thesis to the Secretariat of the MSc Program, for approval by the Assembly of the Department. The application is endorsed by the supervising professor.
- Prior to the start of the Diploma Thesis, the student in collaboration with the supervising professor must ensure compliance with the Code of Ethics of the University of West Attica, if required (see the [website of the Research Ethics Committee of University of West Attica](#)). In most cases, this compliance involves the use of data obtained from humans.
- To be assigned a Diploma Thesis the student should be in the 3rd or higher semester.

- The standard completion time is one academic semester. The completion time can be extended by one semester with the consent of the supervising professor.
- In exceptional cases and upon a reasoned request of the student, the time of completion of the work can be extended for another semester.
- The student with his/her application to the Assembly of the Department, can request a change of subject or the supervisor only once.

6. Procedure for submitting an application for the Diploma Thesis examination

The examination of Diploma Thesis is carried out at the end of each semester in February/March, June/July or September in specific dates announced at the website of the MSc Program.

The Diploma Thesis must have been audited for plagiarism under the responsibility of the supervising professor [through the special Turnitin software](#) available to the University for detecting and recording the rate of similarity of Diploma Theses with the content of other sources. The control through the special software must have preceded the examination of the work. The results are summarized in an authenticity report stating the similarity rate. The final decision regarding the evaluation of the authenticity report is made by the supervisor. In case the authenticity and originality of the work is verified through this process, the examination procedure can be followed as analyzed below.

The student, after consultation with the supervising professor and if the supervising professor deems that the Diploma Thesis is sufficient, submits an application for a Diploma Thesis examination to the Secretariat of the MSc Program, which is endorsed by the supervising professor, up to two (2) weeks before the end of the semester's educational activities (i.e. courses, examinations, etc).

The supervising professor suggests the three members of the examination Committee of the Diploma Thesis, one of the members of which is the supervisor. Members of the Examination Committee may be members of the teaching staff of the MSc Program, or researchers of other Universities or Research Centers of the same or related subject matter with the subject of the work to be prepared.

The student is responsible for submitting a copy of the Diploma Thesis, in electronic form to the examination committee and the Secretariat.

At least one (1) week before the end of the semester's educational activities (i.e. courses, examinations, etc), the Secretariat of the MSc Program must prepare an examination program, which should be sent to the interested students, to the supervisors and should be announced through the websites of the MSc program and posted on the bulletin board of the Secretariat.

7. Evaluation of Diploma Thesis

The members of the examination Committee evaluate the presentation of the work and ask questions, in order to form an opinion on the correctness and completeness of the approach followed and the solution given to the problem that the Diploma Thesis addresses. The grade of the Diploma Thesis results from the

average score of the members of the three members of the examination Committee. The supervising professor submits to the Secretariat of the Department the examination report with the score of the members.

The examination includes the evaluation of the deliverable of the Diploma Thesis and its presentation/defense in relation to the following indicative points:

- Understanding of the subject of specialization under study and review of the relevant literature.
- Organize and plan the required steps to complete the Diploma Thesis.
- Presentation of the elaboration of the required steps according to the chosen solution approach.
- Contribution to scientific dialogue through findings.
- Analysis of the results and conduct of the respective conclusions.

If a Diploma Thesis is deemed incomplete, it is returned for further processing. In this case, the presentation takes place on a date indicated by the three-member examination Committee, after consultation with the student, at which time the examination procedure is repeated, as defined in the above paragraphs.

In the event that the scientific results of the Diploma Thesis are patented, the current Greek legislation applies to the holders of the rights deriving from it.