



School of Informatics AUTH

**Postgraduate Studies Programme
Data and Web Science**

M2.3 Postgraduate Program (PP) Study Guide of
the current academic year (with all PP ECTS credits
and expected PP learning outcomes)

October 1, 2023

ARISTOTLE UNIVERSITY OF THESSALONIKI
FACULTY OF SCIENCES
SCHOOL OF INFORMATICS

STUDY GUIDE
POSTGRADUATE PROGRAM
"DATA AND WEB SCIENCE"

ACADEMIC YEAR
2023-2024

THESSALONIKI 2023

Study guide	School of Informatics - PP Data and Web Science	
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The study guide was edited by the Associate Professor Anastasios Gounaris, the Associate Professor Georgios Christodoulou and the Assistant Professor Georgios Meditskos. The staff of the Secretariat also collaborated in the collection of information: Ms. M. Milosi, Mr. Sp. Goutzamanis, Ms. Eir. Triikka, Ms. G. Theohari, Ms. Asim. Kournoutou.

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1. PROLOGUE

The School of Informatics of the Aristotle University of Thessaloniki (AUTH) is the newest Department of the Faculty of Science, and for the first time accepted students in the academic year 1992-93. Its establishment was a milestone in the history of the Faculty of Science and AUTH, with a particularly significant impact on the scientific life and technological development of the city of Thessaloniki.

The School of Informatics admits every year applicants with a high admission base in the national exams and a high percentage of honors admitted from secondary education. The efforts of the teaching and research staff (faculty members) of the School over the years, from its establishment until today, have made it one of the best departments in the country, according to its external evaluation by external evaluators both for the quality of studies and for the research activity. The Evaluation and Accreditation Council of the Hellenic Authority for Higher Education (HAHE), based on the Report of the External Accreditation Panel, decided (no. 23242/16-7-2021) the certification of the Undergraduate Studies Program (USP) of the School of Informatics of AUTH, which fully complies with the principles of the USP Quality Standard of HAHE and the Quality Assurance Principles of the European Higher Education Area (ESG 2015), for study level 6 of the National and European Qualifications Framework. The certification is valid for four years, from 13-07-2021 to 12-07-2025.

Today, the School is considered both nationally and internationally recognized and distinguished. Its outstanding reputation is due to the distinctions and awards it has received, to the research and writing activity of its members, to the funded programs it coordinates or participates in, but above all to the high-quality training it offers and the professional recognition of its graduates. The School of Informatics AUTH is consistently in the international ranking lists of universities in the fields of Computer Science and/or Computer Engineering. For the current academic year, in the Times Higher Education list, it ranks 401-500 in the global ranking, 251-300 in the Quacquarelli Symonds ranking, 49th in the CWTS Leiden ranking (with the PP-10% criterion, i.e. the percentage of publications belonging to the top 10% internationally) and ranked 326 in the US News ranking.

The Postgraduate Program (PP) "Data and Web Science" aims to specialize students in the emerging field of Data Science and the World Wide Web. This topic is of critical importance given that the exponentially increasing production of data and the parallel rapid development of the technologies of the World Wide Web pose new challenges in multiple thematic fields of computer science. These challenges are set at all levels of the IT technology stack as they concern infrastructure, management, access, as well as the utilization of information for knowledge mining that will be provided in a direct way and will open new possibilities for the development of science and innovation.

The objectives of the PP are fulfilled by attending organized postgraduate courses and preparing a Master's Thesis in accordance with international academic standards that guarantee high-level training and specialization in the fields of Data Science and the World Wide Web.

As the chairman of the School of Informatics of AUTH and on behalf of all the teaching, research and administrative staff of the School, I would like to congratulate and welcome all the first-year students for the success of their admission to an excellent department and wish all the academic community of the department a successful academic year 2022-2023 with health and progress.

Ioannis Stamelos
Chairman of the School of Informatics

2. SUBJECT OF THE PP DATA AND WEB SCIENCE

The subject of the Postgraduate Program (PP) is to specialize in the emerging field of Data Science and the World Wide Web. This subject is of critical importance given that the exponentially increasing production of data and the parallel rapid development of the technologies of the World Wide Web pose new challenges in multiple thematic fields of computer science. These challenges are set at all levels of the IT technology stack as they concern infrastructure, management, access, as well as the utilization of information for knowledge mining that will be provided in a direct way and will open new possibilities for the development of science and innovation.

The purpose of the PP is the adequate training of postgraduate students in Data Science and the World Wide Web so that they are able either to be directly employed in industry in relevant jobs, or to proceed with research and the pursuit of a PhD. We aim for a flexible curriculum that will include basic and advanced topics and offers a strong background in the areas of Data Science and Web Science. At the theoretical level, students learn a) both basic and advanced concepts as well as specific processing, data analysis and machine learning techniques and become familiar with several applications, b) the necessary knowledge to understand, analyze and process web data structures and models c) special knowledge at the systematic and algorithmic level for big data management and analysis, d) Semantic Web technologies, ontologies, knowledge graphs and automatic reasoning, e) specialized knowledge for text processing with modern approaches, f) (social) network analysis methods and algorithms, g) concepts in the area of Algorithmic Game Theory, h) concepts related to design and processing of data in distributed databases and database topics for spatial and multimedia data, and i) representation models of decentralized technologies and Internet transaction management.

The students also acquire skills a) in the critical study of scientific articles, b) in the presentation of scientific papers, c) in practical engagement applying various algorithms and processing and analysis techniques to data of various types, d) in familiarization with modern big data techniques that are practical and have great demand in the industry as well, e) the possibility of developing and using ontologies and knowledge graphs, f) the use of various ready-made libraries in multiple languages for fast and qualitative software development in the topics of PP, and g) the application of decentralized technologies with modern approaches.

Graduates of the postgraduate program will be able to be employed as:

- Data Analysts/Data Scientists with an emphasis on developing and applying statistical and machine learning models to data.
- Data Management Professionals applying efficient algorithms for analysis, management and representation and interconnection of large volumes of data.
- Researchers / PhD students in Data Science and the World Wide Web.
- Technical managers and project managers in companies and research projects.

3. THE FACULTY OF SCIENCES

The Faculty of Sciences is the continuation of the Faculty of Physics and Mathematics which was founded together with the AUTH in the year 1925, it started operating in the academic year 1927-28 and was abolished in 1982. Today the Faculty of Sciences includes the following 6 Schools, which grant unified degrees.

1. School of Biology
2. School of Geology
3. School of Mathematics
- 4. School of Informatics**
5. School of Physics
6. School of Chemistry

DEANSHIP OF FACULTY OF SCIENCES

DEAN

Prof. H. Charalambous School of Mathematics

MEMBERS

Prof. M. Yiangou,	Head of the School of Biology
Prof. K. Vouvalidis	Head of the School of Geology
Ass. Prof. R.D. Malikiosis	Head of the School of Mathematics
Prof. I. Stamelos	Head of the School of Informatics
Prof. A. Ioannidou	Head of the School of Physics
Prof. Th. Karapantsios	Head of the School of Chemistry

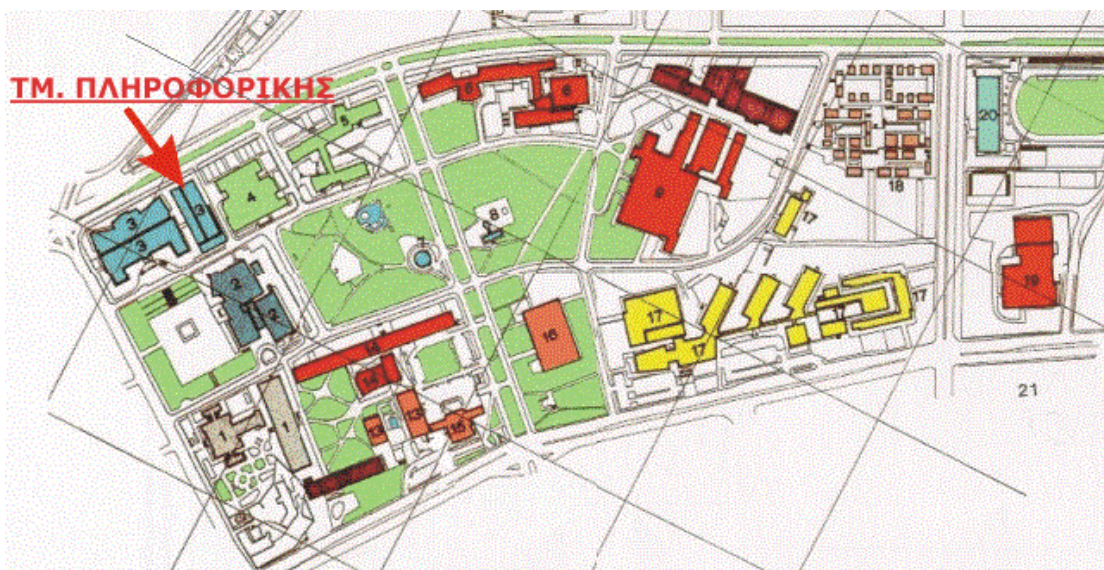
ADMINISTRATION OFFICE

E. Raftopoulou

4. THE SCHOOL OF INFORMATICS

The School of Informatics was established as a School of the Faculty of Sciences by the Presidential Decree 200/91 (Government Gazette 78/30.5.91) and has been accepting students since the academic year 1992-93. Starting from the academic year 1995-96 it is independent and is managed by the General Assembly (GA).

The School of Informatics is housed in the premises of the Faculty of Science as shown in the following diagram of AUTH. In addition, it has facilities in Kalamaria (Ethnikis Antistaseos 16, relevant map: <http://tinyurl.com/csd-auth-east>), hosting of laboratories, classrooms, offices of faculty members and administrative staff.



Memorandum:

1.	Faculty of Philosophy
2.	School of Chemistry
3.	Faculty of Sciences
4.	Schools of Agriculture Forestry & Natural Environment
5.	School of Veterinary Medicine
6.	School of Medicine
7.	Meteorology
8.	Observatory
9.	AHEPA University Hospital
10.	School of Dentistry
11.	AHEPA University Hospital
12.	School of Theology
13.	Management building
14.	Faculty of Social and Economics Sciences
15.	Ceremony Hall
16.	Central Library – Student Reading Room

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17.	Faculty of Engineering
18.	Faculty of Physical Education and Sport Sciences, Faculty of Fine Arts
19.	Student Dining
20.	University Sports Center
21.	University of Macedonia

With the no. 3146/23-10-2017 Rector's Act (Government Gazette 3950/10-11-2017 t.B') three sectors were established in the school. Each field serves educational and research needs in specific areas.

A. Web, Data and Knowledge Engineering Sector

Director: Professor Athina Vakali

Areas:

1. Logic Programming Systems and Intelligent Systems
2. Knowledge Systems
3. Machine Learning and Knowledge Discovery
4. Operating Systems and the World Wide Web
5. Problem Solving Programming Techniques
6. Artificial Intelligence
7. Semantic Web
8. Digital Social Networks
9. Data structures
10. Databases
11. Algorithms and Computational Complexity
12. Data Mining
13. Information Retrieval
14. Big Data Management and Analysis
15. Massively Parallel and Distributed Data Processing
16. Informatics

The members of the sector belong to two laboratories:

Data and Web Science Laboratory (DataLab)

Director: Professor Athina Vakali

Members:

1. Anastasios Gounaris (Associate Professor)
2. Apostolos Papadopoulos (Associate Professor)
3. Georgios Christodoulou (Associate Professor)

Website: <https://datalab.csd.auth.gr/>

Intelligent Systems Labs

Director: Professor Ioannis Vlahavas

Members:

1. Nikolaos Vasiliadis (Professor)

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2. Dimitrios Vrakas (Assistant Professor)
 3. Georgios Meditskos (Assistant Professor)
 4. Grigorios Tsoumakas (Associate Professor)
- Website: <https://intelligence.csd.auth.gr/>

B. Software, Hardware and Foundations Sector

Director: Associate Professor Panagiotis Katsaros

Areas:

1. Software technology
2. Software Reliability and Security
3. Information and Communication Technologies in Education
4. Internet Technologies in Education
5. Music Informatics
6. Human - Computer Communication
7. Open Technologies
8. Embedded Systems
9. Statistics and Information Systems
10. Electronic Physics and Microelectronics
11. Computer Architecture
12. Applied Mathematical Analysis
13. Information Theory-Theoretic Cryptography
14. Operational research
15. Optimization
16. Numerical Linear Algebra

Members of the sector belong to two laboratories:

Software and Interactive Technologies Laboratory (SWITCH)

Director: Professor Ioannis Stamelos

Members:

1. Christos Katsanos (Assistant Professor)
2. Panagiotis Katsaros (Associate Professor)
3. Dionysios Politis (Assistant Professor)
4. Ioannis Stamelos (Professor)
5. Thrasyvoulos Tsiatsos (Associate Professor)

Website: <http://switch.csd.auth.gr/>

Laboratory of Statistics, Applied Mathematics and Electronic Physics (SAMEP Lab)

Director: Professor Nikolaos Konofaos

Members:

1. Eleftherios Aggelis (Professor)
2. Konstantinos Draziotis (Assistant Professor)
3. George Keramidas (Assistant Professor)
4. Nikolaos Tsitsas (Associate Professor)

Website: <http://samep.csd.auth.gr/>

C. Communications Networks and Information Analysis Sector

Director: Associate Professor Petros Nikopolitidis

Areas:

1. Computer Communication Systems
2. Distributed Systems
3. Optical Communication Systems
4. Optical Communications
5. Wireless networks
6. communication networks
7. Optical Networks
8. Nanonetworks
9. Expert Systems Artificial Intelligence
10. Digital signal processing
11. Computer Graphics – Digital Image Composition
12. Computational Intelligence – Deep Reinforcement Learning
13. Digital Signal Processing with applications in Biomedicine - Bioinformatics
14. Robotic Perception
15. Virtual/Augmented Reality
16. Large Scale Information Analysis/ Networks.

The members of the sector belong to two laboratories:

Artificial Intelligence and Information Analysis Laboratory (AIIA Lab)

Director: Professor Ioannis Pitas

Members:

1. Konstantinos Kotropoulos (Professor)
2. Nikolaos Laskaris (Associate Professor)
3. Nikolaos Nikolaidis (Associate Professor)
4. Anastasios Tefas (Professor)
5. Christos Ouzounis (Professor)

Website: <http://www.aiia.csd.auth.gr>

Networks and Communication Systems Laboratory (NetCom Lab)

Director: Professor George Papadimitriou

Members:

5. Amalia Miliou (Professor)
6. Petros Nikopolitidis (Deputy Professor)
7. Nikolaos Pleros (Associate Professor)

Website: <http://netcom.csd.auth.gr/>

ALUMNI PORTAL

At the address <http://grads.csd.auth.gr/> is the online portal of the graduates of the School of Informatics of AUTH, which aims to continue the contact of the School with its students after their graduation.

5. STAFF

ORGANIZATION OF THE SCHOOL OF INFORMATICS

CHAIRMAN	VICE CHAIRMAN	SECRETARY
Professor Ioannis Stamelos	Professor George Papadimitriou	Milosi Maria

PROFESSORS	
	Aggelis Eleftherios
	Vlachavas Ioannis
	Athena Vakali
	Vasiliadis Nikolaos
	Dimitriadis Stavros
	Konofaos Nikolaos
	Konstantinos Kotropoulos
	Miliou Amalia
	Ouzounis Christos
	George Papadimitriou
	Pitas Ioannis
	Stamelos Ioannis
	Tefas Anastasios

ASSISTANT PROFESSORS	
	Gounaris Anastasios
	Katsaros Panagiotis
	Laskaris Nikolaos
	Nikopolitidis Petros
	Nikolaidis Nikolaos
	Papadopoulos Apostolos
	Pleros Nikolaos
	Tsiatsos Thrasyvoulos
	Nikolaos Tsitsas
	Grigorios Tsoumakas
	George Christodoulou

ASSISTANT PROFESSORS	
	Vrakas Dimitrios
	Draziotis Konstantinos
	Katsanos Christos
	George Keramidas
	Georgios Meditskos

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	Politis Dionysios
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PROFESSORS EMERITI AND PAST FACULTY	Lazos Konstantinos (Professor Emeritus) Manolopoulos Ioannis (Professor Emeritus) Bleris Georgios† ¹ Tsoukalas Ioannis (Professor Emeritus) Linardis Panagiotis Hatalis Miltiadis Atreas Nikolaos Alexandros Nanopoulos Pomportsis Andreas† ² Konstantinos Tsihlias Karanikas Konstantinos Eleni Karatza (Professor Emeritus)
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SUPPORTING STAFF	Stavroulakis Stavros (seconded)
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SECRETARIAT	Milosi Maria (Supervisor)
	Gkoutzamanis Spyros
	Kakolyri Anna
	Trikka Eirini
FACULTY SECRETARY	Theochari Georgia
ADMINISTRATIVE SUPPORT OF KALAMARIA BRANCH	Konstantina Lagotheodorou

¹ Georgios Bleris was Professor of the School during the period 1998-2005. He passed away on April 17 2005.

² Andreas Pomportsis was Professor of the School between 1993-2013. He passed on September 1 2013.

6. GENERAL MATTERS OF POSTGRADUATE STUDIES - CALENDAR

1. The academic year begins on September 1 of the current year and ends on August 31 of the following year. The educational work of each academic year is structured in two semesters. Each semester includes at least 13 full weeks of educational activities.
2. The winter semester begins in the last week of September and ends at the beginning of the last ten days of January. This is followed by the first examination period of the winter semester. The spring semester begins in mid-February and ends at the end of May. This is followed by the first examination period of the spring semester. The exact dates are determined by the Senate of the Foundation and are listed in the Foundation's academic calendar (https://www.auth.gr/academic_calendar/).
3. If, for any reason, the number of weeks of educational activities carried out in a course is less than thirteen, the course is considered not to have been taught and is not examined in the final examination period.
4. An extension of the duration of one semester is allowed only in exceptional cases in order to complete the required minimum number of weeks of educational activities. Each extension may not exceed two weeks and is made by the dean's decision, following a proposal by the faculty's dean's office and the relevant recommendation of the School.
5. The students register in the PP at the beginning of each semester on dates set by the University and declare the courses they choose on dates set by the Postgraduate Study Program Coordinating Committee.
6. Students who have demonstrated that they work at least 20 hours per week may be enrolled as part-time students, upon their application, approved by the Dean of the Faculty upon the recommendation of the School. The specific conditions and procedure for the application of this provision will be defined in the institution's statutes.
7. The examinations are conducted exclusively after the end of the winter and spring semesters for the courses taught in those semesters, respectively. In all cases, the student may only take the examination in the courses declared at the beginning of the two semesters. Special provision is made for the oral examination of students with proven dyslexia prior to their admission to the PP.
8. The courses, except for the two examination periods, are interrupted during public holidays as defined by the Institution's academic calendar. Holidays include the periods from Christmas Eve to the day after Epiphany, from Thursday before Lent (February 23, 2023) to the day after Lent Monday (February 28, 2023) and from the Monday of Easter Week (April 10, 2023) to Sunday after Easter Sunday (April 23, 2023). Classes and exams are not held on weekends and on the following holidays and anniversaries.
 - Saint Dimitrios Day (October 26)
 - The national celebration of October 28
 - The anniversary of the Students' uprising in the National Technical University of Athens against the junta in 1973 (November 17)
 - The Three Patron Saints of Education Day (January 30)
 - National Anniversary of the revolution of 1821 against the Turkish rule (March 25)
 - Labour Day (May 1st)
 - Holy Spirit Day (June 5, 2023)

Courses are also not held on the day of student elections.

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9. The teaching work is divided into semester courses. Teaching work is considered to be: a) the independent teaching of a course, b) the independent teaching of specialised in-depth courses to small groups of students, c) laboratory exercises and general practical training of students, d) the supervision of assignments or theses and e) the organisation of seminars or other similar educational activities aimed at consolidating and developing students' knowledge.
10. The curriculum contains the titles of compulsory and elective courses, their content, the weekly teaching hours, including the teaching work to be performed in each form, and the chronological sequence or interdependences of the courses. According to the Hellenic Qualifications Framework for Higher Education, the curriculum aims at the acquisition of learning outcomes and qualifications, acquired through the entire curriculum, as well as through each individual course or educational activity or internship included in it, the credit units, as well as the level of qualifications acquired, in correspondence with those of the Hellenic Qualifications Framework, the European Qualifications Framework for Lifelong Learning and the European Qualifications Framework for the European Higher Education Area.
11. The teaching work is supplemented with corresponding teaching texts, i.e. printed or electronic books (including free access electronic books) as well as printed or electronic academic notes, which correspond in a comprehensive manner to the subject of a course and cover all or most of its material and content, as specified in the regulations for postgraduate studies.
12. Each instructor shall distribute to all students enrolled in the course, during the first week of classes, a detailed study chart that includes the structure of the course material, relevant bibliography, other documentation and related information.
13. The student's grade in each course is determined by the instructor and may be based on any combination of written examinations, oral examinations, assignments, or laboratory exercises.
14. Each semester course contributes a number of ECTS credits compatible with the European Credit Transfer System (ECTS). ECTS credits is a numerical value assigned to each course to describe the workload required of the student to complete it. One ECTS credit corresponds to 30 hours of workload. One semester of study corresponds to 30 ECTS, while a full academic year corresponds to 60 ECTS.
15. Students have the right to suspend their studies. The procedure to be followed is described in the Regulations of the Postgraduate Programme (Article 6).
16. The websites <http://www.csd.auth.gr/>, <https://dws.csd.auth.gr/> and <https://elearning.auth.gr/> contain information on various topics concerning the courses of the study program (material, lecture schedule, assignments and workshops, lecture slides, etc.). Announcements and information about the School of Informatics can also be found in the School's and MSc Facebook pages, (<https://www.facebook.com/csdauthgr/> and <https://www.facebook.com/mscDWS/>, respectively).
17. Each semester, before the start of the examination period, students have the right and the obligation to evaluate the courses and teachers with the aim of improving the quality of studies. More information is available on the website of the Quality Assurance Unit (MODIP-APTH <http://qa.auth.gr>) and on the website of the School.
18. In case of disciplinary misconduct (such as copying during examinations, use of electronic media, copying while writing papers, etc.), the General Assembly will impose sanctions

(from written reprimand to exclusion from participation in examinations for subsequent semesters).

7. REGULATION OF STUDIES

The PP "Data and Web Science", which leads to the acquisition of a Postgraduate Program Degree, is organized and operated independently since the academic year 2018-19 by the School of Informatics of AUTH.

- The Regulation of Studies of the PP, determines the operation of the PP in accordance with the current legislation, and contain the following articles:
- Article 1. Object-Purpose of the PP.
- Article 2. Awarded Degree of the PP.
- Article 3. Body of the PP.
- Article 4. Categories of Candidates of the PP.
- Article 5. Numbers, Criteria and Selection Procedure for Admission
- Article 6. Duration and conditions of studies
- Article 7. Rights and Obligations of Attendance
- Article 8. Study programme - Test of Knowledge
- Article 9. Scholarships
- Article 10. Staff
- Article 11. Programme income - Financial management procedure
- Article 12. Administrative support - Technical and logistical infrastructure
- Article 13. Graduation Ceremony
- Article 14. Type of Postgraduate Diploma awarded
- Article 15. Plagiarism
- Article 16. Accreditation-Assessment of the PP.
- Article 17. Study Guide
- Article 18. Transitional arrangements

CREDIT REGISTRATION SYSTEM (ECTS)

The **ECTS system** was developed within the framework of the ERASMUS program (European Community Action Scheme for the Mobility of University Students) in order to facilitate the procedures for academic recognition of studies abroad by evaluating and/or transferring the work of the participating student (credit transfer) between collaborating institutions. ECTS is based on the principle of mutual trust between participating institutions.

ECTS credits reflect the amount of work required by each course relative to the total required amount of student engagement to complete a full academic year of study at the institution (i.e. attending lectures, internships, seminars, tutorials, workshops, library and homework study, exams or other assessment activities). According to ECTS, 60 credits correspond to the workload of one academic year of study, 30 credits correspond to the workload of one academic semester, and 20 credits correspond to the workload of four months. One ECTS credit corresponds to 30 hours of workload based on Greek legislation.

ECTS credits are awarded for each course, compulsory or optional, as well as for studies, internships and theses, as long as they are part of the department's curriculum. Credits are awarded when the course/internship/degree has been completed and all required exams have been passed.

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More information is provided by the person responsible for the ERASMUS program at the School of Informatics, Associate Professor P. Katsaros (katsaros@csd.auth.gr) as well as by the [Department of European Educational Programs \(EEP\)](#).

8. OTHER POSTGRADUATE PROGRAMS OF THE SCHOOL OF INFORMATICS – DOCTORAL STUDIES

Postgraduate Programs

Since the academic year 2018-2019, the Department of Informatics offers 4 other PP degree programs.

PP "Digital Media - Computational Intelligence"

Director: Professor Ouzounis Christos

Web page: <https://dmci.csd.auth.gr/en/>

PP "Artificial Intelligence"

Director: Associate Professor Grigorios Tsoumakas

Website: <https://ai.csd.auth.gr/en/>

PP "Technologies of Interactive Systems"

Director: Professor Konofaos Nikolaos

Web page: <https://ihst.csd.auth.gr/en/>

PP "Communication Networks and System Security"

Director: Professor Miliou Amalia

Web page: <https://cnss.csd.auth.gr/en/>

Contact info:

Informatics Department Secretariat

Aristotle University of Thessaloniki

541 24, Thessaloniki

E-mail: pms_info@csd.auth.gr

Tel: 2310998930, 2310998709

Fax: 2310998310

Joint Postgraduate Studies Programmes

The School of Informatics participates in three joint Postgraduate Studies Programmes:

(a) **Management and Information Systems** (in collaboration with the School of Economics, AUTH).

Director: Professor Nikolaos Bassiliades

Web page: <http://deps.csd.auth.gr/>

Contact info:

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Informatics Department Secretariat
Aristotle University of Thessaloniki
541 24, Thessaloniki
E-mail: deps_info@csd.auth.gr
Tel: 2310998709
Fax: 2310998310

(b) Medical Informatics (in collaboration with the School of Medicine, AUTH and the School of Electrical & Computer Engineering, AUTH).

Director: Professor Antonios Aletras

Web page: <http://promesip.med.auth.gr/>

Contact info:
Medical Informatics Laboratory
Medical School
T.Th. 323
Aristotle University of Thessaloniki
541 24, Thessaloniki
E-mail: promesip@med.auth.gr
Tel.: 2310999272
Fax: 2310999263

(c) Biomedical Engineering (in collaboration with the following Schools of AUTH: Biology, Electrical & Computer Engineering, Medicine, Mechanical Engineering, Chemical Engineering).

Director:

Web page: <http://bme.web.auth.gr>

Contact info:
E-mail: bme@auth.gr

Doctoral studies

The School of Informatics offers the possibility to obtain a PhD in Informatics. The Doctoral Studies Program operates as a 3rd cycle program in accordance with its internal operating regulations (Decision 12875, ΦΕΚ vol.2, Sheet No. 3359, August 10, 2018)

Website: <https://www.csd.auth.gr/el/studies/doctoral-studies>

9. ADDITIONAL REGULATIONS

In addition to the internal operating regulations, there are more specific regulations for:

- Complaints management
- Academic Advisors
- Ethics and Research
- Studies, Internship, Mobility, Assignments

10. USEFUL SERVICES OF AUTH FOR STUDENTS - DATABASES - LIBRARIES

The Department utilizes central services of AUTH, such as:

- Quality Assurance Unit (MODIP) (<https://qa.auth.gr/>)

The e-Study Guide and biographical notes of the Department members are available in Greek and English. The evaluation of courses and teachers is also carried out on a semester basis. In addition, through the Student Information System and MODIP systems, the staff of the School and of the PP have the possibility to monitor the progress of the students, the academic statistics and other information about the educational activity and to use them in the context of monitoring the implementation of the PP.

In addition to the above, the MSc students will have at their disposal the Student Information System (SIS) of AUTH (<https://sis.auth.gr/>) through which students are given access to courses and grades, as well as to submit their course registration electronically.

AUTH provides an extensive wireless network (<https://it.auth.gr/el/netAccess/Wifi>). The service provides free wireless access to the network from AUTH premises either to AUTH members or to visitors and its coverage has been steadily increasing in recent years through a series of projects that have been implemented.

The students of the MSc Program have additional access to all the services provided by the Institution, among others:

- In the Institutional Repository of Scientific Publications of the AUTH (IKEE) (<http://ikee.lib.auth.gr/>) where they can access the research outputs of teaching and research staff of the Aristotle University of Thessaloniki,
- In the mobile application myAuth (<https://it.auth.gr/el/myAuth>) for current courses, grades, timetable, rooms and course announcements.
- In the AUTH class and schedule website (<https://classschedule.auth.gr/>), the central information application that serves students, offering personalized information about the course and rooms schedule.

Student Facilities

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- The School and the PP utilizes the various facilities offered by [the](#) Institution to the students (<https://www.auth.gr/services/>), such as:
 - social care scholarships social care and interest free study loans,
 - student Housing Benefit,
 - the provision of nourishment to [University Student Club](#)
 - the provision of housing at [Student residence](#)
 - the medical and pharmaceutical and hospital care,
 - the ability free access in the Internet, the ticket reduced fee at difference figuratively inside etc.
 - Financial facilities are also included
 - the provision free didactic authors in everyone their students (PPS), as and
 - the right access at university libraries, [Libraries and online Libraries](#)
 - while the administrative ones refer to the postponement of conscription due to studies.

Postgraduate students enjoy all the student care privileges deriving from the current legislation.

Supporting Structures of the Foundation

In addition, AUTH operates various structures and services to support students, which are also available to postgraduate students, such as:

- [Student Support Office of Vulnerable Social Groups](#)
- [Counseling and Psychological Support Center](#)
- [Study and Career Liaison Office](#)
- [Disabled Access Office](#)
- [Internship Office](#)
- [Student Advocate](#)
- [Department of European Educational Programs](#)
- [Department of International Relations](#)
- [Scholarships and endowments](#)

- [University Gym](#)
- [University Camp](#)
- [Electronic services](#) through special applications of the Foundation, and via mobile phone
- [Groups of a cultural and social nature](#) at Institutional and Departmental level
- [Office of Coordination of Volunteers & Student Activities](#)

The following Committees have been established and operate with the object of support of the students of the institution:

[Interdisciplinary Committee for the Study of Anti-Drug Proposals](#)

Central [Committee of Social Affairs](#), Psychological Support and Student Observatory

[Committee on Health Issues](#)

[Committee on Accessibility](#)

[Committee on Gender and Equality Issues](#)

The supporting structures and services for students are supported by high-level specialized scientific and administrative staff.

11. CURRICULUM AND TEACHERS

The main points of the detailed Study Program of the PP are as follows:

- Specializations: There are no specializations, this is a single program.
- Language of instruction: Greek
- Credit units of each course: 7.5 ECTS
- Diploma thesis credits: 30 ECTS
- Total PP credits: $(8 \times 7.5) + 30 = 90$ ECTS
- The workload for each master's degree/or full-time student at PMS during an academic year is valued at sixty (60) credits, and during an academic semester it is valued at thirty (30) credits (ECTS).

Important points are the following:

- Student achievement grades in postgraduate courses are reported on a scale of 0-10 rounded to the nearest half point. A passing grade of six (6) is considered both for the postgraduate courses or for any undergraduate courses, as well as for the postgraduate diploma thesis.
- The student has the obligation to attend and be examined in eight (8) courses: the 4 compulsory ones of the first semester and the 4 optional ones of the second semester. He is also required to prepare his postgraduate thesis in the third (or subsequent) semester of his choice and if he has successfully completed the examination of the 8 courses.

The courses of the study program are listed below, per semester of study. The title of each course is a hyperlink that leads to the detailed description of the course, on the website of the Quality Assurance Unit (QAU) of AUTH.

1st ^{semester} _

Code	Title	Hours	ECTS	Type	Teachers
DWS101	Machine Learning	3	7.5	ELC	Ioannis Vlachavas
DWS102	Technologies for Big Data Analytics	3	7.5	ELC	Apostolos Papadopoulos
DWS103	Semantic Web	3	7.5	ELC	Nikolaos Vassiliadis
DWS104	Natural Language Processing	3	7.5	ELC	Grigorios Tsoumakas
DWS105	Social Network Analysis	3	7.5	ELC	Athena Vakali
DWS107	Algorithmic Game Theory	3	7.5	ELC	George Christodoulou
DWS108	Managing and Mining Complex Networks	3	7.5	HEL Ci	Apostolos Papadopoulos

2nd SEMESTER

Code	Title	Hours	ECTS	Type	Teachers
DWS201	Web Mining	3	7.5	ELC	Athena Vakali
DWS202	Distributed Data Processing	3	7.5	ELC	Anastasios Gounaris
DWS203	Mining from Massive Data Sets	3	7.5	ELC	Anastasios Gounaris Apostolos Papadopoulos
DWS204	Decentralized Technologies	3	7.5	ELC	Athena Vakali
DWS205	Advanced Topics in Machine Learning	3	7.5	ELC	Grigorios Tsoumakas
DWS206	Advanced Topics in Databases	3	7.5	ELC	Eleftherios Tiakas
DWS207	Knowledge Graphs and Ontology Engineering	3	7.5	ELC	Georgios Meditskos

3rd SEMESTER: POSTGRADUATE DIPLOMATIC (MD) THESIS

- For the preparation of a Postgraduate Diploma Thesis, which is written in English, there are special provisions in the internal regulation.

12. COMMUNICATION WITH ALL MEMBERS OF THE SCHOOL OF INFORMATICS

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Study guide	School of Informatics - PP Data and Web Science
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Undergraduate student email list	csd-ugrads@lists.auth.gr
Department alumni email list	csd-grads@lists.auth.gr

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13. ACTING DIRECTORS

period	DIRECTOR & Deputy Director
2018 – 2020	Associate Professor Apostolos Papadopoulos
2020 – 2022	Associate Professor Grigorios Tsoumakas
2022 – 2024	Associate. Professor Anastasios Gounaris