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**UNIVERSITY OF WESTERN MACEDONIA
SCHOOL OF SCIENCES
DEPARTMENT OF INFORMATICS**

**UNIVERSITY OF PIRAEUS
SCHOOL OF INFORMATION TECHNOLOGIES AND COMMUNICATIONS
DEPARTMENT OF INFORMATICS**

POSTGRADUATE STUDIES PROGRAMME

**“MODERN INFORMATION TECHNOLOGIES AND
SERVICES”**

**Master of Science (M.Sc.) in
“MODERN INFORMATION TECHNOLOGIES AND SERVICES”**

REGULATION OF POSTGRADUATE STUDIES

KOZANI 2019

RESOLUTION

Regulation approval of the Postgraduate Studies of Joint Postgraduate Studies Programme (J.P.S.P) of the Department of Informatics of School of Sciences of the University of Western Macedonia and the Department of Informatics of School of Information Technologies and Communications of University of Piraeus with title **«Modern Information Technologies and Services (Master of Science (MSc) in Modern Information Technologies and Services)»**.

THE SENATE OF UNIVERSITY OF PIRAEUS / THE SENATE OF UNIVERSITY OF WESTERN MACEDONIA

(Αρ. Συνεδρίασης 94/23-08-2019)

Έχοντας υπόψη:

1. Τις διατάξεις του Ν.4610/2019(ΦΕΚ 70/Α/752019) «Συνέργειες Πανεπιστημίων και Τ.Ε.Ι., πρόσβαση στην τριτοβάθμια εκπαίδευση, πειραματικά σχολεία, Γενικά Αρχεία του Κράτους και λοιπές διατάξεις».
2. Το υπ' αριθ. Φ.Ε.Κ. 3439/17-8-2018, τ.Β' πράξης του Προέδρου του Τ.Ε.Ι. Δυτικής Μακεδονίας περί επανίδρυσης και λειτουργίας του Διδρυματικού Προγράμματος Μεταπτυχιακών Σπουδών (Π.Μ.Σ) του Τμήματος Μηχανικών Πληροφορικής Τ.Ε. της Σχολής Τεχνολογικών Εφαρμογών του Τ.Ε.Ι. Δυτικής Μακεδονίας σε συνεργασία με το Τμήμα Πληροφορικής της Σχολής Τεχνολογιών Πληροφορικής και Επικοινωνιών του Πανεπιστημίου Πειραιώς με τίτλο: «Προηγμένες Τεχνολογίες Πληροφορικής και Υπηρεσίες (Master of Science (MSc) in Modern Information Technologies and Services)».
3. Τις διατάξεις του Ν. 4485/2017 (ΦΕΚ 114 Α΄) «Οργάνωση και λειτουργία της ανώτατης εκπαίδευσης, ρυθμίσεις για την έρευνα και άλλες διατάξεις» και ιδίως του άρθρου 32 όπως τροποποιήθηκε και ισχύει και του άρθρου 85 παρ. 2α .
4. Την Υπουργική Απόφαση με αριθμό 216772/Ζ1/8-12-2017 (ΦΕΚ 4334/τ.Β΄/1212-2017): «Τρόπος κατάρτισης του αναλυτικού προϋπολογισμού λειτουργίας και της έκθεσης βιωσιμότητας των Προγραμμάτων Μεταπτυχιακών Σπουδών». 5. Τις διευκρινιστικές εγκυκλίους του Υπουργείου Παιδείας, Έρευνας και Θρησκευμάτων με αριθμό : α) 163204/Ζ1 /29-9-2017 ΕΞ. ΕΠΕΙΓΟΝ «Εφαρμογή των διατάξεων του Ν. 4485/17 (Α΄ 114) για θέματα μεταπτυχιακών σπουδών και εκπόνησης διδακτορικών διατριβών-Λοιπά θέματα», β)164530/Ζ1/ 3-10-2017 ΕΠΕΙΓΟΝ «Άμεσες ενέργειες και χρονοδιάγραμμα όσον αφορά τη λειτουργία των Ειδικών Λογαριασμών Κονδυλίων Έρευνας (Ε.Λ.Κ.Ε.) των Α.Ε.Ι. μετά τη δημοσίευση του ν. 4485/2017(Α΄ 114)», γ) 203446/Ζ1/22-11-2017 «Διευκρινήσεις σχετικά με την εφαρμογή διατάξεων του ν. 4485/2017 (Α΄ 114), και δ) 227378/Ζ1 /22-12-2017 ΕΞ. ΕΠΕΙΓΟΝ «Εφαρμογή των διατάξεων του Ν.4485/2017 (Α΄ 114) για θέματα μεταπτυχιακών σπουδών».

6. Τις διατάξεις του Ν.4386/2016 «Ρυθμίσεις για την έρευνα και άλλες διατάξεις» (ΦΕΚ Α' 83), όπως τροποποιήθηκαν και ισχύουν.
7. Τις διατάξεις του Ν.4009/2011 «Δομή, λειτουργία, διασφάλιση της ποιότητας των σπουδών και διεθνοποίηση των ανωτάτων εκπαιδευτικών ιδρυμάτων (ΦΕΚ Α' 195), όπως τροποποιήθηκαν και ισχύουν
8. Τις διατάξεις του Ν. 3374/2005(Α' 189) και ιδίως τα άρθρα 14 και 15 «Διασφάλιση της ποιότητας στην ανώτατη εκπαίδευση. Σύστημα μεταφοράς και συσσώρευσης πιστωτικών μονάδων – Παράρτημα διπλώματος» όπως τροποποιήθηκε και ισχύει.
9. Το υπ' αριθ. Φ.Ε.Κ. 653/21-4-2015, τ.Β' πράξης του Προέδρου του Τ.Ε.Ι.Δυτικής Μακεδονίας περί έγκρισης Διδρυματικού - Διατμηματικού Προγράμματος Μεταπτυχιακών Σπουδών (Π.Μ.Σ) του Τμήματος Μηχανικών Πληροφορικής Τ.Ε. της Σχολής Τεχνολογικών Εφαρμογών του Τ.Ε.Ι. Δυτικής Μακεδονίας σε συνεργασία με το Τμήμα Πληροφορικής της Σχολής Τεχνολογιών Πληροφορικής και Επικοινωνιών του Πανεπιστημίου Πειραιώς με τίτλο: «Σύγχρονα Συστήματα Τηλεπικοινωνιών, Τεχνολογίες Διαδικτύου και Ασφάλεια Συστημάτων».
10. Την υπ' αριθ. Φ.Ε.Κ. 1262/26-6-2015, τ.Β' τροποποίηση της αριθμ. Φ.Ε.Κ. 653/21-4-2015, τ.Β' πράξης του Προέδρου του Τ.Ε.Ι. Δυτικής Μακεδονίας.
11. Το υπ' αριθ. ΦΕΚ 617/τ.ΥΟΔΔ/23-11-2017 στο οποίο δημοσιεύτηκε η υπ' αριθ. 201656/Ζ1/21-11-2017 Διαπιστωτική πράξη του Υπουργού Παιδείας, Έρευνας και Θρησκευμάτων (ΑΔΑ:72Ε34653ΠΣ-ΒΤΨ) περί εκλογής Πρύτανη και τριών (3) Αντιπρυτάνεων του Πανεπιστημίου Πειραιώς με θητεία τεσσάρων (4) ετών, από 1-12-2017 έως 30-11-2021
12. Την υπ' αριθ. 20176901/6-12-2017 Απόφαση Πρύτανη (ΑΔΑ: Ω4Δ4469Β7Τ-0Χ6) περί συγκρότησης Συγκλήτου του Πανεπιστημίου Πειραιώς
13. Το υπ' αριθ. ΦΕΚ 617/τ.ΥΟΔΔ/23-11-2017 στο οποίο δημοσιεύτηκε η υπ' αριθ. 201656/Ζ1/21-11-2017 Διαπιστωτική πράξη του Υπουργού Παιδείας, Έρευνας και Θρησκευμάτων (ΑΔΑ:72Ε34653ΠΣ-ΒΤΨ) περί εκλογής Πρύτανη και τριών (3) Αντιπρυτάνεων του Πανεπιστημίου Πειραιώς με θητεία τεσσάρων (4) ετών, από 1-12-2017 έως 30-11-2021
14. Το υπ' αριθ. 20132198/22.4.2013 έγγραφο της Α.Δι.Π. από το οποίο προκύπτει ότι έχει ολοκληρωθεί η εξωτερική αξιολόγηση του Τμήματος Πληροφορικής του Πανεπιστημίου Πειραιώς.
15. Το απόσπασμα πρακτικού της Συνέλευσης του Τμήματος Πληροφορικής του Πανεπιστημίου Πειραιώς (συνεδρίαση 21η/09-07-2019 θέμα 1ο)
16. Το απόσπασμα πρακτικού της Επιτροπής Μεταπτυχιακών Σπουδών του Πανεπιστημίου Πειραιώς (συνεδρίαση 1η /17-4-2019) .
17. Το απόσπασμα πρακτικού της Συγκλήτου του Πανεπιστημίου Πειραιώς (συνεδρίαση 14η/19-07-2019)
18. Το απόσπασμα πρακτικού της προσωρινής Συνέλευσης του Τμήματος Πληροφορικής του Πανεπιστημίου Δυτικής Μακεδονίας (συνεδρίαση 1η/27-62019 θέμα 7ο)
19. Το απόσπασμα πρακτικού της Συγκλήτου του Πανεπιστημίου Δυτικής Μακεδονίας (συνεδρίαση 94/23-8-2019)
20. Την θετική εισήγηση της Επιτροπής Μεταπτυχιακών Σπουδών του Πανεπιστημίου Δυτικής Μακεδονίας

21. Το υπ' αριθμ. ΦΕΚ 709/09-09-2019 (τεύχος Υ.Ο.Δ.Δ.) στο οποίο δημοσιεύτηκε η υπ' αριθμ.137444/Ζ1 Διαπιστωτική Πράξη της υπουργού Παιδείας και Θρησκευμάτων «Διορισμός Πρύτανη και τεσσάρων (4) Αντιπρυτάνεων του Πανεπιστημίου Δυτικής Μακεδονίας» με θητεία τριών (3)ετών, από 01-09-2019 έως 31-08-2022
22. Το γεγονός ότι από την εφαρμογή των διατάξεων της παρούσας απόφασης δεν προκαλείται πρόσθετη δαπάνη εις βάρος του τακτικού προϋπολογισμού ή την κρατική επιχορήγηση του Πανεπιστημίου Πειραιώς και του Πανεπιστημίου Δυτικής Μακεδονίας

Adjudicate

The reestablishment of the academic year 2019-2020 of Joint Postgraduate Studies Programme (J.P.S.P.) of the Department of Informatics of the School of Sciences of the University of Western Macedonia and the Department of Informatics of the School of Information Technologies and Communications of the University of Piraeus with title «Modern Information Technologies and Services (Master of Science (MSc) in Modern Information Technologies and Services) » as whereupon:

Article 1

General Ordinances

The Department of Informatics of the School of Sciences of the University of Western Macedonia in collaboration with the Department of Informatics of the School of Information Technologies and Communications of the University of Piraeus will organize and will operate from the academic year 2019-2020 Joint Postgraduate Studies Programme (J.P.S.P.) with title

«Modern Information Technologies and Services (Master of Science (MSc) in Modern Information Technologies and Services) »

according to ordinances of this regulation and the ordinances of law 4485/2017 as it is modified and is in effect. Coordinator of the JPSP will be the University of Western Macedonia.

Article 2

Subject – Purpose

The Postgraduate Studies Programme (PSP) Master of Science (M.Sc.) with the title «Modern Information Technologies and Services», aims to train young scientists in the scientific areas of modern telecommunications systems, distributed computing systems, system security, the Internet of Things (IoT), as well as advanced topics in the use and management of ICTs and of Communication in Education.

The purposes of the Postgraduate Studies Programme « Modern Information Technologies and Services » - Master of Science (M.Sc.) in «Modern Information Technologies and Services» are:

- Promoting science and research in the field of program specialties, namely Telecommunications Systems, Internet Technologies, Information Technologies and Communications in Education.
- The preparation and training of specialized and capable scientists and researchers that will promote the development of the country and Greek businesses in the Information Society, New Technologies and in specialized areas such as Modern Telecommunication Systems, Internet Technologies, Internet of Things and the use and management of Information Technologies and Communication in Education.
- Follow the new National Digital Strategy and the European Union Digital Agenda incorporating actions of Modern Oral Technologies in supporting the respective creative industry and modern services of Advanced Digital Technologies as well as the use and management of Digital Technologies in the field of education.
- Align with the European roadmap and emerging trends in the development of information and communication technologies (ICTs) for competitiveness in Europe, in today's ever-growing digital world economy and digital single market.
- To prepare students for postgraduate doctoral studies.
- The close collaboration between the Academic Community and Business to adopt, use and disseminate the most advanced information systems, new technologies and services.
- Collaboration with Greek, European and International Scientific Organizations dealing with Information Technology, Advanced Digital Technologies and Applications, Internet of Things (IoT).

Article 3

Master's Degree

The Postgraduate Studies Programme awards Master of Science (M.Sc.) degree in Master of Science (M.Sc.) in « Modern Information Technologies and Services» at the following tracks of specialization:

- Modern Telecommunication Systems, Internet Technologies, Internet of Things and Systems Security
- Information and Communication Technologies in Education

Article 4

MSc Structure and Enforcers

1. The responsible enforcers for the establishment, organizing and operation of the Postgraduate Studies Programme “Modern Information Technologies and Services” is:

- a) Senate of the Institution,
- b) Special Establishment Committee,
- c) Association Committee of MSc, and
- d) Postgraduate Studies Committee,
- e) Director of the MSc.

2. The Senate is the responsible enforcer for the academic, administrative, organizational and financial aspects of the MSc. Moreover, the Senate exercises such competences over the MSc that are not specifically delegated by law to other enforcers.

3. The nine-member Special Establishment Committee is composed of three (3) Teaching Research Staff Members of the faculty of the Department of Informatics of the University of Western Macedonia and four (4) faculty members of the Department of Informatics of the University of Piraeus and two (2) student representatives (par. 4, article 31, Law 4485/2017). The members of the Special Establishment Committee are appointed by the Assemblies of the affiliated Departments as defined in par. 4, section 31 of Law 4485/2017. The term of office of the faculty members at Special Establishment Committee is biennial and student representatives are annual.

According to paragraph 3, article 31, Law 4485/2017, the responsibilities of the Special Establishment Committee:

- a) To propose to the Senates through Postgraduate Program Committees of University of Piraeus and University of Western Macedonia (par. 5, article 32, L. 4485/2017), the establishment of the MSc, presenting the subject of knowledge, the purpose, the indicative curriculum by specialization with the respective credits per course, the number of postgraduate students, the teaching staff and infrastructures of the partner institutions, the duration and the budget of the program (par. 2, article 32, L. 4485 / 2017).
- b) To appoint the members of the Steering Committee.
- c) To assign a teaching work to the teachers of the MSc in accordance with par. 1,2,5,6 of article 36 of Law 4485/2017.
- d) To constitute and supervise the Selection Committees of the postgraduate students.
- e) To establish three-member Examination Committees (MA) of postgraduate students (par. 6, article 34, Law 4485/2017).
- f) To ascertain the successful completion of studies in order to be awarded the Postgraduate Diploma (MSc).
- g) To impose, by case or by category of entrants, specific conditions for compulsory attendance at some of the courses offered in the postgraduate or undergraduate courses.
- h) To determine the courses of the curriculum of the MSc, which may be covered by distance, the percentage of which will not exceed 35% of the courses (par. 3, article 30, L.4485 / 2017).
- i) To exercise any other competence provided by the provisions of Chapter F of Law 4485/2017.

4. The five-member (5) Steering Committee of the MSc consists of two (2) Teaching Research Staff of the Department of Informatics of the University of Western Macedonia and three (3) Teaching Research Staff of the Department of Informatics of University of Piraeus. The members of the Steering Committee are appointed by the Special Establishment Committee for a two-year term (par. 5, article 31, Law 4485/2017). The competences of the Steering Committee are:

- To attend and coordinate the proper functioning of the curriculum (par. 5, article 31, L.4485 / 2017).

- To compose a report of the research and educational work and of all the activities of the MSc at the end of the two-year term of the Steering Committee and the Director (par. 2, article 44, Law 4485/17).
- Accept postgraduate students' applications for a Master's Thesis, (indicating the proposed title of their Master's Thesis, the proposed supervisor and a summary of the proposed topic), nominate the supervisor or the three-member Examination Committee (par. 4, article 34, L. 4485/2017).
- To appoint Teaching Advisors for each graduate student.

The members of the above Committees are not entitled to any additional remuneration or compensation for their participation in them (par. 7, article 31, L.4485 / 2017).

5. The Postgraduate Studies Committee is recommended in each Foundation, composed of the Vice-Rector for Academic Affairs, who acts as President and the Deans of the Foundation concerned as members and has the responsibilities provided for in paragraph 5 of article 32 of Law 4485/2017.

6. The Director of the MSc is a member of the Steering Committee and is appointed together with his / her Deputy, by decision of the Special Establishment Committee for a two-year term. He is chair of the Steering Committee, is a member of the Teaching Research Staff first degree or alternate's degree, is of the same or related subject area as the subject of the Master of Science degree and performs the duties specified in the Master's Degree Regulation. The Director of the MSc recommends to the relevant institutions of the Foundation any issues concerning the effective operation of the program. The Director may not have more than two (2) consecutive terms of office and is not entitled to additional remuneration for his administrative work (par. 8, article 31, L.4485 / 2017). Moreover, the Program Director comes from the Department that has the administrative support of the program and, in the case of cooperation between autonomous and non-autonomous Departments or other research bodies, from the autonomous Department. In special cases required for the proper functioning of the MSc, upon reasoned decision of the Special Establishment Committee, the Chairman of the Special Establishment Committee and / or Director of the MSc assumes a Teaching Research Staff from another Department than that which has the administrative support of the MSc, even from the non-autonomous Department.

He has the following indicative powers:

- He convenes at a Steering Committee meeting.
- He prepares the agenda of these meetings, taking into account recommendations from the members of the MSc.
- He represents the MSc at events, conferences, councils, organizations, other sectors, etc. In case of impediment of the Director or the Deputy Director he may nominate another to represent the MSc.
- He is responsible for agreements, partnerships (and represents this) with the institutions, companies, organizations, etc., is responsible for the involvement of the MSc in research programs, projects, etc., inviting distinguished scientists, professionals within the MSc etc. and generally represents the MSc.
- He appoints elections to replace committee members due to vacancy.

- He is responsible for drawing up the budget and the report of the Program, which it submits to the Assembly.
- He prepares the academic calendar as well as the timetable.
- He proposes MSc topics such as speakers, lecturers etc.
- He deals with issues related to the day-to-day operation of the MSc.
- As the Project Supervisor, he is responsible for monitoring and executing the approved budget as well as for issuing payment orders for related expenses, signing payment orders and co-signing project contracts.
- He exerts any other powers provided for in the Regulation or in related decisions.

The Deputy Director of the MSc is a member of the first-tier or deputy-level Teaching Research Staff and fulfills the duties of the Director in his absence.

Administrators who support the MSc apart from of their working hours at the University of Western Macedonia and the University of Piraeus, as well as those tasked with the MSc work, may be remunerated for the services they provide.

Article 5

Input Categories

First degree holders of Universities are admitted to the program of the foreign or domicile institutions of the foreign country in accordance with the provisions of Article 34 thereof Law 4485/2017 (indicative: graduates of Schools or Departments of Informatics, Computer Engineering, Engineering Technologies, Polytechnic, Positive, Technological, Social, Economics, Law, Philosophy, and Humanities as well as Education Sciences).

Members of the categories of Special Education Staff, Special Education Staff and Special Technical Laboratory Staff of the University of Piraeus and the University of Western Macedonia who fulfill the requirements of the preceding paragraph may, at their request, be admitted to the Master's Degree as a number, and only one graduate year, according to the provisions of Law 4485/2017.

The MSc accepts a maximum of sixty (60) students per academic year and will employ a sufficient number of teachers so that the maximum proportion of graduate students per teacher is indicative of seven to one (7: 1).

Article 6

Criteria and Candidate Selection Process for the MSc

Selection of admissions to the MSc is made in accordance with the provisions of Law 4485/2017 and the regulations of this Postgraduate Studies Regulation.

By the decision of the Special Educational Committee, a notice is published on the Department and Foundation's website for postgraduate students enrolled in the undergraduate program. The notice shall contain all the relevant details (dates and place of filing of the application, necessary supporting documents, etc.). Applications with the necessary supporting documents shall be submitted to the MSc Secretariat within the

time limit set in the notice and may be extended by a decision of the Special Educational Committee.

The required supporting documents submitted by each candidate are indicative as follows:

1. Application for registration
2. Curriculum Vitae
3. Certified Degree Copy or Certificate of Completion if available at the time of application. Presentation of this supporting document is a prerequisite for applying for a Bachelor Degree
4. Certificate of Analytical Score
5. Two letters of recommendation
6. Copy of Thesis or Diploma Thesis (if prepared)
7. Scientific publications (if there are any)
8. Proof of professional or research activity, if there are any
9. Certificate of proficiency in good English and if there are certificates of proficiency in other languages
10. Two-sided photocopy of police ID
11. A recent photo attached to the applicant's application

The Special Educational Committee may, by its own decision, specify additional supporting documents or amend the above. Applications may be submitted electronically and then original documents submitted to the Department's secretariat.

Postgraduate Diploma is not awarded to a student whose first degree degree from a foreign institution has not been recognized by Interdisciplinary Organization for the Recognition of Academic and Information Titles, according to article 34, par. 7 of Law 4485 / 17 as amended and in force.

Selection of the entrants is accomplished by a committee of faculty members (Selection Committee), who are lecturers of the MSc (exemption requirement for first year of operation) is established by a decision of the Special Educational Committee following a recommendation by the Steering Committee (exemption requirement for first year exemption). The selection criteria as well as the modalities for applying these criteria (such as particles, coefficients) are known to the candidates by the announcement of the MTP and are indicative of the following:

1. Bachelor's Degree or average of grades.
2. Type and scope of work and / or professional and / or research experience.
3. Letters of recommendation.
4. Knowledge of English.
5. Other information included in the CV
6. Interview.

The Selection Committee may decide, with the agreement of the Convention, to conduct additional examinations for all or some candidates. The duration and time of exams is determined by the Selection Committee.

The selection process is carried out by the Selection Committee, which:

- a) Compiles a complete list of applicants.
- b) Rejects candidates who do not meet the minimum criteria.
- c) Invites to interview any candidates who are decided to be invited.
- d) Organizes any internal exams for candidates that will be deemed necessary.
- e) Hierarchically nominates candidates and submits a list of successful and qualified candidates for approval to the Assembly of the Department.

Successful applicants must register the MSc Secretariat within the timeframe specified in the Assembly decision. In case of a tie in the last place in the list of successful candidates, all candidates may register by way of derogation from the maximum number.

If one or more students are not enrolled, they will be invited (if any) by the endorser, in turn, to the approved grade list to enroll in the Program. The Assembly may, upon the Steering Committee's recommendation, make a new or additional request / invitation for expression of interest.

Article 7

Duration of Studies – Terms of Studying - Curriculum

The duration of study at the postgraduate program leading to the acquisition of a Postgraduate Diploma (BSc) is set at three (3) academic semesters, including the time of postgraduate thesis.

The maximum time allowed for completion of studies is set at eight (8) academic semesters for the full-time program and ten (10) academic semesters for the part-time program.

Part-time education are provided for working postgraduate students. Students in this class must submit a relevant employment contract or employer certificate. Part-time education is also provided for non-working students who are unable to meet the requirements of full-time education because of health, family, recruitment, and other reasons.

The postgraduate student may apply for a reasoned temporary suspension of his / her application at his / her request not exceeding two consecutive semesters.

Semesters of suspension of student status do not count towards the prescribed maximum duration of normal attendance.

Article 8

Curriculum

The MSc starts in the winter or spring semester of each academic year.

A total of ninety (90) ECTS credits are required to obtain a Postgraduate Diploma.

During their studies, postgraduate students are required to attend and successfully complete postgraduate courses, as well as to produce a master's thesis.

The courses are accomplished in the premises of the University of Western Macedonia.

Up to 35% of lectures can be done through distance education.

Courses are organized in semesters and are held on a weekly basis. The teaching languages of the Master of Science (M.Sc) are Greek and / or English. The language of the master's thesis is Greek, with the possibility of changing to English after a decision of the relevant institutions. In this case, the master's thesis should include an extensive summary in Greek.

The MSc in «Modern Information Technologies and Services») contains two specializations. Successful completion of the six compulsory courses / semester of the chosen specialization is required during the first two semesters of all specializations. Each course has 5 Credit Units (ECTS). The third semester is devoted to the preparation of a master's thesis. The M.Sc. Thesis is equivalent to thirty (30) credit units (ECTS). Total credits for the acquisition of the MSc amount to 90 credits (30 credits per semester).

A. The course schedule is as follows:

The courses and their breakdown by semester and by specialization are presented in the following table.

1ST SEMESTER COURSES
**SPECIALIZATION “MODERN TELECOMMUNICATION SYSTEMS, INTERNET TECHNOLOGIES,
 INTERNET OF THINGS AND SYSTEMS SECURITY”**

Obligatory Courses for the Track MODERN TELECOMMUNICATION SYSTEMS, INTERNET TECHNOLOGIES, INTERNET OF THINGS AND SYSTEMS SECURITY		
INFO – COM	TEACHING HOURS	ECTS
Web Technologies and Programming	30	5
Distributed Systems and Cloud Computing	30	5
Information and Network Systems Security - General Data Protection Regulation (GDPR)	30	5
Advanced Topics in Computer Architecture	30	5
Computational Methods	30	5
Elective Course	30	5
ΣΥΝΟΛΟ ΠΙΣΤΩΤΙΚΩΝ ΜΟΝΑΔΩΝ Total ECTS Credits		30
Elective Courses for the Track MODERN TELECOMMUNICATION SYSTEMS, INTERNET TECHNOLOGIES, INTERNET OF THINGS AND SYSTEMS SECURITY		
Wireless and Mobile Communication Technologies	30	5
Special Topics and Applications of Digital Technologies	30	5

SPECIALIZATION “INFORMATION AND COMMUNICATION TECHNOLOGIES IN EDUCATION”

Obligatory Courses for the Track INFORMATION AND COMMUNICATION TECHNOLOGIES IN EDUCATION		
INFO – EDU	TEACHING HOURS	ECTS
Web Technologies and Programming	30	5
Modern application programming techniques	30	5
Modern Networks and Services	30	5
Educational Technology Tools and Software	30	5
Computational Methods	30	5
E-Learning and Distance Education Technologies	30	5
Total ECTS Credits		30

2ND SEMESTER COURSES

**SPECIALIZATION “MODERN TELECOMMUNICATION SYSTEMS, INTERNET TECHNOLOGIES,
INTERNET OF THINGS AND SYSTEMS SECURITY”**

Obligatory Courses for the Track MODERN TELECOMMUNICATION SYSTEMS, INTERNET TECHNOLOGIES, INTERNET OF THINGS AND SYSTEMS SECURITY		
INFO – COM	TEACHING HOURS	ECTS
IoT, M2M Communications and Applications	30	5
Network and Services Design and Development	30	5
Mobile Computing and Applications	30	5
Advanced Digital Design	30	5
Reliable Computer Systems	30	5
Elective Course	30	5
Total ECTS Credits		30
Elective Courses for the Track MODERN TELECOMMUNICATION SYSTEMS, INTERNET TECHNOLOGIES, INTERNET OF THINGS AND SYSTEMS SECURITY		
Web Information Systems, Electronic Commerce and Innovation	30	5
Regulatory Issues in Telecommunications and Copyright, Smart Cities and Services	30	5

SPECIALIZATION “INFORMATION AND COMMUNICATION TECHNOLOGIES IN EDUCATION”

Obligatory Courses for the Track INFORMATION AND COMMUNICATION TECHNOLOGIES IN EDUCATION		
INFO – EDU	TEACHING HOURS	ECTS
Design and development of Educational Software	30	5
Design and development of Mobile Apps in the pedagogical exploitation of mobile devices	30	5
Digital game-based learning	30	5

Design and exploitation of massive open online courses	30	5
Statistical Methods in Education	30	5
Elective Course	30	5
Total ECTS Credits		30
Elective Courses for the Track INFORMATION AND COMMUNICATION TECHNOLOGIES IN EDUCATION		
Web Information Systems, Electronic Commerce and Innovation	30	5
Regulatory Issues in Telecommunications and Copyright, Smart Cities and Services	30	5

3RD SEMESTER

	ECTS
M.Sc. Thesis	30

TOTAL CREDITS (1st, 2nd and 3rd Semester)	ECTS
	90

Modification of curriculum, renaming and redistribution of courses between semesters can be done by the Special Educational Committee decision. In addition, it is possible, after a reasoned recommendation by the Steering Committee and a decision of the Special Educational Committee, that not all the MSc specializations may be activated. Modification of the course schedule is included in the Rules of Procedure of the program.

B. Course Content / Description

Web Technologies and Programming

Contemporary issues of Internet technologies such as:

Modern Web 2.0 and Web 3.0 technologies, services and applications. Internet search algorithms for information. Semantic Web, ontologies, Internet metadata, URIs, XML-based frameworks for semantic description, Resource Description Framework (RDF), RDF schema (RDFS). Web programming, Web application development tools, Database Interface (XML), XML, XSD, Java Servlets, Asynchronous JavaScript and XML (AJAX).

Distributed Systems and Cloud Computing

Topics are presented by studying the design and implementation of modern distributed systems and cloud computing. The concepts of hardware and software on which a computer system is built will be studied. Emphasis is placed on the communication between the different parts of the system as well as on process management, entity nomenclature and security. Moreover, the architecture of cloud computing and emerging models that extend its capabilities (Network Function Virtualization - NFV, Software

Defined Networking - SDN, Edge Cloud and Fog / Edge Computing) will be studied, as well as corresponding synthesis models, heterogeneity, scaling, dynamic workflow imaging techniques, cloud computing quality, parameter and requirement classes, and fault tolerance techniques.

Information and Network Systems Security - General Data Protection Regulation (GDPR)

Issues on authentication, identity management technologies, access control, operating system security, database system security, malware, system and product security assurance and evaluation are presented. In addition, particular emphasis will be placed on computer and communications network security, separated by computer network security and on the security of wireless and mobile communications networks. The first subcategory presents computer networking technologies and services that utilize e-business and e-government environments to enhance and ensure overall security and trust.

In the second subcategory, the theoretical infrastructure is presented and security technologies and special vulnerabilities of four categories of wireless and mobile communications networks, personal wireless communications networks, following Bluetooth specifications (IEEE 802.15.1), local wireless networks, are developed. following IEEE 802.11 (Wi-Fi) standard, metropolitan wireless communications networks, following IEEE 802.16 (WiMax) standard, and LTE networks, standardized by 3GPP. Furthermore, emphasis is placed on modern and standardized risk assessment methods for identifying critical assets of the system, its potential threats, weaknesses, and proposing some countermeasures.

Advanced Topics in Computer Architecture

Issues related to Parallel architectures are presented: Conventional parallel computers, pipeline machines, registry machines, multiprocessors. Non-conventional Parallel Machines, Data Flow Machines, Reduction Machines, Special Purpose Parallel Architectures.

Instruction Level Parallelism (ILP) and its use: Instruction Level Parallelism (ILP), data dependencies and risks, control dependencies, basic compiler techniques for ILP exploitation, reducing the cost of dynamic branch prediction, dynamic branch prediction and branch prediction buffers/branch history table, correlating branch prediction mechanisms, selective prediction mechanisms. Dynamic scheduling for risk management, the Tomasulo approach, and hardware based speculation. ILP using multiple-issue and static scheduling and speculation, advanced instruction delivery techniques, Intel Pentium 4.

Limits on ILP: Studies on ILP limitations, limitations on window size constraints and maximum issue count, effects of finite registers. ILP limitations on realistic processors, multi-level issues: hardware based speculation vs. software speculation, multithreading, simultaneous multithreading, performance and efficiency in advanced multiple-issue processors, limits to multiple-issue processors.

Parallel Process: Multiple processor organization, symmetric multiprocessors, cache coherence and MESI protocol, multithreading and multiprocessor chip, clusters, non-uniform memory access, eigenvector calculation.

Multi-core computers: Hardware performance issues, software performance issues, multi-core organization, Intel multi-core organization, Intel Core Duo processor, Intel Core i7 processor, ARM 11 MPCore processor.

Computational Methods

Overview of the basic methods of solving scientific problems using a computer. Introduction to methods in MATLAB and Mathematica environments. The course covers the subjects: Computer Arithmetic and Errors, Numerical Linear Algebra (Solving Linear Systems, Eigenvalues Problem), Solving Non-Linear Equations, Polynomial Interpolation, Numerical Derivation and Arithmetic Integration, Numerical Solution of Differential Equations, Fourier Transform.

Wireless and Mobile Communication Technologies

The course aims to understand the issues and options that arise during designing and implementing Wireless and Mobile Communications Networks. Issues related to Wireless Communication Environment are presented: Cellular Networks, Principles of Mobile Cellular Communication Networks – Interference, 3G, 4G and 5G Networks, Mobility Management, Communication Management, IEEE 802.11x, Mobile IP, Ad Hoc Networks, Sensor Networks, Security in Wireless Environments.

Special Topics and Applications of Digital Technologies

The purpose of this course is to understand the new ways of utilizing digital technologies. The course is an introduction to sustainable development and responsible innovation, especially in the digital field. Provides conceptual and empirical bases for students to approach technology and entrepreneurship in their interconnections with environmental, social and political factors. It will familiarize students with the practices and key issues surrounding the creation of new financial activity and the financing of such initiatives. Students will gain in-depth knowledge of the nature of innovations (smart technologies). Students will know and will understand the most up-to-date strategies that are and can be used for "smart infrastructure" solutions, whilst being able to effectively manage the transition from older infrastructures to smart systems, manage the transition phase from legacy infrastructure systems, supporting innovation and entrepreneurship.

IoT, M2M Communications and Applications

Students will learn the architectures and methodologies at the basis of the Internet of Things (IoT) and Machine to Machine (M2M) communications. The Students will develop advanced competences about network protocols, integration of mobile and pervasive end-devices in a Machine-to-Machine (M2M) paradigm. Students will have the opportunity to get acquainted with the standards of the Internet of Things as well as the information and technology culture to apply to productive sectors for better management of resources, routing, energy saving, cloud computing, smart grids, in-vehicle networks, and application scenarios. Machine-to-Machine (M2M) refers to direct automated communication between networked mechanical or electronic devices. Students use the Electronics labs to prototype the IoT systems.

Design and Development of Networks and Services

This course focuses on advanced network technologies and approaches to the study and design of computer networking systems. Students are introduced to concepts generally related to the design of computer networks. On completion of the course, students should be able to do design and determine the technical specifications of a real network. Presentation of advanced web technologies and methodologies related to the study and design of computer networking. The course covers the technical details of designing, deploying and operating small and medium-sized computer networks, as well as networks in corporate and service provisioning environments. Issues related to OSI / ISO, TCP / IP and IPv6 standards, routing and switching network configuration, modern routing protocols, Virtual LAN design, networking and multimedia applications.

The related coursework consists of self-assessment online tests and assignments, laboratory exercises based on graphical network simulation software and/or use of lab's real network equipment, comparative study of theory and case study analysis on design and development of networks and services.

Mobile Computing and Applications

The aim of the course is to acquire knowledge and skills for the development of mobile and wireless applications. In particular, as part of the course students will gain the basics for developing integrated applications on the major mobile platforms (Android, iOS, Windows Mobile). Specifically, they will focus on: platform architecture, components and lifecycle of mobile applications, graphical design and development, multimedia connectivity and networking with WiFi, Bluetooth-GPS as well as various Content Providers/Resolvers. In addition, they will delve into open platforms for electronic prototyping with a focus on mobile communication.

Advanced Digital Design

Implementation Technologies: Integrated circuits, Programmable logic devices, package and circuit boards, interconnection and signal integrity. Processors: Embedded computer organization, commands and data, memory interconnection. Input/Output interconnection: Input/Output devices, input/output controllers, parallel buses, serial transmission, and input/output software. Accelerators: General principles, paradigm: video edge detection, accelerator verification. Design Methodologies: Design flow, design optimization, design for testability, Synthesis and simulation, High-level synthesis, non-technical topics. Design methodologies in the VHDL and System Verilog languages. Design tools with Xilinx FPGAs and related design and simulation work with the above methodologies.

Reliable Computing Systems

This course focuses on basic methods of reliable computer systems design. Students are initially introduced to key concepts and definitions (e.g. reliability and availability) as well as to reliability evaluation criteria. Students are next introduced to short descriptions of basic design techniques of systems which are tolerant to faults (fault tolerant systems), as well as of error detection and correction codes which are mainly used for the design of memories and for data transmission. Last, students are introduced to the most advanced

methods for developing reliable computer systems (fault tolerant computers) and to modern high-reliability server solutions (fault tolerant servers).

Web Information Systems, Electronic Commerce and Innovation

Objective of the Information Systems and Electronic Business stream of the course is to gain knowledge about the basic principles, methods and functions of e-business. Stream Courses that will be taught in the course are: Introductory Topics - Information Society, E-Business Infrastructure - E-Commerce, E-Business Models. Inter-organizational B2B (Inter-Organizational Information Systems), B2B Online Shopping, Vertical Portals, Intra-Organizational B2B - Corporate Portals, Business Model - B2C, Retailing, Online Interconnections, Networking Infrastructures².

Digital Marketing and Internet Advertising, Market Research and Web Site Analysis, Basic Functions and Types of Online Shopping, Corporate-centric UN and Private Networks, Online Auctions, E-Government, Mobile Business, Electronic Business through Digital Television, Online Business Strategy, Electronic Payment Systems, e-Payment Systems, Security and Legal Issues in Online. Government Cloud Computing (G-Clouds) and Information and Criminal Law Issues in Modern Architecture (Forensics).

Graduates of the stream can work:

- As specialists in e-commerce, digital marketing, web applications / services, etc.
- As executives in positions of analysts, programmers or project managers of information systems
- As specialists in new specialties related to: social networks, mobile application development, e-learning, internet businesses, knowledge management, digital media and digital marketing
- As executives (and founders) of innovative new businesses that use new technologies with emphasis on the Internet, mobile devices and other digital media

Regulatory Issues in Telecommunications and Copyright, Smart Cities and Services

The development of digital technologies raises a variety of legal issues which are related to the intellectual property law, consumer privacy and protection, free access to information, regulation of data rights (especially Big Data), information security and cyberspace. The course examines all of the aforementioned issues as well as legal aspects of artificial intelligence, machine learning, blockchain technology and smart contracts.

Modern application programming techniques

Overview of modern application programming techniques widely used in the programming of computers and smart mobile devices (smartphones, tablets, etc.). The course covers a wide range of essential concepts about computer application design and programming techniques. The fundamentals of Python programming language (i.e. syntax, libraries, static and dynamic structures, etc.) are studied in detail, as well as object-oriented programming techniques. This approach provides a solid theoretical background for the learner in order to develop an error-free, effective and easily maintainable code.

In addition, trainees will be introduced in modern programming techniques and tools for Android smart mobile devices' application development. All the latest Software Development Kits (SDKs), tools, utilities and hardware for Android application

development, based on quality, functionality and user-friendly interface design, will also be presented. Finally, they will be familiarized with the best practices applied in the development process of effective Android applications, including analysis, design, implementation, system testing and delivery.

Modern Networks and Services

The Postgraduate Studies at Advanced Network and Services offers advanced knowledge of wired and wireless communication are presented. Become acquainted with the concepts of data communications networking and communication protocols. Specifically, issues related to the Internet, Internet Service Providers (ISPs), stack analysis of TCP / IP Internet protocols, and identification of the principles governing it are covered. The concepts and protocols of broadband and wireless networks, congestion control, resource allocation, routing, and service quality are analyzed. In addition, cloud computing issues, smart grids, inter-vehicle networks, and application scenarios are discussed.

The unit introduces networking concepts beyond the best effort service of the core TCP/IP protocol suite. Understanding of the fundamental issues in building an integrated multi-service network for global Internet services, considering service objectives, application characteristics and needs and network mechanisms will be discussed. Enables students to understand the core issues and be aware of proposed solutions so they can actively follow and participate in the development of the Internet beyond the basic bit transport service.

E-Learning and Distance Education Technologies

This course focuses on the pedagogical approaches for supporting e-learning (adaptive environments, collaborative learning, communities of practice, resource-based learning). Several web tools and technologies are presented for facilitating e-learning. Moreover, standards and specifications regarding e-learning are described with emphasis on the interoperability in the exchange of educational resources, the exchange of data between educational organizations, the communication of educational applications (HTML, XML, QTI, SCORM). Finally, the procedure for the selection of integrated learning and educational online environments for supporting e-learning is presented.

Educational Technology Tools and Software

This lesson overviews the fundamental methods for designing new technological tools and educational software. It includes database design topics to support such systems, introducing their basic concepts (fields, records, tables, search indexes, primary & foreign keys), SQL queries, database examples and database design data in the laboratory.

An overview of Social Networking in Education is also performed. It includes basic concepts, types of social networks in education, benefits and issues, popular educational social networks and popular social networks in education.

The fundamental concepts of Web 2.0 in the educational field are described. The pedagogical values behind social web 2.0 are introduced, while an overview of existing educational models using Web 2.0 tools is performed. Also, popular Web 2.0 tools that are used in the Educational Process are described, with emphasis on Wikis, Blogs, Collaborative Conceptual Maps, Online Educational Games & Virtual Worlds and Podcast/Vodcast.

Design and development of educational software

This course focuses on the phases of ADDIE model for the design and development of educational software (Analysis, Design, Development, Implementation, Evaluation). A main characteristic of the course is its project-based learning approach. The goal for the students is to become familiar with the various work phases and deliverables of a project. The theoretical aspects of the course include the following: instructional design and psycho-pedagogical theories of learning and their impact on educational software design. Needs and front-end analysis. Educational systems design methodology. User interface design. Multimedia applications design based on instructional theories. Participatory design. Basic educational software evaluation topics. Greek educational software. Implementation of educational applications based on advanced programming methodologies as well as Internet and Multimedia Technologies. Students are organized in groups of 2-3 people and develop educational software utilizing all the phases of project development.

Design and development of Mobile Apps in the pedagogical exploitation of mobile devices

This lesson introduces the design and development of mobile applications, using student-friendly educational tools. Android programming concepts are described, including the development of Android applications, the introduction of Android history/evolution, the description of the Android OS versions, as well as the introduction to the Android platform architecture (OS kernel, libraries, runtime, application framework, applications). Also, the Dalvik virtual machine, security issues, design guidelines (Android Design Guidelines) are introduced. The MIT App Inventor platform is also presented extensively. It allows the development of Android applications using a graphical user-friendly interface, without the need to write code, so that it can be used by school students. As part of the course, graduate students are developing Android applications using the App Inventor.

Digital game-based learning

The penetration of Information and Communication Technologies in education results in a change in the teacher-centered model and students are now involved in learning and interacting with the learning process through interactive applications and digital games. The purpose of the course is to review the principles of designing, developing and evaluating digital games applications for education, as well as their contribution to students with learning difficulties. Emphasis is placed on the approach of teaching programming through the use and creation of digital games, utilizing appropriate learning environments as learning tools to enhance the effectiveness of the educational process at all educational levels. Students are introduced to the latest digital game design and programming techniques to create interactive applications, combining programming knowledge with skill and imagination, action with artificial intelligence, thus creating an exciting digital reality. It is suggested to approach the teaching of computer science for primary, secondary and high school students through the use of digital environments for the creation of digital games (PyGame, Logo, Kodu, Scratch, AppInventor, Greenfoot) and programming languages (Python, Java). In addition, teaching suggestions are made by utilizing educational digital games intended to teach multiple learning objects at different educational levels, with the aim of conquering general teaching objectives and developing

positive attitudes with more active participation in the conventional way of delivering learning content.

Design and exploitation of massive open online courses

Overview of Massive Open Online Courses (MOOCs). Includes definitions, their fundamental principles, historical overview, types of MOOCs, their assets and challenges and open issues and an "exploration of the world of MOOCs (penetration, distribution, perspectives, etc.). Following is a reference to platforms that provide MOOCs and navigation to the most popular as well as the entrepreneurship of MOOCs (Business models, potential ways of generating revenue). Digitization of educational material is also taught (digital libraries, forms, techniques and characteristics of audiovisual material, software, templates, etc.). Finally, the design of the MOOCs based on the Quality Reference Framework for the quality of Open Bulk Web Courses is taught.

Statistical Methods in Education

Sampling, probabilities, combinatorial, binomial, Poisson distribution, regular distribution. Point estimation, unbiased estimators, central limit theorem. Space estimation, confidence intervals. Parametric and non-parametric case tests. Regression, correlation, correlation tables. Apply the above using the statistical package spss.

Article 9

Conditions of Study – obligations and rights of postgraduate students

Postgraduate students have all the rights and benefits provided to first-year students, except the right to provide free textbooks. The Foundation is obliged to provide students with disabilities and / or disabilities with access to proposed texts and teaching (par. 3, no. 34, L.4485 / 2017).

Postgraduate students attend research team seminars, laboratory visits, conferences/workshops with a related subject in the program, lectures or other scientific events in the program.

The Assembly of the Department, following the recommendation of the Steering Committee, may decide to remove postgraduate students if:

- exceed the maximum absenteeism limit
- have failed a course or lesson examination and have not successfully completed the program,
- exceed the maximum duration of study in the MSc as defined in this Regulation,
- have breached the existing provisions concerning the treatment of disciplinary offenses by the competent disciplinary bodies,
- on request by postgraduate students,
all into any infringement of intellectual property law
(Law 2112/93) when writing their intended works,
- do not pay the stipulated tuition fee.

Postgraduate students pay a tuition fee of EUR 960 per semester for their participation in the MSc “Advanced Information Technology and Services”. The fee is paid at the beginning of each semester and before the registration of the course or the commencement of a master's thesis. In special cases and by assessing the specific reasons given in the student's application, the Steering Committee may decide to pay part of the tuition fees.

The MSc may offer scholarships every six months, in the form of exemptions for part of the tuition fees, to the first successful per qualification who is not exempt for other reasons (eg social or economic criteria, etc.) from paying tuition fees.

Other issues related to tuition fees are regulated in accordance with Art. 35, par. 2 of Law 4485/17, the relevant legislation, the relevant decisions and circulars, the decisions of the Steering Committee, the assembly and the competent bodies of the Department and the Foundation.

There is a maximum of 30% absenteeism for each course. If this limit is exceeded, the student is considered unsuccessful in this course and must attend the next course. The above threshold may be amended by decision of the Steering Committee.

The MSc program with the decision of the Special Educational Committee has the ability to recognize up to 30% of the courses taught by its students from the previous integrated postgraduate studies of peer institutions.

The academic calendar as well as the courses schedule are prepared, under the responsibility of the Director of each MSc and approved by the Special Educational Committee. At the beginning of each period, the courses schedule of the period including the days and hours of teaching, as well as the dates of other events or obligations, are announced.

Issues related to student participation in mobility or traineeships eg. Erasmus + etc., are regulated by a Steering Committee decision.

Before applying, each candidate must be aware of these Rules of the Regulation and state in writing that he/she accepts the rules of operation of the MSc.

Article 10

Exams - Knowledge Test

The curriculum of each academic year is structured in two (2) semesters, winter and spring, each of which comprises thirty hours of teaching / lesson and two (2) weeks of exams. In case of failure, it is possible to re-examine by decision of the Teacher / Teachers. Course attendance is compulsory. In case of postponement of the course it is foreseen to be replaced. The date and time of replenishment are posted on the MSc or course website.

The final assessment and grade in the individual courses of the program is determined by the teacher, who can organize written and / or oral exams at his / her own discretion and may also rely on assignments or laboratory exercises. The grading is on a scale of 0-10: the student is considered 0 to 4.99 failures and 5 to 10 successful.

If a postgraduate student fails the exam / exams of the course (s), so that as defined in the Postgraduate Program's Regulations, it is considered that he / she has not successfully completed the program, then upon request, a three-member committee of Teaching Research Staff of which they have the same or a similar object to the subject under consideration and are designated by the Special Educational Committee at the recommendation of the Steering Committee. The examiner is excluded from the committee.

In the 3rd semester of the Postgraduate Program the postgraduate thesis is foreseen. The Steering Committee, at the request of the candidate indicating the proposed title of the master's thesis, the proposed supervisor and attaches a summary of the proposed work, appoints its supervisor and establishes a three-member committee for approval of the work, who is also the supervisor. The postgraduate thesis supervisor may be a Teaching Research Staff member, from the lecturers in the MSc, and the other two (2) members may be Teaching Research Staff members, or researchers of any grade, or postgraduate lecturers. The members of the committee must have the same or related scientific expertise as the subject of the program. In order to approve the work, the student must support it in front of the selection board.

The Steering Committee composes and the Special Educational Committee approves the Postgraduate Thesis Guide, which is communicated to postgraduate students and includes instructions and a template for writing a postgraduate thesis.

Postgraduate theses, if approved by the Examination Committee, are mandatory posted on the Department's website. The postgraduate thesis is also electronically deposited by the student himself at the Institutional Repository of the Library of the University of Western Macedonia, according to a decision by the Senate.

The award of the MSc requires the attendance and successful examination of the six compulsory courses / semester of the chosen two-semester specialization as referred in Article 8 of these Regulation, and the preparation / successful examination of the graduate thesis, collecting 90 credit units (ECTS).

The degree of the MSc is determined by the degrees of the courses of the Program and the degree of the postgraduate thesis in the manner decided by the Steering Committee. The MSc degree, under the responsibility of the Secretariat, is recorded in the student's personal file.

Cases of misconduct that violate Academic Ethics, such as indicative copying in examinations or assignments and in the resolution of exercises, misconduct, result in deletion from the Program following the Assembly's decision.

Exams are compulsory and curated kept by the teacher for two (2) years. After that time, the exams shall cease to be valid and destroyed unless criminal, disciplinary or other administrative proceedings are pending. It is best to dispose of them in the Institution's document destruction machines and recycle the destruction products.

Article 11

Teaching assignment - lecturers in the MSc

The Educational Staff of the MSc, proceed, as in paragraph 1, no. 36, Law 4485/2017, from:

- Teaching research Staff members of the Department of Informatics of the University of Piraeus and the Department of Informatics of the University of Western Macedonia,
- members of the Special Educational Staff, Laboratory Teaching Staff and Special Technical Laboratory Staff of the Department of Informatics of the University of Piraeus and the Department of Informatics of the University of Western Macedonia, PhD holders, unless their subject area is of exceptional and unquestionable specificity for which a doctoral thesis is not possible or usual,
- retired Teaching Research Staff members of the Departments concerned,
- lecturers according to n.e. 407/1980 (A '112),
- accredited scientists, either PhD holders, candidate PhDs or excellent technical experience, who may be employed as academic fellows by decision of the Special Educational Committee and acted by the Director of the Department of Informatics for the conduct of teaching and research work, defined by the contract signed between the Academic Scholar and the Rector of the University of Western Macedonia.
- Emeritus teachers and retired Teaching Research Staff members of Universities, teach in the Mc, in accordance with paragraph 8 of Article 16 of Law 4009/2011 and the present Postgraduate Program's Regulation.

By reasoned decision of the Special Educational Committee, instruction is given to:

- Teaching Research Staff members of other Departments of the same or other Universities,
- researchers from research centers no. 13A, Law 4310/2014, of the Academy of Athens and the Institute of Biomedical Research of the Academy of Athens,
- Visitors, reputable scientists from abroad or foreign who have the status or qualifications of a professor or researcher in a research center, artists or scientists of recognized prestige with specialized knowledge or relevant experience in the field of study,
- Visitors, postdoctoral researchers, Greek or foreign young scientists, PhD holders
- or new hires / contracts are made as above.

Teaching courses in the MSc are made after the recommendation of the Steering Committee and the approval of the Special Educational Committee.

By the decision of the Special Educational Committee, which is taken on the recommendation of the Director of the MSc, they are invited by abroad or foreign as visitors, reputable scientists who have the status or qualifications of a professor or researcher in a research center, artists or scientists of recognized prestige or expertise relevant experience in the subject of the Master of Science (MSc), to meet the educational needs of the Master of Science (MSc). A foreign guest is invited only if he / she is instructed, in accordance with the procedure and in particular those specified in the Postgraduate Program's Regulation, in accordance with the rules applicable to the Teaching Research Staff members of the Institutions. The above limitation does not apply if the person called teaches voluntarily, without remuneration, compensation or other financial gain other than his travel.

Article 12

Diploma

The Postgraduate Diploma (MSc) is a public document. Its form is defined by a Special Educational Committee decision. A Postgraduate Diploma is attached to the MSc in Greek and English, in accordance with the provisions of article 15 of Law 3374/2005 (Government Gazette 189, A ') and the F5 / 89656 / B3 / 13-8-07 (Government Gazette 1466, vol. B).

MSc leads to Level 7 qualification in accordance with the European Qualifications Framework (EQF) and the National Qualifications Framework (NQF).

Degree of Diploma is as follows: from 5 to 6.49 GOOD, from 6.50 to 8.49 VERY GOOD and from 8.50 to 10 EXCELLENT.

The Postgraduate Diploma awarded by the Master of Science (MSc) as well as the Postgraduate Student Book are signed according to the decision of the Senate.

Article 13

Graduation

A student who has successfully completed his or her postgraduate studies is sworn in as Vice-Rector or Dean of the University as the representative of the Rector and the President of the Department of Western Macedonia University. Swearing-in is not a component of successful completion of studies, but is a prerequisite for obtaining a master's degree. Before to the swearing-in, graduates may be issued with a certificate of successful completion of their postgraduate studies in Greek and / or English. The swearing-in ceremony, including the text of the oath for graduates of the MSc program, is determined by a Special Educational Committee's decision.

The swearing-in takes place in a ceremony, in the presence of the graduates, on days designated by the Dean in consultation with the President of the Department of Informatics of the University of Western Macedonia and the Director of the MSc. For

reasons of force majeure and upon application to the MSc Secretariat the graduate may apply for a degree without attending the swearing-in ceremony or requesting to attend a subsequent swearing-in ceremony. In cases of proven residence abroad (studies, work, health reasons) the graduate may apply to the MSc Secretariat to be sworn in before the Greek consular and embassy authorities of the country of residence.

Article 14 **MSc Infrastructure**

Classes and auditoriums equipped with audiovisual media, and laboratories of the Foundation of the University of Western Macedonia are available for the operation of the Master's Program.

Funding for the Master of Science (MSc) comes from tuition fees, which are EUR 960 per semester of study (a total of EUR 2,880 for the entire course of study), as well as from alternative sources of funding, in accordance with the provisions of the current legislation.

Upon the expiry of the term of office of the Steering Committee, under the responsibility of the outgoing Director, a detailed report of the research and training work and other activities of the MSc is submitted to the Special Educational Committee. The detailed grades are published in Greek and English.

At the end of each semester, each course is evaluated and each teacher is assessed by the postgraduate students. In the case of invitees or visitors to cover the teaching needs of the Master of Science (MSc) or to assign more than one teacher, the procedure and the manner of assessment in these courses may be modified according to the relevant Steering Committee's decision. The internal and external evaluation of the MSc as well as the quality assurance and certification will be carried out in accordance with the provisions of Law 4009/2011 (A '189) and the provisions of article 44 of Law 4485/2017.

Article 15 **Other Provisions**

Any issues are not covered by this Regulation shall be regulated by decisions of the competent authorities in accordance with applicable law.

The decision to publish in the Government Gazette.

Kozani, 16/9/2019

The Rector

Professor Theodoros Theodoulides