

University of Thessaly – School of Technology

Department of Forestry, Wood Sciences and Design



A5. STUDY GUIDE A.Y. 2022-2023

M.Sc. programme MULTIFUNCTIONAL MANAGEMENT OF NATURAL ECOSYSTEMS
AND BIO-ECONOMY

DEPARTMENT OF FORESTRY WOOD SCIENCES AND DESIGN



ΠΜΣ Πολυλειτουργική
Διαχείριση Δασικών
Οικοσυστημάτων & Βιο-
οικονομία



2023

The gathering of the material and the editing of this Study Guide were carried out under the guidance of the Director of the Postgraduate Program “Multifunctional Management of Natural Ecosystems and Bio-economy (POLYBIO), of the Department of Forestry, Wood Sciences and Design (DFWSD), Prof. Michail Vrachnakis, and the valuable assistance of Assoc. Prof. Marios Trigas.

To a large extent, this Study Guide was based on the contents of the DFWSD’s Undergraduate Study Guide and adapted accordingly.

This Study Guide, for the A.Y. 2022-2023, was approved by Decision no. 78/9.10.2022 (item 7th) of the Assembly of the DFWSD.

Contents

1. GENERAL INFORMATION	6
1.1. The University of Thessaly.....	6
1.2. The city of Karditsa	15
1.3. The campus of the University of Thessaly in Karditsa.....	18
2. THE M.SC. MULTIFUNCTIONAL MANAGEMENT OF NATURAL ECOSYSTEMS AND BIO-ECONOMY.....	19
2.1 Establishment	19
2.2 Physiognomy	19
2.3 Vision	20
2.4 Basic principles	21
2.5 Quality policies	21
2.6 Administration of the M.Sc. POLYBIO	21
2.7 Personnel.....	23
2.8 Facilities	25
2.9 Research Laboratories.....	26
3. INFORMATION FOR STUDENTS	40
3.1 Selection of courses.....	40
3.2 Course attendance	40
3.3 Suspension.....	41
3.4 Supervision	41
3.5 Evaluation.....	41
3.6 Code of Ethics	42
3.7 Plagiarism Prevention Service	42
3.8 Use of IT Services.....	43
3.9 Organization and tools of distance teaching.....	43
3.10 Course Evaluation.....	43
3.11 Library and Information Center.....	44
3.12 Preparatory courses and seminars.....	44
3.13 Erasmus+ mobility	44
3.14 Career prospects.....	45
3.15 Connecting teaching with research.....	45
4 STUDY PROGRAM	47

4.1 Level 7 learning outcomes and credits	47
4.2 Courses	49
4.3 Course contents.....	50
4.4 Thesis	55
4.5 Completion of studies.....	56
5. TUITION FEES AND SCHOLARSHIPS.....	57
ANNEX.....	59
ANALYTICAL CONTENT OF THE COURSES.....	59

Foreword of the Director of the Master's Program "Multifunctional Management of Natural Ecosystems and Bio-economy", Prof. Michail Vrachnakis



Our dearest M.Sc. students,

It is with great pleasure that we present to you the Study Guide of the Master's Program "Multifunctional Management of Natural Ecosystems and Bioeconomy" (M.Sc. POLYBIO) of the Department of Forestry, Wood Sciences & Design (DFWSD) of the School of Technology of the University of Thessaly for the A.Y. 2022-2023.

In the Study Guide you will find useful information regarding your studies in the M.Sc. POLYBIO. It contains information regarding the University of Thessaly (U.Th.), the campus of the University of Thessaly in Karditsa the city itself as well as, the physiognomy, the vision, the principles, the quality policies, the administration, the staff, the facilities and the laboratories where the M.Sc. is taken place. There are also included in particular useful instructions for postgraduate students concerning: course selection, exams, the code of ethics, the use of IT services, the organization and tools of distance teaching, the evaluation of courses, but also support services for individual categories of students, in each stage while following the program.

Particular importance is given to the detailed description of the postgraduate study program, the thesis, the internship, but also the doctoral and post-doctoral studies that one can prepare in the Department. Finally, the operating regulations of the Department are presented.

Our program is perfectly adapted to modern international developments regarding the sustainable development of natural ecosystems. It is based on modern scientific and other developments at European and international level in the field of ecosystem management and economy. The content of the courses offered by the M.Sc. program has as its central axis a new multi-functional approach to the management of natural ecosystems, which reconciles the needs for sustainable primary production, exploitation of the renewable biological resources provided by natural ecosystems with a view to their use in primary, secondary and tertiary production, ensuring biodiversity and environmental protection, while shadowing job creation of and businesses through the use of technology and innovation.

We will gladly welcome you to M.Sc. POLYBIO., so that by working together we can establish a long-term cooperative relationship, both in the professional field and in the field of further research!

*Professor Michail Vrachnakis
Director of the M.Sc. POLYBIO*

1. GENERAL INFORMATION

1.1. The University of Thessaly

The University of Thessaly (U.Th., <https://www.uth.gr/>) was founded in 1984 and received its first students in the A.Y. 1988-1989. With its administrative headquarters in the city of Volos, it has been developed throughout the Region of Thessaly (cities of Volos, Larissa, Karditsa and Trikala), as well as in a part of central Greece (city of Lamia).



Rector's Building – Central Administrative Services of the University of Thessaly in the city of Volos (Papastratos Building)

Today more than 40,000 undergraduate students and approximately 6,000 postgraduate students and doctoral candidates are studying in the U.Th., while approximately 1200 academics and reserachers belong to its teaching and research staff of all categories. Administrative staff consists of 427 members. In addition, the teaching of the courses is supported by a sufficient number of contracted lecturers.

U.Th. is a dynamically developing HEI, which, according to the Shanghai Ranking of World Universities 2019¹, ranks among the top 1000 universities internationally. Its mission is to advance knowledge through teaching and research and to contribute to cultural and economic development at local, national and international levels. To achieve its goals, U.Th. seeks to create a learning environment that promotes critical thinking, innovation, freedom of expression and the cultivation of faith in democratic ideals.

According to MODIP data of the University of Thessaly: "The University of Thessaly is ranked for the 2nd year in a row among the 600-800 best universities worldwide, according to the popular World University Rankings (WUR), published by Times Higher Education (THE) for 2021². The 2021 THE ranking list presents the ranking of the top 1527 universities worldwide and draws data from the 2017-2018 academic year. The Times Higher Education ranking is

¹ <http://www.shanghairanking.com>

² <https://www.timeshighereducation.com/>



one of the most widespread worldwide for providing objective data on the performance of HEIs, but also for its influence on students, academics, and policy makers. The University of Thessaly, according to THE, is ranked 3rd in Greece, after the University of Crete and the Kapodistrian University of Athens."

The U.Th. demonstrates a consistent interest in high-quality scientific research. Considering it as a necessary condition for the production and transmission of new knowledge, it encourages the scientific distinction of research staff in all fields, rewards high individual and collective performance, and cultivates a favorable climate for research and innovative teaching.

Schools

The academic structure of U.Th. includes 8 Schools and 37 Departments which include 71 Postgraduate Programs:

Schools	Departments
1. Engineering	<ol style="list-style-type: none"> 1. Architecture 2. Electrical and Computer Engineering 3. Spatial Planning, Urban Planning and Regional Development 4. Mechanical Engineering 5. Civil Engineering
2. School of Humanities and Social Sciences	<ol style="list-style-type: none"> 1. Pedagogical Department of Primary Education 2. Pedagogical Department of Special Education 3. Pedagogical Department of Early Childhood Education 4. Language and Intercultural Studies 5. History, Archeology and Social Anthropology 6. Culture and Creative Media and Industries
3. Physical Education, Sport Science and Dietetics	<ol style="list-style-type: none"> 1. Department of Nutrition and Dietetics 2. Department of Physical Education and Sport Science
4. Health Sciences	<ol style="list-style-type: none"> 1. Biochemistry and Biotechnology 2. Public and One Health 3. Medicine 4. Veterinary Medicine 5. Nursing 6. Physiotherapy
5. Economics and Business Administration	<ol style="list-style-type: none"> 1. Business Administration 2. Accounting and Finance 3. Economics
6. Technology	<ol style="list-style-type: none"> 1. Forestry, Wood Sciences and Design 2. Environmental Science 3. Energy Systems 4. Digital Systems
6. Agricultural Studies	<ol style="list-style-type: none"> 1. Ichthyology and Aquatic Environment 2. Agriculture, Crop Production and Rural Environment 3. Agrotechnology 4. Animal Science 5. Food Science and Nutrition
7. Sciences	<ol style="list-style-type: none"> 1. Mathematics 2. Informatics and Telecommunications 3. Computer Science and Biomedical Informatics 4. Physics
	<ol style="list-style-type: none"> 1. General Department of Lamia 2. General Department of Larisa

Rectory Authorities

The rector's authorities of U.Th. for the period 2018-2022 are:

Rector:
Professor **Zisis Mamouris**



Vice Rector for Research and Lifelong Education:
Associate Professor **Ioanna Laliotou**



Vice Rector of Finance, Planning and Development:
Professor **Charalambos Billinis**



Vice Rector of Academic Affairs and Student Affairs:
Professor **Ioannis Theodorakis**



Vice Rector for Administrative Affairs:
Professor **Stefanos Paraskevopoulos**



Strategy

The University of Thessaly seeks to preserve and enrich the social good of knowledge, ensuring the right of access of the new generation to it, but at the same time the possibility, as well, for the country to choose a new model of development which will systematically and effectively utilize knowledge for the benefit of society. To support the creative forces and the new generation, to transmit ideas and good practices, to produce new knowledge through research, to create networks and positive examples of the utilization of knowledge in the modern environment, composing a new web that connects it with the needs of the country and public policies.

At the heart In the main focus of the development strategy of U.Th. are included:

- Its evolution into one of the most productive Universities in the country, with an emphasis on the excellent well rounded education of its students, excellence, high-level research and its decisive contribution to the development of local societies.
- Its recognition in the international arena for the production, utilization and dissemination of knowledge, as well as its collaborations with the global scientific community.
- The intensity of efforts towards the expansion and strengthening of its autonomy.
- The completion of the restructuring of its academic and administrative structure, the expansion of research horizons and the quality upgrade of the teaching work, through the addition of the new Departments of the former TEI.
- The strengthening of finances and the completion of the infrastructure for housing all Departments and its services.
- The improvement of the quality indicators of all administrative units of the Foundation and the indicators of its teaching, research and social work.

- The strengthening of the environment of incentives and excellence to attract highly trained scientists and utilize strong research teams.
- The development of motivation strategies for students, teachers and administrative employees.
- Consolidation of stable and decent working conditions for all categories of personnel.

Units (P.E.K. IASON, D.E.K.A., MO.K.E., Mediation)

The Units of the University of Thessaly related to Research and Innovation are organized on the basis of international standards and provide high-level services for the development of the institution's Research Programs and Innovative Applications, the results of which multiply the reputation and competitiveness of the University of Thessaly on the international academic map.

University Research And Innovation Center "IASON" (P.E.K. IASON)

Based on Law 4589/2019, the University Research Center was established in U.Th. with the title University Research And Innovation Center "IASON" (P.E.K. IASON), as an academic unit of the Foundation, based in Volos.

Purposes of the P.E.K. are:

- ✓ Conducting basic and applied research.
- ✓ The utilization of research results for the benefit of Greek society.
- ✓ The contribution to the specialization of young scientists.
- ✓ The provision of services to public and private bodies.
- ✓ Training and practical training.
- ✓ Mediation between the public and private sectors for the development of research units in companies.
- ✓ The promotion of the Greek language and Greek culture abroad.

Institutes of P.E.K.:

- Intelligent production systems and intelligent cities, based in Volos,
- Digital culture and communication and education technologies, based in Volos,
- Rural development, based in Killeler,
- Genetic improvement of animals, based in Karditsa,
- Kinesiology, based in Trikala,
- Systems Security and Data Science, based in Lamia,
- Diagnosis and treatment of cancer, based in Larissa,
- Rehabilitation and wellness, based in Lamia,
- Teaching and teacher training, based in Volos,
- Entrepreneurship and Innovation, based in Larissa,
- Cotton and agricultural education, based in Karditsa,
- Wood - furniture and wooden packaging, based in Karditsa,
- Medicinal and aromatic plants, based in Trikala,
- International Education (I.D.E.), based in Amfissa.

Center Of Research Innovation And Excellence (D.E.K.A.)

The Center Of Research Innovation And Excellence (CRIE) of U.Th. aims to support multi-level academic and research activities, for which the common denominator is innovation and

excellence. The purpose is to recognize and strengthen excellence, to increase the research competitiveness of the Foundation, to aim at the production of innovative products and to promote the provision of services to society and businesses in specialized fields. Center Of Research Innovation And Excellence (CRIE) operates as an independent structure, supervised by the Senate of the University of Athens and applies the internal operating regulations, as published in Official Gazette 4710/t.B'/29-12-2017.

Innovation and Entrepreneurship Unit (MO.K.E.)

The Innovation and Entrepreneurship Unit (MO.K.E.) of U.Th. constitutes the implementation of the project "Supporting Actions to Support Entrepreneurship, Innovation and Maturation for the Exploitation of Research Activity and New Products and Services developed at the University of Thessaly.", and code 7157.01, of the integrated, in the OP - Action entitled - and MIS 5132795 which is co-financed by the European Union ECB and National resources for the period 2014 – 2020. M.O.K.E. of U.Th. it is part of a wider planning for the career and employment of the graduates and the connection of the Foundation with the labor market.

Fundamental goals of MO.K.E. is the development of the entrepreneurial and innovative abilities of the students of U.Th. and their support in taking entrepreneurial action.

To achieve its goals, MO.K.E. implements:

- Teaching courses related to entrepreneurship and innovative activity.
- Ensuring direct contact with the business community, with the help of visits to productive entities and the utilization of established entrepreneurs and / or high-ranking business executives.
- Full use of the possibilities offered by new technologies, with the use of modern management and business planning tools.
- Support in taking entrepreneurial action and implementing business ideas.

Mediation

The mediation of the results of the research carried out at U.Th. supported by the Office of Extraversion of the Research Committee. The mission of the Office is to exploit the results of research through processes that are consistent with the academic principles and code of ethics of the institution.

The U.Th. implements an "open door" policy and seeks cooperation with public and private funding bodies, in order to explore possibilities for the exploitation of research results.

The extroversion of the Foundation is served by the "Guide of Laboratories and Service Units", which is subject to constant renewal covering a wide range of research activities and is thus an important tool for offering technology to businesses.

Businesses interested in cooperating with U.Th. in the context of the exploitation of research results, they cooperate with the competent officers of ELKE in the identification of areas of common interest and are informed about the constantly updated number of research results.

The exploitation of research results is also served by the institutionalized "Regulation on the management of intellectual property rights", which is part of the "Guide to funding and management".

Internationalization

Internationalization for the University of Thessaly means:

Teaching and research staff with international studies and connections. The U.Th. was established in the late 1980s, having the opportunity to attract a critical number of young, dynamic, internationally qualified, multilingual and internationally connected teaching and research staff members. Most Departments were established and operated during the 1990s and early 2000s, a period characterized by economic growth and brain gain, with the repatriation of highly trained academic and research staff from Worldwide. The history of U.Th. to this day, it has shaped an intrinsically internationalized learning and research environment.

Education harmonized in the international environment. The undergraduate and postgraduate programs adhere to international standards and adopt the European Credit Transfer System (ECTS). The study programs are interdisciplinary and designed according to international standards and use multilingual literature and educational materials. The U.Th. as a public university, it is constitutionally obliged to offer undergraduate studies mainly in the Greek language. Starting from 2018-2019, it now offers an increasing number of undergraduate courses in English. These courses are aimed at both incoming international and Greek students.

World-oriented education. The planning and implementation of English-language study programs that will attract foreign students to PTH is a priority of the Foundation. In this direction, summer schools are already organized, as well as international and joint postgraduate study programs, which serve to strengthen the international extroversion of our academic community.

Increasing number of international students. The U.Th. welcomes every year students from all over the world, who visit the University to study within the Erasmus+ international mobility. It has concluded and maintains active more than 350 bilateral student mobility agreements with more than 250 HEIs around the world. The U.Th. currently offers international master's and doctoral study programs in specific areas of specialization. It also organizes and hosts summer schools that attract young people from all over the world. During the academic year 2019-2020, the U.Th. welcomed a record number of incoming students from 20 different countries around the world.

International network of research groups. The research groups of U.Th. participate as partners or coordinators in a number of international research programs. Broadening the network of research activity is at the heart of our research strategy.

Visits of international scholars and researchers. The institution's academic research groups seek to attract talent and young scholars and researchers from the international arena. Visiting professors and fellows are integrated into the teaching and research activities of U.Th., in order to obtain mutual educational benefits.

Strengthening the exposure of the academic community to the international environment. Reciprocity is at the core of U.Th.'s internationalization strategy. The mobility of our students and the academic and administrative staff of the Foundation is encouraged. The U.Th. leverages all available funding tools for the benefit of students and staff to enable them to visit, teach, research and train at HEIs around the world.

Promotion of multilingualism. At U.Th., language proficiency is considered an essential skill for academic development. Through the Foreign Language Center, Greeks and other students are given the opportunity to expand their knowledge of foreign languages. Specially designed Greek language courses are offered to all foreign students while English, French, German, Italian language learning courses are also offered and from the academic year 2020-2021 Asian language courses, for both Greek and foreign students.

Open access. As a public academic institution, U.Th. ensures that all facilities and services offered to national students are also available to international students. An effort is made to provide all available information for students in English and Greek.

Parallel activities. At U.Th., social and cultural activities, as well as participatory practices, are at the core of productive learning and knowledge. International students and professors participate in the learning experience, a stone's throw from cultural heritage monuments and world-famous tourist destinations. In order to strengthen their cultural immersion, students are invited to participate in parallel activities based on the region's rich cultural, sports, environmental resources (theatre, music, sports, outdoor activities, cultural excursions, etc.). Also, foreign students and visitors are actively encouraged to participate in projects of common interest and social initiatives of U.Th. (environmental policy, refugee, volunteering, etc.).

Artistic Groups

Theatrical team

The theater group of U.Th. "Third Floor", gives students the opportunity to get to know the art of theater, to work as a team and to discover their expressive potential through theatrical play and improvisation. The group comes into contact with the art of theater through exercises and games and the participants are encouraged to practice the body, voice, speech as expressive means and tools in this creative experience. The group then chooses a project they wish to work on and begin research on it (usually a children's play at the University Christmas party and one for the general public before the summer). The group works collaboratively and experimentally, guided by a director/theatre teacher, and is encouraged to propose and explore improvisationally the material for the final performance. The final result is presented to the University community, but also outside it (participation in the 14th Serres University Conference, visit and presentation in the prisons of Kassavetia, appearances in theaters in the cities). At the same time, the theater-pedagogical group operates which plans and organizes play visits, often with an educational aim (e.g. recognition and management of emotions - Roma support center) or just for social/entertainment reasons in places such as schools, orphanages, seminars teachers etc.

Cultural Groups

University of Thessaly Music Ensembles

The Musical Ensembles of U.Th. (vocal expression group and instrumental ensembles) are made up of male and female students of the University's Departments. Their goal is to promote the collective musical creation and musical cultivation of students with vocal expression as the main medium. With their artistic activity through the realization of concerts, seminars, music publications, festivals, cultural exchanges, etc., they contribute to the active presence of the University in relation to culture.

yUTH-Radio

In U.Th. operates a web radio called yUTH-Radio. The station has been operating since 2013 and is hosted by the Student Association of the Department of Spatial Engineering, Urban Planning and Regional Development. Students from all Departments and Schools participate in the operation of the station, as well as any academic member of the University who wishes. The broadcasts of the station are mainly aimed at the student community and the wider public, while at the same time, the events and actions of the University are supported and promoted.

Support (Advice, Access & Disability, Harassment-Bullying)

Consulting

The Student Counseling Service of the Laboratory of Psychology and Applications in Education enables students of all Departments of the University of Thessaly, if they wish, to receive psychological support and help for their personal difficulties and concerns, as well as to be trained in acquiring management and problem-solving skills that they may face.

Access and Disability

The goal of the ACCESS service of U.Th. is the recording of the needs of students with disabilities and/or special educational needs (SEN) and their teachers, as well as their information and support. Also, an important mission of ACCESS is the functional intervention in the premises of the U.Th. with the aim of improving their accessibility for SEN individuals.

Taxpayers and lecturers register on the ACCESS electronic platform to express their needs, be informed and/or receive support regarding issues of access to U.Th. Indicatively, SEN individuals can register in ACCESS in order to inform the Service of obstacles to their access, request support during their courses or some variation in their exams.

If the SEN individual wants support, fellow students take on the role of volunteers with the aim of strengthening the access of their fellow students. Specifically, student volunteers, in collaboration with faculty members, can help disabled people move around the University premises, fill out applications, attend classes, convert various files into another format, prepare for exams. Finally, for the deaf students of the University of Athens, interpretation in Greek sign language is provided.

In addition to the SEN individuals, teachers who wish to receive information or support to enhance the access of SEN individuals, can consult the instructions posted on the ACCESS website. Also, if they want personalized information or support, they register online on the ACCESS platform.

To date, 148 students with disabilities and/or special educational needs are enrolled in PROSVASI, studying in all departments of the University of Athens.

University of Thessaly Choir

It was founded in 2015 in Volos, where its headquarters are also located. Students participate in its classes and all departments of the University from Volos, Larissa, Karditsa, Trikala and Lamia are involved in its activities. In 2015 she started her artistic activities, which she continues consistently to this day. The choir's rehearsals take place in the "Skouvvara" hall, on the mezzanine (building 3) of the beach complex of the University of Thessaly.

Harassment – Bullying

At the University of Thessaly no form of direct or indirect discrimination, victimization, intimidation or harassment is tolerated and the principle of equal treatment is guaranteed. The University's policy for dealing with the above issues aims to develop an academic and working environment in which harassment and bullying have no place and where all members of the academic community will be assured that their problem will be dealt with discreetly and responsibly from the Foundation.

More information on all Support Services is presented at: <https://www.uth.gr/zoi/ypostirixi>.

1.2. The city of Karditsa

Karditsa is located in the center of mainland Greece (southwest Thessaly), it is the capital of the Regional Unity of the same name and the seat of the Municipality of Karditsa and the Holy Metropolis of Thessalotidos and Fanariofersalon.

The foundation of the city, according to data from the Ottoman census of the 15th century, is placed in the late Byzantine era. The name "Karditsa" is considered, according to one version, to be a corruption of the Slavic "Gradista", which means "bounded, fortified place", while according to another version the name of the city comes from the word "karydia - karyditsa", which with the Thessalian pronunciation it became "Karditsa".



Pedestrian path Kolokotroni (Karditsa)

Karditsa appears today as a modern city with an area of 9 square kilometers and a population of approximately 45,000 inhabitants. Karditsa is geographically advantageous as it is located approximately in the center of the country (308 km. north of Athens and 210 km. south of Thessaloniki, 30 km. west of Larissa, 111 km. west of Volos, 168 km. southeast of Ioannina. It has a good street plan, nice residential development, sufficient sports grounds and squares, while it is considered one of the Greek cities with a low cost of living. Due to its geographical location, the city is easily accessible from the rest of the country by road and rail Karditsa, having many pedestrian paths, but also a large network of cycle paths (it has been proclaimed the "bicycle city" with 7.3 km of urban and 10.5 km of peri-urban cycle paths), can be characterized as a "human-friendly" city, which is a pan-Hellenic example for the promotion of sustainable mobility and the quality of life of citizens.



Central Square (Karditsa)



Cycle path network of Karditsa

<https://dimoskarditsas.gov.gr/karditsa-poli-tou-podilatou/>



Central market (Karditsa)

The prefecture of Karditsa is characterized by the contrast between the wild beauty of Pindos and Agrafa in its western part and the tranquility of the great Thessalian plain in its east. There are many areas that impress with their beauty, such as Lake Plastira, the new artificial lake of Smokovo, mountainous Argitheia, but also the traditional settlements of the highlands and the plain. Having a pivotal geographical position, the prefecture was a crossroads of peoples and cultures, signs of which are still visible today. Remains of settlements and finds of domestic use that are scattered throughout the area of the prefecture testify to the human presence since ancient times. An outstanding monument of the area is the Byzantine castle in the village of Fanari, while there are many churches and monasteries of unique beauty and historical value, such as the Monastery of Panagia Pelekiti and the Monastery of Koroni in the wider area of Lake Plastira, the Monastery of Spilia in Argitheia and the Monastery of the Dormition of Theotokou in Redina. Prominent religious and historical figures of the region are Saint Seraphim, George Karaiskakis and Nikolaos Plastiras ("Black Horseman").

1.3. The campus of the University of Thessaly in Karditsa

Departments

The city of Karditsa hosts the following four Departments of the University of Thessaly:

- Department of Forestry, Wood Sciences and Design³.
- Department of Public and One Health⁴.
- Department of Food Science and Nutrition⁵.
- Department of Veterinary Medicine⁶.

Facilities

The four Departments of U.Th. which are based in Karditsa, are located in the northwest of the city and their total premises cover an area of approximately 60 acres. The facilities of the three Departments belong to U.Th. while the Department of Food Science and Nutrition is temporarily housed in buildings granted by the Municipality of Karditsa and which have been properly adapted to meet its operational needs. The Department of Public and One Health is temporarily housed in Building A of the Department of Forestry, Wood Sciences and Design. The total area of the building facilities of the four Departments is approximately 16,600 sq.m. and these include laboratory and teaching rooms, auditoriums, libraries, offices of professors, support and administrative staff, as well as student housing and dining areas.

³ www.fwsd.uth.gr

⁴ www.pubhealth.uth.gr

⁵ www.food.uth.gr/

⁶ www.vet.uth.gr

2. THE M.Sc. MULTIFUNCTIONAL MANAGEMENT OF NATURAL ECOSYSTEMS AND BIO-ECONOMY

2.1 Establishment

The M.Sc. was established in accordance with decision No. 15417/20/ΓΠ/05-08-2020 (B' 3685) of the Rector of the University of Thessaly and has been operating successfully since the academic year 2020-2021. It is one of the few postgraduate programs in the country and at the European level and focuses on the multifunctional approach to the management of forest ecosystems, which reconciles the needs for sustainable primary production, utilization of the renewable biological resources of forests with a view to their use in primary, secondary and tertiary production, ensuring biodiversity and environmental protection, while contributing to the creation of jobs and businesses through the use of technology and innovation. The postgraduate program has gained impressions and extensive recognition since its first years of operation.



Building A section FWSD



Building B of the FWSD section

2.2 Physiognomy

The M.Sc. awards a Postgraduate Diploma (M.Sc.) with the title: "*M.Sc. in Multifunctional Management of Natural Ecosystems and Bio-economy*" if the postgraduate student successfully completes all of the prescribed courses program, as well as his thesis. The academic subjects of the Master's Program "*Multifunctional Management of Forest Ecosystems and Bio-economy*" are an upgraded continuation of the academic subjects of the Department of Forestry, Wood Sciences and Planning. Based on the developments and

requirements of the market, but of science in general, the subjects covered by this M.Sc. are those that are internationally recognized and refer to a) Multifunctional Management of Natural Ecosystems, and b) Bio-economy.

The M.Sc. "Multifunctional Management of Natural Ecosystems and Bio-economy" is offered on a full-time basis and the duration of the studies for the awarding of the Graduate Diploma (M.S.) is defined in three (3) academic semesters, which include 10 courses and preparation of a diploma thesis. The 3rd semester is dedicated to the preparation of the postgraduate diploma thesis, which requires its successful support. The minimum duration to complete the program is 1.5 years (3 academic semesters). The total number of credits (ECTS) required to obtain the Postgraduate Diploma is 90 (ninety).

The Study Program "Multifunctional Management of Forest Ecosystems and Bio-economy" has been designed in accordance with the quality assurance procedures provided for in each case.

During their studies, postgraduate students are required to attend postgraduate courses, to participate in all educational and research activities and to prepare a postgraduate thesis.



Building C of the FWSD section



Building C of the FWSD section

2.3 Vision

The M.Sc. " Multifunctional Management of Forest Ecosystems and Bio-economy" aims to create specialized and capable business and service executives, as well as entrepreneurs and researchers in bio-economy matters and the application of its principles in the modern multifunctional management of forest ecosystems and natural of high-value resources that they maintain, such as forests, grasslands, wetlands and game species, in technology,

innovation and entrepreneurship, in the marketing of biological products, in investments aimed at exploiting natural resources, while at the same time emphasizing innovative approaches related to High Added Value wood products, the production of non-wood forest products, such as mushrooms, resin and aromatic plants, urban green management, ecotourism, modern applications of Geographical Information Systems in the utilization and management of natural resources and in biomass energy utilization technologies. In addition, the M.Sc. promotes the knowledge of postgraduate students in the scientific subjects covered by the curriculum and prepares PhD candidates.

2.4 Basic principles

The basic principles that govern the operation of the DFWS and by extension the M.Sc. POLYBIO are:

- Integrity
- Respect
- Cooperation
- Academic freedom
- Extroversion
- Justice
- Innovation
- Excellence
- Offer and connection with society
- Merit
- Impartiality
- Transparency
- Democracy
- Preserving the prestige of the academic status

2.5 Quality policies

The M.Sc. POLYBIO of the DFWS strictly follows and implements the quality policies of the University of Thessaly established by the Institution's Quality Assurance Unit (QAU).

The quality policy "Aims at the systematic improvement of the quality indicators of all units of the Foundation, administrative and academic, at shaping a motivational environment and developing motivation and excellence strategies for students, teachers and administrative employees. This policy is in harmony with its strategic planning, internal and external evaluation reports, the planning and reports of its administrations, and the decisions of the competent bodies. Finally, it goes through processes of continuous renewal and revision with the ultimate aim of improving its services to students, and its contribution to the promotion of science and research in society".

2.6 Administration of the M.Sc. POLYBIO

Competent bodies for the organization and operation of the Postgraduate Studies Programs in accordance with article 81 of Law 4957/2022 are the following:

- a) the Senate of the University of Thessaly
- b) the Assembly of the Department,
- c) the Coordinating Committee (SC), and
- d) the Director of the M.Sc. programme.

The Co-ordination Committee (C.C.) consists of the Director of M.Sc. and four (4) members of the Teaching Staff (D.E.P.) of the Department, who have a related subject to that of the M.Sc.

and undertake teaching work at M.Sc. The members of C.C. determined by decision of the Department Assembly.

The Director of M.Sc. comes from the members of D.E.P. of the Department by priority at the rank of Professor or Associate Professor and is appointed by decision of the Department's Assembly for a two-year term, with the possibility of renewal without limitation.

To the Committee of the Study Programme (C.S.P.) and the C.C. Emeritus Professors of the Department may participate as long as they provide teaching work at M.Sc.

The Director of M.Sc., as well as the members of the C.C. and of the C.S.P. are not entitled to remuneration or any compensation for the performance of the responsibilities assigned to them and related to the performance of their duties.

The responsibilities of the bodies as defined by article 82 of Law 4957/2022 are as follows:

1. The Senate of the University of Thessaly has the following responsibilities:
 - a) approves the establishment of a Master's Program or the amendment of the decision to establish the M.Sc.,
 - b) approves the extension of the duration of the operation of the M.Sc.,
 - c) decides on the abolition of the M.Sc.
2. The Assembly of the Department is responsible for the organization, administration and management of the M.Sc. and especially:
 - a) sets up Committees for the evaluation of the applications of prospective postgraduate students and approves their registration in the M.Sc.,
 - b) assigns the teaching work to the teachers of the M.Sc.,
 - c) recommends to the Senate the amendment of the decision establishing the M.Sc., as well as the extension of the duration of the M.Sc.,
 - d) sets up examination committees for the examination of postgraduate students' theses and designates the supervisor for each work,
 - e) verifies the successful completion of the studies, in order to award the title of M.Sc.,
 - f) approves the report of the M.Sc., following the recommendation of the C.C.

By decision of the Assembly of the Department, the responsibilities of cases a) and d) can be transferred to C.C. of M.Sc.

3. The C.C. is responsible for monitoring and coordinating the operation of the program and in particular:
 - a) prepares the initial annual budget of the M.Sc. and its amendments, since the M.Sc. allocates resources in accordance with article 84, and recommends its approval to the Research Committee of the Special Research Funds Account (ELKE),
 - b) draws up the report of the program and recommends its approval to the Assembly of the Department,
 - c) approves the expenditure of the M.Sc.,
 - d) approves the granting of scholarships, remunerative or non-remunerative, in accordance with what is defined in the founding decision of the M.Sc. and the Postgraduate Studies Regulations,
 - e) recommends to the Assembly of the Department the distribution of teaching work, as well as the assignment of teaching work to the categories of teachers in article 83 of Law 4957/2022
 - f) recommends to the Assembly of the Department the invitation of Visiting Professors to meet the teaching needs of the P M.Sc.,
 - g) draws up a plan for the modification of the study program, which he submits to the Assembly of the Department,
 - h) recommends to the Assembly of the Department the redistribution of courses between academic semesters, as well as the issues related to the quality upgrade of the study program
4. The Director of M.Sc. has the following responsibilities:

- a) presides over the C.C., prepares the agenda and convenes its meetings,
- b) recommends the matters concerning the organization and operation of the M.Sc. to the Assembly of the Department, in the case of a single-departmental M.Sc.,
- c) recommends to the C.C. and the other organs of the M.Sc. and the University, issues related to the effective operation of the M.Sc.,
- d) is Scientific Manager of the program in accordance with article 234 of Law 4957/2022 and exercises the corresponding responsibilities,
- e) monitors the implementation of the decisions of the bodies of the M.Sc. and of the Internal Regulation of master's and doctoral study programs, as well as the monitoring of the implementation of the budget of the M.Sc.,
- f) exercises any other authority, which is defined in the decision establishing the M.Sc. Committees.

For the operation of the M.Sc. the Assembly of the DFWSD of the U.Th. appoints the Graduate Student Selection Committee for a term of one (1) year.

5. The Assembly may set up additional Committees, where it deems necessary. All proposals or decisions of the committees are approved by the Assembly.
6. The work of the Graduate Student Selection Committee consists of the following:
 - Control and evaluation of all submitted supporting documents.
 - Checking the relevance of the degree to the academic subject of the M.Sc.
 - Check the language proficiency (at least B2 level) of the English language.

Final ranking of candidates based on the list of criteria of the M.Sc., and proposal to select candidates at the Department Assembly based on their final ranking.

7. The administrative and other work of the Department is supported by the Secretariat, which is staffed by the following members:

Kyriakis Athanassios, Assoc. Head of Secretariat

Aretos Vasilios, ETP member of the DFWSD of the U.Th.

2.7 Personel

The teaching of the courses in the M.Sc. must be undertaken by teachers who come by sixty percent (60%) at least from members of D.E.P., E.E.P., E.D.I.P. and E.T.E.P., or retired members of D.E.P. of the DFWSD or lecturers according to the p.d. 407/1980 (A' 112) or article 19 of Law 1404/1983 (A' 173) or scientists employed as academic scholars in the relevant Department.

All lecturers must hold a doctoral degree, unless their subject is of exceptional and indisputable specificity for which it is not possible or usual to prepare a doctoral thesis.

With its reasoned decision, the Assembly of the DFWSD, in the event that the teaching staff of the categories mentioned above is insufficient, may assign teaching work to faculty members of other Departments of the same H.E.I. or to invite faculty members of other H.E.I. or researchers from research centers of article 13 A of Law 4310/2014 (A' 258).

In addition, the Assembly of the DFWSD by its decision, taking into account the proposal of the Director of the M.Sc., may invite, as visitors, renowned scientists who have a position or qualifications as a professor or researcher in a research center, artists or scientists of recognized prestige with specialized knowledge or relevant experience in the subject of the M.Sc. from the country or abroad, in accordance with the provisions of par. 5 of article 36 of Law 4485/2017.

In any case, the assignment of teaching the courses, seminars and exercises of the M.Sc. is decided by the Assembly of the DFWSD, after a proposal from the C.C.

The members of the DFWSD are not allowed to be employed exclusively in M.Sc.

The lectures' obligations include:

- following the course schedule,
- the writing of a detailed description of the course with reference to the objectives, the weekly structure of the teaching hours, the proposed bibliography/articles and the requirements of the course (practical exercises, presentations, etc.),
- the posting of the educational material in the e-class from the beginning of each lesson,
- completing the students' attendance register,
- the observance of two office hours per week for meetings with postgraduate students,
- conducting exams and choosing subjects,
- the correction of the written exams and the sending of the score within five (5) days from the date of the exam.

For the technical support of certain courses, it is possible to assign specific work to specialist scientists, after a relevant decision of the Assembly of the DFWSD, after a reasoned proposal from the C.C.

The staff of M.Sc. POLYBIO includes

A) the following members of the RIGHT Department:

a/a	NAME	LEVEL	E-MAIL	TELEPHONE
1	VRACHNAKIS MICHAEL	PROFESSOR	mvrahnak@uth.gr	2441064726
2	BIRTSAS PERIKLIS	PROFESSOR	birtsas@uth.gr	2441064710
3	PAPADOPOULOS IOANNIS	PROFESSOR	papadio@uth.gr	2441064741-732
4	NTALOS GEORGIOS	PROFESSOR	gntalos@uth.gr	2441064747
5	KAZOGLU IOANNIS	ASSOC. PROFESSOR	ykazoglou@uth.gr	2441064706
6	TRIGKAS MARIOS	ASSOC. PROFESSOR	mtrigkas@uth.gr	2441064721
7	SAMARAS DIMITRIOS	ASSIST. PROFESSOR	samaras@uth.gr	2441064719
8	NINIKAS KONSTANTINOS	EDIP	kninikas@uth.gr	2441064737
9	ARETOS VASILEIOS	ETEP – Secretary support	aretos@uth.gr	2441064758
10	KYRIAKIS AYANASIOS	Secretary	akyriakis@uth.gr	2441064730/750

B) the following external partners:

a/a	NAME	LEVEL	E-MAIL	TELEPHONE
1	PAPASPYROPOULOS KONSTANTINOS	EXTERNAL PARTNER, ASSOC. PROF. – D.U.Th.	kodafype@for.auth.gr	
2	CHOUVARDAS DIMITRIOS	EXTERNAL PARTNER, EDIP – A.U.Th.	chouv@uth.gr	
3	KAKOUROS PETROS	EXTERNAL PARTNER	pkakouros@uth.gr	

4	RAGAZOU KONSTANTINA	EXTERNAL PARTNER, ASSOC.PROF. U.W.M.	koragazo@uth.gr	
5	KOUTSIANITIS DIMITRIOS	EXTERNAL PARTNER, ASSIST. PROF., A.U.Ath.	dkoutsianitis@uth.gr	
6	IAKOVGLOU VALASIA	EXTERNAL PARTNER	viakovoglou@uth.gr	
7	KLEFTOGIANNI VASILIKI	EXTERNAL PARTNER	klefto.vicky@gmail.com	
8	STARA KALLIOPI	EXTERNAL PARTNER	kallio21@hotmail.com	
9	BORMPOUDAKIS DIMITRIOS	EXTERNAL PARTNER	bormpd@gmail.com	
10	CHASIOTIS CHRISTOS	EXTERNAL PARTNER	1@etherio.gr	

2.8 Facilities

The DFWS has excellent infrastructure and modern building facilities. Specifically, it is housed in three buildings in which there are: 3 auditoriums, 20 workshop and teaching rooms, 45 offices and auxiliary spaces. The total area of the covered areas is 6,000 sq.m., which are spread over an area of 48 acres.



Auditorium of building C of Department RIGHT



Plan of building facilities of the RIGHT Department

2.9 Research Laboratories

The Department has the following nine (9) research laboratories for research/scientific purposes and to support courses in the study programs (undergraduate, postgraduate), as well as doctoral and postdoctoral research:

1. WOOD SCIENCE & TECHNOLOGY LABORATORY (Government Gazette 4928/B/09-11-2020)



The subjects of the Laboratory include: wood as a raw material in the wood - furniture - construction industry, identification of forestry species in constructions and products, quality control of wood products, chemical composition and structure of wood, wood production - its variability, structural defects, physical-mechanical -chemical properties of wood and its products, physical strength and durability, improvement-modification-protection-maintenance of wood, densification of wood, chemical modification, quality classification in

mechanical strength classes, recycling of wood and its products, new composite products, as well as the wood as an energy source (firewood, pellets, etc.).

The areas of activity of the Laboratory concern:

1. The provision of services to individuals and organizations in accordance with the provisions of PD 159/1984 (Government Gazette 53/ vol.A'/27-04-1984) "Conditions for the provision of services by university laboratories to individuals and organizations of any legal form ».
2. Attracting funded research from national and international resources in scientific fields of activity of the Laboratory or individual fields of specialization of its members.
3. The organization of scientific lectures, workshops, seminars, symposiums, conferences and other scientific events, in particular, the realization of publications and editions and the invitation of Greek and foreign scientists of recognized prestige.
4. Conducting basic and applied research to investigate and assess technological or scientific problems in the field of wood and its products.
5. The development of methodologies and empirical research for the investigation of learning and knowledge acquisition processes in scientific fields of technological and educational applications.
6. The study, formulation and utilization of Quality in Education frameworks.
7. Pedagogical training, promotion of applied research in educational technology and pedagogy.

Director: Prof. Georgios Mantanis (Government Gazette 155/01.03.2021, Y.O.D.D.) - <https://fwsd.uth.gr/teams/mantanis/>

2. **TECHNOLOGY & QUALITY CONTROL LABORATORY OF FURNITURE and WOODWORK** (Government Gazette 4931/B/09-11-2020)



The areas of activity of the Laboratory concern:

1. The provision of a high level of knowledge, the promotion of basic and applied research and the training of students in matters of modern furniture production technology and wooden structural constructions in general.
2. The combination of knowledge, practical skills and the developments that characterize the modern technological environment in the wider industry of wood and wooden constructions, with the principles of ecology, environmental protection, consumer and worker safety, as well as with the national and international specifications and technical requirements concerning the performance and optimal management of wood and furniture industry products.
3. The provision of students with the necessary cognitive and technological "tools", so that they become capable of a career with proficiency in the entire range of work items in the wood and furniture industry.
4. The production of accessible educational material and the design of differentiated educational programs in the above subjects.
5. The development of research and educational programs related to the interests of the Laboratory.
6. Any form of collaboration with the academic staff of the Department of Forestry, Wood Sciences and Design or other Departments of the University of Thessaly as well as with other laboratories, institutes, research centers, environmental centers, museums, cultural centers, academic institutions, OTAs, business entities and associations, private sector enterprises, etc. of the country and abroad, provided that the scientific objectives of each collaboration will be harmonized with those of the Laboratory.
7. The organization of scientific lectures, workshops, seminars, symposia, conferences and other scientific events by inviting scientists and professionals of national and international repute and the realization of publications, competitions and editions in Greece and abroad, on issues related to knowledge objects of the Laboratory.
8. Training public and private sector executives and informing the general public about issues related to the research activities and objectives of the Laboratory.
9. The development of online and physical communities and forums with the participation of students, teachers, but also any interested person who embraces the goals or is interested in the scientific objects of the Laboratory.
10. The provision of services to private individuals and organizations of any legal form in accordance with the provisions of the P.D. 159 (Official Gazette A' 53/27.04.1984). More specifically:
 - Furniture production studies
 - Production of furniture prototypes
 - Wood species identification studies and research, imported European and tropical wood species from various applications
 - Studies on the application of wood products and wooden structures in various uses and technical advice on appropriate application and conditions of use
 - Laboratory measurements on the quality characteristics and properties of wood, wood products and composite and glued wood products. Studies on the optimal application of (new) wood products or composite products in applications of Greek wood and furniture production.
 - Quality control and protection studies in various wooden constructions.
 - Conducting quality checks on raw materials, fasteners, timber materials, constructions or furniture products
 - Technical support in patent application matters.
 - Education and training on furniture production, handling of woodworking machines, finishing, quality control, application of international standards and specifications, application of new products in Greek production, application of the International Phytosanitary Standard ISPM15, etc.

- Development of special technical or educational material such as technical manuals, manuals for the application of European standards, books for students, students of secondary education, technical high schools or other schools.
- Expertise in cases related to the protection, restoration and maintenance of wooden structures, quality control or in general the technology of wood products and furniture.
- Consulting services for submitting studies or proposals in research or investment programs.

Director: Professor Georgios Dalos (Government Gazette 155/01.03.2021, the Y.O.D.D.) - <https://fwsd.uth.gr/teams/ntalos/>

Courses of the postgraduate study program supported by the laboratory:

- Properties and applications of innovative wood products of High Added Value
- Biomass energy utilization technologies

3. PRODUCT DESIGN & INDUSTRIAL PRODUCTION LABORATORY (Government Gazette 5053/B/13.11.2020)

The areas of activity of the Laboratory concern:



1. The provision of a high level of knowledge, the promotion of basic and applied research and the training of students in the academic subjects in which it operates.
2. The combination of knowledge, practical skills and developments that characterize the modern design and production environment and technology, with the principles of sustainability and sustainable development.
3. Providing students with the necessary tools (cognitive and technological) that will allow them to implement practices and procedures in the context of a smart, sustainable and inclusive development in the private and public sectors.
4. The creation of added value throughout the value chain of wood and other forest products businesses, applying new design and production technologies and developing environmentally friendly innovations in existing and emerging markets.

5. Strengthening the employment and professional rehabilitation of the graduates of the DFWS, in the fields of primary production, processing of forest products, industry and businesses of the forest bioeconomy, business consulting, drafting and submitting research and investment proposals for financing, the certification of products and services.
6. The development of research and educational programs related to the interests of the Laboratory.
7. The production of accessible educational material and the design of differentiated educational programs in the above subjects.
8. Any form of collaboration with the academic staff of the DFWS as well as with other laboratories, institutes, research centers, private sector companies, etc. of the country and abroad, provided that the scientific objectives of each collaboration will be harmonized with those of the Laboratory.
9. The organization of scientific lectures, workshops, seminars, symposia, conferences and other scientific events by inviting Greeks and scientists of national and foreign prestige and the realization of publications and editions in Greece and abroad.
10. The development of online and physical communities and forums with the participation of students, teachers, but also any interested person who embraces the objectives of the Laboratory.
11. The provision of services to private individuals and organizations of any legal form in accordance with the provisions of the P.D. 159 (Official Gazette A' 53/27.04.1984).

Director: Professor Ioannis Kechagias (Government Gazette 155/01.03.2021, Y.O.D.D.) - <https://fwsd.uth.gr/teams/kechagias/>

4. LABORATORY OF FOREST ECONOMY, MARKETING, INNOVATION & ENTREPRENEURSHIP (Government Gazette 4931/B/09-11-2020)



The areas of activity of the Laboratory concern:

1. The provision of a high level of knowledge, the promotion of basic and applied research and the training of students in matters of modern forestry and management of the natural environment as well as the businesses of the forest value chain.
2. Conducting economic research and providing effective advisory action to businesses in productive sectors to make the appropriate decisions and support them.

3. The training of business executives in order to acquire a high sense of responsibility and efficiency in the performance of tasks in matters of marketing, communication, planning, organization, management and operation of production units, product costing, computerization, innovation and entrepreneurship.
4. Solving problems and developing business partnerships with other businesses, agencies, educational and research institutions in Greece and abroad that are directly related to the objects of the Laboratory.
5. The development of technological, organizational and marketing innovations in businesses and organizations to strengthen the competitiveness and differentiation of individual productive branches of the market.
6. The research, development and application of scientific principles, techniques and methodologies concerning business activities such as supply, financial and marketing operations, production and product distribution.
7. Business consulting in matters of strategy, organization, administration, marketing, financing and financial management.
8. The preparation of research and studies such as: market research, drafting of marketing plans, economic and technical studies, business plans, technology and innovation management, consumer behavior, production costing, production management and optimization of production systems, financial analyzes of companies and sectors, export activity of companies, strategic business planning, etc.
9. The combination of knowledge, practical skills and developments that characterize the modern business environment and technology, with the principles of sustainability and sustainable development.
10. Providing students with the necessary tools (cognitive and technological) that will allow them to implement practices and procedures in the context of a smart, sustainable and inclusive development in the private and public sector.
11. Optimizing the utilization of forests and the natural environment, and creating added value throughout the supply chain and wood and other forest products businesses, applying new technologies and developing environmentally friendly innovations in existing and emerging markets.
12. The strengthening of employment and the professional rehabilitation of the graduates of the DFWSO, in the sectors of primary production, processing of forest products, businesses in the wood and furniture branches as well as industry and businesses in the bioeconomy of forests, energy production from renewable sources and biomass, tourism, environmental business consulting, investment implementation, program management, writing and submitting research and investment proposals for funding, product and service certification, education and training with environmental content, but also in wider and narrow public sector.
13. The development of research and educational programs related to the interests of the Laboratory.
14. The production of accessible educational material and the design of differentiated educational programs in the above subjects.
15. Any form of collaboration with the academic staff of the DFWSO and other departments of the UTh as well as with other laboratories, institutes, research centers, environmental centers, museums, cultural centers, academic institutions, OTAs, business entities and associations, private sector enterprises, etc. of the country and abroad, provided that the scientific objectives of each collaboration will be harmonized with those of the Laboratory.
16. The organization of scientific lectures, workshops, seminars, symposia, conferences and other scientific events with the invitation of Greeks and scientists of national and foreign prestige and the realization of publications and editions in Greece and abroad.

17. Training public and private sector executives and informing the general public about issues related to the research activities and objectives of the Laboratory.
18. The development of online and physical communities and forums with the participation of students, teachers, but also any interested person who embraces the objectives of the Laboratory. The provision of services to private individuals and organizations of any legal form in accordance with the provisions of the P.D. 159 (Official Gazette A' 53/27.04.1984).

Director: Professor Ioannis Papadopoulos (Government Gazette 155/01.03.2021, Y.O.D.D.) - <https://fwsd.uth.gr/teams/papadopoulos/>

Courses of the M.Sc. POLYBIO supported by the laboratory:

- Bio-economy and forest ecosystems
- Investments and natural resources
- Research methodology – Quantitative ecological methods
- Technology, innovation and entrepreneurship in the value chain of forest ecosystems
- Marketing of bioproducts

5. **LABORATORY OF APPLIED INFORMATION & DIGITAL TECHNOLOGIES (Government Gazette No. 596/T.B'/11-02-2021)**



The areas of activity of the Laboratory of Applied Informatics and Digital Technologies concern:

1. The provision of a high level of knowledge, the promotion of basic and applied research, and the training of students and executives of companies and organizations in Applied Informatics and Digital Technologies regarding the entire value chain of forests and with an emphasis on the knowledge subjects covered by the workshop.

2. The carrying out of economic and technical research and the provision of effective advisory action to enterprises in productive sectors for the taking of appropriate decisions and their support.
3. The training of business executives in order to acquire a high sense of responsibility and efficiency in matters of Applied Information Technology and Digital Technologies such as digital maturity, digital transformation, intelligent product design, organization, management and operation of production units, transition to Industrial Revolution 4.0, and digital innovation and entrepreneurship.
4. Solving problems and developing partnerships with companies, institutions, educational and research institutions in Greece and abroad that are directly related to the objects of the Laboratory.
5. The development of technological, organizational and methodological innovations based on applications of Information Technology and Digital Technologies in companies and organizations to strengthen the competitiveness and differentiation of individual productive branches of the market.
6. The research, development and application of scientific principles, techniques and methodologies concerning IT applications and new Digital technologies in the business processes of companies and organizations such as supply, financial and marketing functions, communication with customers, and production and product availability.
7. Consulting businesses and preparing relevant research and studies in matters of strategy, organization, administration, production, financing and financial management using IT and Digital Technologies applications.
8. The combination of knowledge, practical skills and developments that characterize the modern business environment and IT technologies, with the principles of sustainability and sustainable development.
9. Providing students with the necessary tools (cognitive and technological) that will allow them to implement practices and processes of digital transformation and Industry 4.0 in the context of a smart, sustainable and inclusive development in the private and public sector.
10. Optimizing the utilization of forests and the natural environment, and creating added value throughout the supply chain, applying new Digital Technologies and IT Application solutions, and developing environmentally friendly innovations in existing and emerging markets.
11. The development of digital skills and methods of digital transformation and Industry 4.0 with the aim of strengthening the employment and professional rehabilitation of the graduates of the DFWS, in the sectors of primary production, processing of forest products, industry and wood-furniture businesses, energy production from renewable sources and biomass, tourism, environmental business consulting, investment implementation, program management, writing and submitting research and investment proposals for funding, product and service certification, education and training with environmental content, but also in the wider and narrow public sector.
12. The development of research and educational programs related to the interests of the Laboratory.

13. The production of accessible educational material and the design of differentiated educational programs in the above subjects.

14. Any form of collaboration with the academic staff of the DFWSO or other Departments of the U.Th. as well as with other laboratories, institutes, research centers, environmental centers, museums, cultural centers, academic institutions, OTAs, business entities and associations, private sector enterprises, etc. of the country and abroad, provided that the scientific objectives of each collaboration will be harmonized with those of the Laboratory.

15. The organization of scientific lectures, workshops, seminars, symposia, conferences and other scientific events with the invitation of Greeks and scientists of national and foreign prestige and the realization of publications and editions in Greece and abroad.

16. Training public and private sector executives and informing the general public about issues related to the research activities and objectives of the Laboratory.

17. The development of online and physical communities and forums with the participation of students, teachers, but also any interested person who embraces the objectives of the Laboratory.

18. The provision of services to private individuals and organizations of any legal form in accordance with the provisions of the P.D. 159 (Official Gazette A' 53/27.04.1984). Indicative services are:

- i. Assessment of the digital maturity of businesses and organizations and proposals for steps and actions for digital transformation,
- ii. Designing an integrated digital strategy of businesses and organizations using digital channels with the aim of optimizing the digital footprint, increasing the customer experience through digital interaction, and promoting products using digital technology,
- iii. Elaboration of online surveys of potential or active customers and qualitative and quantitative data analysis with the aim of optimizing digital transformation and digital innovation,
- iv. Optimization of tools and processes of businesses and organizations with methodologies such as Design Sprints, Customer Journeys and User Testing,
- v. Training businesses and organizations to cultivate a digital culture that will promote customer centricity, innovation, collaboration and shared understanding at all levels and their functions,
- vi. Training businesses and organizations on digital skills with the aim of developing the digital and technological knowledge required for a successful digital transformation,
- vii. Optimization of forest management planning,
- viii. Calculation of forest fire risk indicators,
- ix. Evaluation and preparation of forest management proposals,
- x. Optimization of timber cutting methods,

- xi. Development and optimization of mathematical algorithms for ecological modeling and simulation,
- xii. Image classification and Remote Sensing data analysis,
- xiii. Analysis of Requirements and Design of Information Systems of companies and organizations,
- xiv. Development of innovative software systems and digital technologies to meet the needs of businesses and organizations.

Director: Professor Antonios Karageorgos (Government Gazette 312/20.02.2021, Y.O.D.D.) - <https://fwsd.uth.gr/teams/karageorgos/>

6. LABORATORY OF GRAZING AND MANAGEMENT OF PROTECTED AREAS (Government Gazette No. 4993/T.B'/12.11.2020)



The areas of activity of the Laboratory concern:

1. The theoretical and practical training of undergraduates, postgraduates and PhD candidates in the scientific fields of the management and monitoring of meadows and natural protected areas with an emphasis on the application of ecological management principles.
2. The promotion of the multidisciplinary of applications in the rational management of natural areas (pastures, but also protected), differentiated teaching and accessible educational material with other objects of natural area management and highlighting the functional relationships between them.
3. The design, development and evaluation of differentiated educational programs and accessible educational materials that fall within the research interests of the members of the Laboratory.
4. The development of research and training programs related to the interests of the Laboratory with the aim of training different groups of trainees.
5. The production of accessible educational material and the design of differentiated educational programs that may concern formal and non-formal educational contexts.

6. Any form of cooperation with the academic staff of the Department of Forestry, Wood Sciences and Design or other Departments of the University of Thessaly as well as with other laboratories, institutes, research centers, environmental centers, academic institutions of the country and abroad, provided that the scientific goals of each collaboration will be harmonized with those of the Laboratory.

7. The organization of scientific lectures, workshops, seminars, symposia, conferences and other scientific events by inviting Greeks and scientists of known prestige from abroad and the realization of publications and editions in Greece and abroad.

8. The lifelong education and training of university graduates related to the management of natural areas (indicatively foresters, rangers, biologists, public and private sector ecologists) and informing the general public about issues related to research activities and objectives of the Laboratory.

9. The development of online and physical communities and forums with the participation of students, teachers, but also any interested person who embraces the objectives of the Laboratory.

10. The provision of services to private individuals and organizations of any legal form in accordance with the provisions of the P.D. 159 (Government Gazette A' 53/27.04.1984) (Conditions for the provision of services by University laboratories to individuals and organizations of any legal form).

Director: Associate Professor Ioannis Kazoglou (Government Gazette 155/01.03.2021, Y.O.D.D.) - <https://fwsd.uth.gr/teams/kazoglou/>

Courses of the postgraduate study program supported by the laboratory:

- Modern approaches to forest management
- Values, functions and management of wetlands
- Research methodology – Quantitative ecological methods
- Modern approaches to grassland management – Agroforestry
- Modern approaches to ecotourism
- Advanced applications of Geographical Information Systems in the management of forest ecosystems

7. WILDLIFE MANAGEMENT LABORATORY (Government Gazette No. 4928/T.B'/09-11-2020))

The areas of activity of the Laboratory concern:

1. The theoretical and practical training of undergraduates, postgraduates and PhD candidates in the scientific fields of Biology and Management of wild fauna species (mammals, birds, reptiles, amphibians, etc.) as well as the management of their habitats and the human activities that are related to them and affect them directly or indirectly.

2. The promotion of the multidisciplinary of applications in the rational management of wild fauna and natural (forest, rural, wetland, meadow, island, coastal and wetland areas) and artificial (water catchments, urban greenery, quarries, mines, urban and peri-urban environments etc.) a.) habitats, differentiated teaching and accessible educational material with other objects of management of natural areas and highlighting the functional relationships between them.
3. The design, development and evaluation of differentiated educational programs and accessible educational materials that fall within the research interests of the members of the Laboratory.
4. The development of research and educational programs related to the interests of the Laboratory.
5. The production of accessible educational material and the design of differentiated educational programs that may concern formal and non-formal educational contexts.
6. Any form of cooperation with the academic staff of the Department of Forestry, Wood Sciences and Design or other Departments of the University of Thessaly as well as with other laboratories, institutes, research centers, environmental centers, academic institutions of the country and abroad, provided that the scientific goals of each collaboration will be harmonized with those of the Laboratory.
7. The organization of scientific lectures, workshops, seminars, symposia, conferences and other scientific events by inviting Greeks and scientists of known prestige from abroad and the realization of publications and editions in Greece and abroad.
8. The lifelong education and training of university graduates related to the management of natural areas (indicatively foresters, forest rangers, biologists, ecologists) and informing the general public about issues related to the research activities and objectives of the Laboratory.
9. The development of online and physical communities and forums with the participation of students, teachers, but also any interested person who embraces the objectives of the Laboratory.
10. The provision of services to private individuals and organizations of any legal form in accordance with the provisions of the P.D. 159 (Government Gazette A' 53/27.04.1984) (Conditions for the provision of services by University laboratories to individuals and organizations of any legal form).

Director: Professor Periclis Birtsas (Government Gazette 155/01.03.2021, Y.O.D.D.) - <https://fwsd.uth.gr/teams/mprintsas/>

Courses of the postgraduate study program supported by the laboratory:

- Management of hunting and game species

8. FOREST BOTANY & FORESTRY LABORATORY



The mission of the Laboratory is to cover the educational needs of the DFWSD at undergraduate and postgraduate level, to conduct basic and applied cutting-edge research and to provide consulting services to individual agencies and businesses, in the public and private sectors, in the following scientific fields:

- Plant biology - Forest botany
- Vegetation Science (Forest Phytosociology, Forest Vegetation Ecology) Phytogeography
- Ecology of forest and other terrestrial ecosystems
- Forestry - Forest Nurseries - Reforestation
- Urban forestry
- Climate change and forests
- Biodiversity of forest ecosystems
- Non-timber forest products

The fields of activity of the laboratory concern:

1. The provision of a high level of knowledge, the promotion of basic and applied research and the training of students in matters of modern forestry and management of the natural environment.
2. Providing students with the necessary tools (cognitive and technological) that will allow them to implement practices and procedures in the context of a smart, sustainable and inclusive development, in both the private and public sectors.
3. The preparation of botanical and forestry researches and the provision of effective advisory action to forestry services, forestry cooperatives, protected area management bodies, environmental organizations, OTAs and private companies.
4. Solving problems and developing collaborations with other agencies, educational and research institutions in Greece and abroad that are directly related to the objects of the Laboratory.
5. The optimization of the utilization of forests and the natural environment and the creation of added value in the primary production sector, applying the principles of sustainable and multifunctional management.

6. Strengthening the employment and professional rehabilitation of the graduates of the DFWSD, in the fields of primary production, tourism, environmental business consulting, program management, writing and submitting research proposals for funding, education and training with environmental content, but also in the wider and narrow public sector.
7. The development of research and educational programs related to the interests of the Laboratory.
8. The production of accessible educational material and the planning of differentiated educational programs in the above subjects.
9. Any form of collaboration with the academic staff of the Department of Forestry, Wood Sciences and Design or other Departments of the University of Thessaly as well as with other laboratories, institutes, research centers, environmental centers, museums, cultural centers, academic institutions, OTAs, business entities and associations, private sector enterprises, etc. of the country and abroad, provided that the scientific objectives of each collaboration will be harmonized with those of the Laboratory.
10. The organization of scientific lectures, workshops, seminars, symposia, conferences and other scientific events with the invitation of Greeks and scientists of national and foreign prestige and the realization of publications and editions in Greece and abroad.
11. Training public and private sector executives and informing the general public about issues related to the research activities and objectives of the Laboratory.
12. The development of online and physical communities and forums with the participation of students, teachers, but also any interested person who embraces the objectives of the Laboratory.
13. The provision of services to private individuals and organizations of any legal form in accordance with the provisions of the P.D. 159 (Official Gazette A' 53/27.04.1984).

Director: Assistant Professor Dimitrios Samaras (Government Gazette 312/20.02.2021, Y.O.D.D.) - <https://fwsd.uth.gr/teams/samaras/>

Courses of the postgraduate study program supported by the laboratory:

- Management of ecosystems for the production of Non-Wood Forest Products (mushrooms, resin, aromatics)
- Urban green management

9. LABORATORY OF FORESTRY AND FORESTRY PROJECTS (Government Gazette No. 4928/T.B'/09-11-2020)

The areas of activity of the Laboratory concern:

1. The theoretical and practical training of undergraduate and postgraduate students in the scientific fields of road and forestry infrastructure management, as well as their harmonization with the environment.
2. The promotion of the interdisciplinarity of the applications of holistic design, construction management and its methods.
3. The design, development and evaluation of intelligent systems for the management and operation of road and forestry infrastructures, which fall within the research interests of the members of the Laboratory.
4. The development of research and educational programs related to the interests of the Laboratory.
5. The production of accessible educational material and the design of differentiated educational programs that may concern formal and non-formal educational contexts.
6. Any form of cooperation with the academic staff of the Department of Forestry, Wood Sciences and Design or other Departments of the University of Thessaly as well as with

- other laboratories, institutes, research centers, environmental centers, museums, cultural centers, academic institutions of the country and abroad, provided that the scientific objectives of each collaboration will be harmonized with those of the Laboratory.
7. The organization of scientific lectures, workshops, seminars, symposia, conferences and other scientific events by inviting Greeks and scientists of known prestige from abroad and the realization of publications and editions in Greece and abroad.
 8. The training of General, Special and Technical/Vocational Education teachers and informing the public about issues related to the research activities and objectives of the Laboratory.
 9. The development of online and physical communities and forums with the participation of students, teachers, but also any interested person who embraces the objectives of the Laboratory.
 10. The provision of services to private individuals and organizations of any legal form in accordance with the provisions of the P.D. 159 (Official Gazette A' 53/27.04.1984).

Director: Assistant Professor Grigorios Papageorgiou (Government Gazette 155/01.03.2021, Y.O.D.D.) - <https://fwsd.uth.gr/teams/papageorgiou/>

3. INFORMATION FOR STUDENTS

3.1 Selection of courses

During their studies, postgraduate students are required to attend postgraduate courses, participate in all educational and research activities and prepare a postgraduate thesis.

The Study Program is completed by attending 90 credits (ECTS) of which 60 ECTS from the courses and 30 ECTS for the preparation of the research diploma thesis, in accordance with what is defined in par. 5 of article 33 of Law 4485/ 2017. Each course corresponds to six (6) credits (ECTS) and each student is required to attend a total of ten (10) courses (5 in each of the first 2 semesters).

In the 2nd semester of each specialization, postgraduate students are required to register in addition to the three (3) compulsory courses and two (2) of the seven (7) compulsory optional courses to complete the required credits.

The student can complete an equivalent number of credit units (ECTS) of courses and prepare his research diploma work in partner institutions through the Erasmus+ program.

Each semester of study lasts 13 full weeks and corresponds to a workload of 30 credits (ECTS), which are divided between the taught courses and the thesis.

The declaration of attendance courses is mandatory for each semester. Violation of the registration deadline is equivalent to losing the possibility to attend the current semester. In this case, for the continuation of studies, a decision of the Department Assembly is required, following a proposal from the SE.

3.2 Course attendance

Each cycle (duration) of the M.Sc. leading to a postgraduate specialization diploma (MDE) is three (3) semesters for full study, of which the last semester is available for the preparation of the diploma thesis.

Course attendance is mandatory. The upper limit of permitted absences for each course is set at 30%.

It is possible to delete a student from the M.Sc., without the return of tuition fees, by decision of the department assembly following a relevant proposal of the Coordinating Committee, in the cases of non-compliance with the following obligations:

- The regular attendance of the courses at a rate of at least 70% of the lectures held in each semester.
 - To submit the required assignments for each course within the prescribed deadlines.
 - To attend the exams.
 - To pay the fees on the dates set by the M.Sc. secretariat.
 - To respect and abide by the decisions of the Department's bodies as well as academic ethics.
- In exceptional cases, a study extension of up to one year may be granted, following a reasoned decision of the Department's Assembly.

It is only possible in exceptional cases to grant an extension of studies up to one year, following a reasoned decision of the Department Assembly.

3.3 Suspension

Postgraduate students may be granted, upon submission of a relevant application, a temporary suspension of studies, which cannot exceed two (2) consecutive semesters. During the suspension, the graduate student loses his student status. The time of the suspension is not counted towards the maximum duration of regular studies.

3.4 Supervision

For each graduate student, one faculty member is appointed by the C.C. as an advisor and one as a supervisor. The advisor is responsible for monitoring and controlling the general progress of the graduate student's studies. The supervisor has the scientific responsibility for the preparation of the Master's Diplomatic Thesis and is appointed by the SE at the request of the candidate, in which the proposed title of the diploma thesis, the proposed supervisor and the summary of the proposed thesis are indicated. Researchers from recognized research institutions, who hold a PhD, or other faculty members may be appointed co-supervisors of the graduate student.

For the examination of the Master's Thesis, a three-member committee is set up by the C.C. of the M.Sc., in which the supervisor and at least two (2) other faculty members or researchers of grades A', B' and C', who hold a Doctorate Degree, participate. The members of the committee must have the same or related scientific specialty as the subject of the Program. The number of theses that each faculty member can supervise should not exceed 15% of the total number of postgraduate students in each cycle and of course less than five (5) theses in the area of the courses taught or in related subjects.

3.5 Evaluation

The evaluation and grading in each course is the exclusive responsibility of the teacher, it is done in complete independence from the other courses and it is done after the objective assessment of the performance of the student in the specific course (assignments, exams, etc.). The evaluation criteria are clearly defined and stated in the information sheet of each course.

The evaluation of the students' performance is done by the teacher taking into account the grade in the course assignments assigned to them by each teacher in a percentage of 40-50% of the total score and the mandatory final exam in the remaining percentage (60-50%). The rating scale for evaluating the performance of postgraduate students is defined from zero (0) to ten (10), as follows:

- Excellent (8.5 to 10) - Very Good (6.5 to 8.5 not included)
- Good (6 to 6.5 not included).

A grade that can be promoted is six (6) and higher.

In the event that a student fails a course, he may be re-examined in that course in the re-examination period in September. The student's maximum number of revisions in a course is up to three (3) times. If he fails to obtain a passable grade in the three examination periods, he has one more opportunity to examine it, following his application by a three-member committee of Faculty members of the University of Athens, who have the same or a related field of study as the course under examination and are appointed by the assembly of department. The person in charge of the teacher examination is excluded from the committee.

3.6 Code of Ethics

In U.Th. a Code of Ethics is in force, so that all members of the academic community, lecturers, researchers, students and administrative staff, join in the application of the basic principles of ethics and conduct. Adherence to the principles of the Code contributes on the one hand to the personal improvement of everyone, on the other hand to highlighting the quality and raising the prestige of the University.

According to Law 4521/2018 article 23, funded research projects, diploma theses and doctorates which, according to the statement of the scientific supervisor, include research on humans, on material derived from humans, such as genetic material, cells, tissues and personal data, in animals or in the environment, natural and cultural, must be submitted for approval to the E.H.D.E. and the project cannot start to be implemented in HEI or the research organization if it does not previously receive the relevant approval of the Research Ethics and Ethics Committee. The same applies to research in the social sciences, with observance of the rules of confidentiality, protection of personal data and respect for individual

Violation of the provisions of the Code of Ethics constitutes a serious disciplinary offence, entailing the imposition of sanctions.

Detailed information on Ethics issues is presented at:

<https://www.uth.gr/panepistimio/thesmika/themata-deontologias>.

3.7 Plagiarism Prevention Service

The copyright of Master's Thesis or patent or commercial exploitation rights of the works are determined by relevant decisions of the Ethics Committee of the University of Athens.

Any type of plagiarism in coursework, publications or the writing of Master's Theses, fabrication of research data and unscientific behavior in general is prohibited. The Ethics Committee is responsible for informing the students of M.SC. and imposing penalties, where necessary. Detailed instructions on the subject will be issued by the University's Ethics Committee.

No graduate thesis is submitted for support unless it is first checked by the institution's central library's online plagiarism prevention service.

The University of Thessaly, through the Library and Information Center, has secured access to the online plagiarism prevention service (Turnitin), which enables lecturers to check the originality of students' papers and theses.

3.8 Use of IT Services

The IT Department of the University of Thessaly, utilizing Information and Communication Technologies (ICT), supports a range of services so that the members of the academic community have at their disposal modern systems and tools to carry out their work more fully.

The services offered are included in 12 major categories: User Account, E-Mail, File Exchange-Storage, Telephony, Software, e-PO Services, Management Applications, Website Hosting, Tele-training-Teleconferences, Internet Access-Security, Infrastructure Services, Help Desk.

Detailed information is presented at: <https://it.uth.gr>.

3.9 Organization and tools of distance teaching

A key element of student-centered learning design is live presence and distance learning. Thus, in accordance with the provisions of paragraph 3 of article 30 of Law 4485/2017, it is possible to teach courses through distance education at a rate of 35%. It favors learning and takes into account the work and family needs of our graduate students.

The eClass e-learning platform (<https://eclass.uth.gr>), is the unified Electronic Course Management System of the University of Thessaly, is oriented towards enhancing the educational process and is supported by the Library and Information Center in collaboration with the IT Department.

Its main objective is the integration of new technologies into the educational process, through the electronic organization, storage and presentation of educational material in a digital format, directly accessible from the internet, user management and the creation of user groups for collaborative learning, modern and the asynchronous communication (teleconference, chat, forum, messages) of instructors-students.

Another communication platform used in U.Th. for the conduct of distance courses, it is Microsoft Teams. Details on the connection and use of this platform are presented at: <https://it.uth.gr/content/ex-apostaseos-mathimata>.

3.10 Course Evaluation

The M.Sc. fully implements the evaluation provisions of Law 4485/17, as follows:

At the end of each semester, an anonymous electronic evaluation of each course and each teacher is carried out by the postgraduate students.

Under the responsibility of the M.Sc. Director who manages the evaluation system, special code numbers are distributed to postgraduate students in the 8th - 10th week of classes for each semester of study based on which the electronic evaluation of each course is done.

No teacher receives the result of the evaluation before the end of the lessons, the execution of the exams and the delivery of the score, with the sole responsibility of the Director of the M.Sc. The system then sends the result of the evaluation to each teacher electronically, and the average of all courses is displayed for comparison.

At the end of the term of the Coordinating Committee under the responsibility of the outgoing Director, a detailed report is prepared of the research and educational work of the M.Sc., as well as its other activities, with the aim of upgrading the studies, the better utilization of

human resources, the optimization of existing infrastructures and the socially beneficial use of available M.Sc. resources. The report is submitted to the Assembly of the DFWSD.

3.11 Library and Information Center

Η Βιβλιοθήκη και Κέντρο Πληροφόρησης (Β.Κ.Π.) του Π.Θ. λειτουργεί ως ενιαία μονάδα

The Library and Information Center (B.K.P.) of U.Th. operates as a single unit of academic services and consists of the Central Library in Volos with Branches at School level or groups of Schools in the cities of Volos, Larissa, Trikala, Karditsa and Lamia, which are administratively subordinate to the Central Library and form a single this whole, both in terms of human resources, as well as in terms of development policy and the management of financial resources.

Mission of the B.K.P. is the strengthening and support of the educational and research activities of the Foundation, its contribution to the recovery, management, provision and dissemination of specialized information to the wider national and international community and its substantial participation in various activities for education and culture.

B.K.P. offers its services to all members of the University's academic community, as well as to interested members of the external public, provided it has the necessary financial and human resources.

Detailed information on the structure, operation and all current services (on-site and electronic) of B.K.P., are provided through its website:

http://www.lib.uth.gr/LWS/el/el_hp.asp.

3.12 Preparatory courses and seminars

In the event that it is deemed necessary by the students and teachers, before the start of the program, the M.Sc. offers preparatory courses in certain subjects in order to cover gaps and contribute to the homogeneity as much as possible of the cognitive background of the student participants. There is also the possibility of participating in scientific lectures of the DFWSD as well as in educational visits to companies, as well as internal and external institutions.

3.13 Erasmus+ mobility

Erasmus+ is a program of the European Commission for education, training, youth and sport, which aims to strengthen skills and employability, as well as to modernize education, training and youth systems, in all sectors of the Lifelong Learning (Higher Education, Vocational Education and Training, Adult Education, youth activities, etc.). The Erasmus+ program is structured in 3 Key Actions for education, training and youth.

The Action of the Erasmus+ program in the field of Higher Education is inextricably linked to the Erasmus program and grants the mobility of students (and staff) in Higher Education Institutions in Countries participating in the Program.

The mobility of students abroad is considered particularly important, because the benefits that the commuters get are many. Through mobility, students have the opportunity to develop new skills and qualifications, which contribute to their personal development. In particular, they are given the opportunity to improve their language skills, develop intercultural skills, develop into citizens of Europe while, in addition, those who travel for internships can gain valuable work experience in companies/organizations abroad.

The student can complete an equivalent number of credit units (ECTS) of courses and prepare his research diploma work in partner institutions through the Erasmus+ program. A prerequisite is the relevance of the courses to the subject of this M.Sc.

Detailed information about the Program is presented at:

<https://www.uth.gr/diethni/erasmus>.

3.14 Career prospects

Professional prospects that a M.Sc. graduate can have are:

- The creation of specialized and competent executives of organizations, businesses and services, as well as entrepreneurs and researchers in subjects: conducting applied research for the modern multifunctional management of forest ecosystems and the development of the bioeconomy in the entire value chain of forests up to the final consumer.
- The strengthening of ties and the transfer of know-how from the M.Sc. to the real economy, since several of the participants are either executives of agencies and organizations, or entrepreneurs themselves and freelancers, or work as executives in respective companies.
- The professional rehabilitation of the graduates, if possible of all postgraduate students of the program both in Greek, Cypriot and international companies and operators of all the branches of the value chain of forests, but also the provision of ideas and good practices for the creation of new of innovative value-added ventures.
- The best possible combination of knowledge, practical skills and developments that characterize the modern and sustainable economic development model and technology, based on new business ecosystems, models, environmental policies and strategies, etc. such as green, social and sustainable entrepreneurship and development, the circular bioeconomy, the smart specialization of the application of new requirements in specifications, as well as the requirements of the consumer public and all those involved with forests.
- The development of synergies and collaborations of postgraduate students with Universities abroad through Erasmus programs.
- Encouraging the development of open innovation type cooperation models with the co-development of new forest bioeconomy products and services, their production and their introduction to the international market.
- Encouraging the development of research activity by preparing graduates for doctoral studies, enabling them to focus on a wide range of research topics.

3.15 Connecting teaching with research

At M.Sc., teaching and research are connected as follows:

- It is the natural continuation of the undergraduate studies since in each field that has already been taught, the students deepen their knowledge with new models of forest management, new techniques, new products of the forest bioeconomy, and knowledge on new application tools.
- Enables graduate students and faculty to participate in research programs and projects that are already being implemented, or have been included in submitted research proposals, but also those that will follow in the future in the DFWSD.
- All these are research papers with original topics that are also posted on the M.Sc. website
- It provides opportunities for the development of both basic and applied research as due to the content and structure of the proposed program a strong interface with the private and public sector and in particular with the industry and businesses of forest bioeconomy products as well as the Forestry Service is envisaged.

- The content and teachers of the taught courses will be updated at regular intervals according to the most recent developments in the field of research regarding the taught subjects.
- At regular intervals, special lectures, technical presentations and other events will be held at the Department's facilities, regarding the new developments in the knowledge subjects and the applications of the program's subject matter at the national and international level. In this way, a tradition that already exists and is respected in the undergraduate program will be further upgraded.
- Part of the tuition fees, in accordance with what is defined in Law 4485/2017, will be available for purely research purposes, both in the Department of Forestry, Wood Sciences & Design, and in other Departments and Laboratories of the University of Thessaly.
- A significant percentage of the assignments given during the courses have an experimental / research part.
- The use of the modern laboratories of the DFWSO is greatly utilized by postgraduate students.
- Postgraduate students are given the opportunity to take part in international and national conferences and competitions, presenting their research work, thus encouraging their participation in research activity.
- Products of the teachers' research are discussed during the courses and are a springboard for discussion and initiation of new research opportunities in which postgraduate students are invited to participate.
- By organizing and carrying out educational visits to companies and institutions in Greece and abroad, the possibility of professional rehabilitation of postgraduate students increases.
- The research activity of the DFWSO is interconnected with its educational mission. There is a direct connection between the M.Sc. and research in specific scientific fields through the involvement of students in the research programs implemented in the Department. Also, all the research projects, which have been developed or are in progress, cover scientific subjects, which are absolutely related to the subjects that the Faculty members of the Department treat and teach in this M.Sc. and are included in its Curriculum. The Department supports the continuous adaptation of the content of the taught courses based on the new scientific developments in the fields it treats and the active interconnection of its students with the research labor market.

4 STUDY PROGRAM

The language of part or all of the courses as well as the preparation of the diploma thesis is Greek, but it can also be another official language of the European Union.

4.1 Level 7 learning outcomes and credits

Knowledge

Highly specialized knowledge and full understanding of the fundamental principles, research and scientific methodologies, concepts, processes and decision-making tools in phenomena and problems related to their field of knowledge, and concern the entire forest value chain, from management to final use of the products and ecosystem services they provide. This knowledge concerns the integrated sustainable management, exploitation, protection, exploitation and development of forests and forest lands in general, the strengthening of their multifunctional role and the economic valuation of their ecosystem services with the simultaneous protection of biodiversity, the protection, exploitation and maintaining the balance of the natural environment, the economics of forest production and forest farms, the industries of production, processing and utilization of forest products and the production of energy from forest biomass and the forest bioeconomy in general.

Skills

Specialized problem-solving skills, which are required in research and/or innovation in order to develop new knowledge and processes and integrate knowledge from different fields in the field of multifunctional forest management and bioeconomy and circular economy. They acquire skills for developing staff plans for administrative organization and financial management of state and private structures for the management and utilization of forest and other terrestrial natural resources, drawing up forestry plans and plans for the exploitation, protection, utilization and development of forests and forest lands in general, drawing up and implementing plans of overall ecosystem management of forests, and action plans for the protection, utilization and maintenance of the balance of the natural environment, development of business plans for the utilization of forest products, drawing up plans for tourism or other utilization. Furthermore, the graduates of the program can evaluate the ecosystem services and the overall economic value of forests and forest ecosystems, prepare studies concerning the contribution of forests to combating and mitigating climate change, evaluate investments in the natural environment, seek finance, plan strategy, marketing of forest products, formulate forest, environmental and development policy, design and successfully implement development projects, programs and policies for the sustainable development of mountainous and rural areas, as well as business consulting skills. In addition, they possess skills in drafting and implementing circular economy and bioeconomy plans.

Abilities

With the knowledge they receive, M.Sc. graduates are able to staff and manage state and private structures for the management and utilization of forest and other terrestrial natural resources, to sustainably manage and draw up plans for the exploitation, protection, utilization and development of forests and forest lands in general, to draw up studies, determine the actions and the institutional framework for the protection, utilization and maintenance of the balance of the natural environment, acquiring skills in management and transformation in modern work environments that require innovative and flexible processes adapted to the modern developments of the forestry branches sustainable – ecosystem management of forests and bioeconomy and circular economy.

Credit units

During their studies, postgraduate students are required to attend postgraduate courses, participate in all educational and research activities and prepare a postgraduate thesis.

The Study Program is completed by attending 90 credits (ECTS), of which 60 ECTS in specialized courses and 30 ECTS for the preparation of the research diploma thesis, in accordance with what is defined in art. 33, par. 5 of Law 4485/4-8-2017. Each course corresponds to six (6) credits (ECTS) and each student is required to attend a total of ten (10) courses (five in each of the first 2 semesters).

The student can complete an equivalent number of credit units (ECTS) of courses and prepare his research diploma work in partner institutions through the Erasmus+ program. A prerequisite is the relevance of the courses to the subject of this M.Sc.

Each semester of study lasts 13 full weeks and corresponds to a workload of 30 credits (ECTS), which are divided between the taught courses and the thesis.

In the 3rd semester of studies, the student is required to prepare a thesis corresponding to thirty (30) ECTS credits.

Classes will be held on Friday (afternoon) and Saturday (morning) every week, unless decided otherwise by a relevant decision of the Department Assembly. The duration of the teaching hour is set at 45 minutes with a 15 minute break. Each one-semester course (13 two-hour lectures) will be conducted with live lecture attendance.

According to the provisions of article 88, of Law 4957/2022, it is possible to use modern distance education methods to carry out part of the teaching of the courses and it will be specialized each time in the call for expressions of interest.

Course attendance is mandatory. For all courses, the physical presence of postgraduate students is required for at least 70% of the lectures held in each semester. Absences greater than 30% in a course result in the student failing the specific course. In this case, the student repeats the attendance of the course.

If deemed necessary, before the start of the program, the M.Sc. offers preparatory courses in certain subjects in order to cover gaps and contribute to the homogeneity of the background of the students participating in the program.

There will also be the possibility to participate in scientific lectures of the Department as well as in educational visits to companies, other domestic and foreign institutions.

The courses are supported with the <https://eclass.uth.gr/> platform of the U.Th., as well as the provided educational material.

Teaching and exams at M.Sc. are in the Greek language, unless otherwise specified, while the bibliography and articles cover Greek and international sources. In special cases, such as an invitation from a foreign university teacher, the teaching can be done in English.

The start of the courses in each semester usually takes place on the 1st week of October (for the 1st semester courses) and the 3rd week of February (for the 2nd semester courses). Immediately after the 13th week of classes, the examination period follows which lasts two (2) weeks. Exams are usually held on Friday afternoons and Saturday mornings, for the benefit of working graduate students, unless it is decided otherwise after the approval of the program by the Department's Assembly, following the recommendation of the Director of the M.Sc.

The M.Sc. Coordinating Committee, after a relevant proposal from the Director of the M.Sc., approves the academic calendar which includes all the dates related to both the conduct of courses and exams, as well as the support of the diploma theses and the oaths of the M.Sc.

In total, the proposed M.Sc. includes sixteen (16) courses and ten (10) courses are required to obtain the degree, of which eight (8) are Compulsory and two (2) Elective.

4.2 Courses

The detailed program of courses per semester is structured as follows:

DETAILED STUDY PROGRAM

First Semester

a/a	Code	Type (C/OM)*	Course	Hours	Credits (ECTS)
1	MB111	C	Bio-economy and forest ecosystems	2	6
2	MB112	C	Contemporary approaches in forest management	2	6
3	MB113	C	Investments and natural resources	2	6
4	MB114	C	Values, functions and management of wetlands	2	6
5	MB115	C	Research methodology – Quantitative ecological methods	2	6
Σύνολο					30

* C: Compulsory - O: Optional – OM: Optional Mandatory

Second Semester

a/a	Code	Type (C/OM)*	Course	Hours	Credits (ECTS)
1	MB121	C	Technology, innovation and entrepreneurship in the value chain of forest ecosystems	2	6
2	MB122	C	Contemporary approaches in rangeland management – Agroforestry	2	6
3	MB123	C	Management of game species and game activity	2	6
4		OM	Elective Course Mandatory*	2	6
5		OM	Elective Course Mandatory*	2	6
Σύνολο					30

* C: Compulsory - O: Optional – OM: Optional Mandatory

Optional Mandatory (selection 2 from 8)

a/a	Code	Course	Hours	Credits (ECTS)
1	MB124	Advanced applications of Geographic Information Systems in forest ecosystem management	2	6
2	MB125	Management of ecosystems for the production of Non-Wood Forest products (mushrooms, resin, aromatics)	2	6
3	MB126	Urban green management	2	6
4	MB127	Contemporary approaches to ecotourism	2	6
5	MB128	Properties and applications of innovative wood products with high added value	2	6
6	MB129	Biomass energy utilization technologies	2	6
7	MB130	Marketing of bioproducts	2	6
8	MB131	Cultural Ecology	2	6

Bachelor's thesis

Third Semester

a/a	Code	Course	Credits (ECTS)
1	2001	Diploma Thesis	30

4.3 Course contents

Detailed course outlines can be found in the Appendix of this Study Guide. Here the basic content of the M.Sc. POLYBIO courses is presented.

MB111 Bioeconomy and Forest Ecosystems

The teaching content (2 hours/week) of the course includes the modules: Introduction to natural resources and the bioeconomy, Bioeconomy and sustainability, Renewable natural resources – the forest as a renewable natural resource, Basic concepts (natural resources: biotic, abiotic), Discrimination of natural resources (potential, real, stock), Forest ecosystems (industrial forests, non-industrial forests), Social and economic multiple importance of forest ecosystems, Natural resources and value: from value chains to value loops, The bioeconomy as a source of economic development, Bioeconomy product development processes, Bioeconomy adoption processes by companies and organizations in the forest industry, Bioeconomy and sustainable development – connection to the circular economy, Markets, sustainability management and entrepreneurship, The transition to a sustainable bioeconomy, Policy and strategy for the bioeconomy in Europe.

MB112 Modern approaches to forest management

The teaching content (2 hours/week) of the course includes the modules: International treaties, EU law and policies. and the national policies and legislation that govern the forest sector and the specific elements that affect the planning and implementation of forest management, The most specific international and national legal framework and policies related to adaptation to climate change and the directions of harmonization with them, The more specific international and national legal framework and policies that promote the strengthening of the resilience of forests and forest landscapes to climate change in combination with the promotion of the utilization of wood in traditional and new uses, The European and national legal framework and policies that promote the conservation of biodiversity in forests and the directions for the integration of relevant measures in the planning and implementation of forest management, The conceptual framework of ecosystem services, combined with the multifunctional management of forests in forest management and ways of integrating them into planning of forest management and the implementation of related management measures, European and national water resources management framework and its integration into the planning and implementation of forest management, Organization of forest management, definition of decision-making processes, participatory planning and organization of communication in level of implemented planning internally to the planning and managing organization, to the forest community and to the general public, Planning directions for the management of forest ecosystems for the production of non-timber forest products and related management measures, Modern methods of inventorying and monitoring forest resources.

MB113. Investments and natural resources

The teaching content (2 hours/week) of the course includes the sections: The definition and objective of financial management, Financial statements and cash flows, Methods of evaluating investment proposals (with an emphasis on investments related to natural resources), The risk of an investment project, Making capital investment decisions, Cash management, cash management models, Inventory management, Financial leverage analysis, Leasing, Business receivables agencies.

MB114. Values, functions and management of wetlands

The teaching content (2 hours/week) of the course includes the sections: Role of soils, vegetation and water as the main components of wetlands, Categories and types

of wetlands, wetland types of habitats (classification based on phytosociological characteristics, which is in line with the standards of the Habitats Directive 92/43/EEC for the Natura 2000 network), Wetland values and their relationship to local economies and other human activities (including how wetlands can contribute to the development of ecotourism activities), Wetland functions and ecosystem services (valuation of functions and services in monetary terms), Wetlands and Protected Areas (and why most wetlands are protected), Legislation for large and small (<80 sq.) wetlands, Users of wetlands (humans, wild birds, fish (fishable, endemic, etc.), amphibians, reptiles, invertebrates) and traditional activities (natural fish farms, salt pans, etc.), Assessment, mapping and scientific monitoring of wetlands, Identification of threats (existing) and pressures (anticipated/future) on wetlands and problems that these cause, Wetland management methods (primarily water and vegetation management, and secondarily, soils, but also visitor management etc.), Wetland management planning at catchment level taking into account (a) the natural processes of the remaining elements of the natural ecosystems and (b) human activities and infrastructures, Preparation of a wetland management plan (as an autonomous unit or as part of a wider area), Preparation of a wetland monitoring plan (monitoring methods, monitoring implementers, preparation of an annual report, management evaluation, proposals for revision of the management), Artificial wetlands (feasibility, scale, constraints, options for implementation), Transboundary wetlands (management, policy issues, examples from the Balkans, Europe, other continents).

MB115. Research methodology - Quantitative ecological methods

The teaching content (2 hours/week) of the course includes the sections:

Course objective and research process in general, Research philosophies and approaches, Critical literature review, Research design, Research ethics, Research design, Sample selection, Primary data collection, Secondary data collection, Writing and using questionnaire, Data processing using of statistical programs, Analysis of qualitative and quantitative data, Sampling of populations, Ecological diversity, Relationship between species in space, Similarity of biocommunities, Writing and presentation of a research project report.

MB121. Technology, innovation and entrepreneurship in the forestry value chain ecosystems

The teaching content (2 hours/week) of the course includes the sections:

Introduction to entrepreneurship and the management of innovation and technology, The relationship of competitiveness, entrepreneurship and innovation in the context of the bioeconomy – The challenge, the abundance of opportunities and the related entrepreneurial culture in the EU, Entrepreneurship motivation – The resources of the new entrepreneur, Business models. Development of a business plan for new ventures, The creation of business ventures and the achievement of a competitive advantage – The particularities of ventures in the context of the bioeconomy, Business and strategic management of innovation and technology in the bioeconomy, Types of innovation (technological, non-technological), models, capabilities and opportunities in the industry, Specific forms of innovation: the phenomenon of open innovation, business model innovation, etc., Sources and patterns of innovation, cooperation and networking strategies for innovation – forms of intellectual property protection, Technology choices and technology management in the process of transition to bioeconomy model, Special topics of entrepreneurship and innovation through empirical studies.

MB122. Modern approaches to rangeland management - Agroforestry

The teaching content (2 hours/week) of the course includes the sections:

Grassland types and basic management principles, Ecological role of grazing in terrestrial and wetland ecosystems, Economic importance of grasslands, Inventory and mapping of

grasslands, Key concepts: grazing capacity, grazing load, grazing capacity coefficients, grazing capacity / grazing load balance, rangeland condition indicators, normal rangeland use, sustainable management, rangeland health and carrying capacity, rangeland users, rangeland threats and pressures, Determinants of rangeland management in practice: livestock, vegetation types, topography, elevation, products produced and local grazing practices, infrastructure to serve of livestock, animal breeds, Drafting of rangeland management studies: structure, field data collection, cooperation with breeder organizations, social characteristics of breeders, users of rangelands and pastures, fundamental management issues, aiming at sustainability and improving the economic results of livestock holdings, proposals for the spatial and temporal organization of livestock, proposals for the improvement of pastures and the optimal cooperation of plant and animal production in the area under study, Scientific monitoring of grassland ecosystems (special reference to grassland types of habitats in protected areas), Recent developments in the national legislation on grasslands and grazing lands, Examples of particularly extensive grassland ecosystems from different regions of the world, Artificial grasslands (meadows) and agroforestry systems, Methodology for the inventory, classification and assessment of agroforestry systems, Structure and production characteristics of agroforestry systems, Disposition of agricultural of land for agroforestry systems or for pure tree crops? Environmental and cultural values of agroforestry systems, Traditional agroforestry systems and their adaptation to modern approaches of science and market demands, Management of traditional and establishment of modern agroforestry systems – Important tree species for modern agroforestry systems, Rangeland management and agroforestry agricultural land management practices aimed at more efficient operation of livestock farms and plant production farms with the aim of expanding their produced products, Sustainable management of pastures and Agropastoral as means to promote pro-environmental practices in the primary sector and contribute to the objectives of the new Common Agricultural Policy of the European Union.

MB123. Management of game species and game

The teaching content (2 hours/week) of the course includes the sections:

Elements of ecology of the main game species (wild boar, hare, mountain and lowland partridge, pheasant, quail, species of duck, snipe, woodpecker, pheasant, etc.), Analysis of the specificities of hunting activity with an emphasis on ecological, cultural, social, its economic and environmental values, Analysis of the rules and legislation governing the hunting activity, In-depth study of the methods for estimating the populations of game species and mapping the existing state of habitats, Planning, implementation and implementation of management measures in order to maintain, increase or decrease species populations, Methods of rearing and releasing game species, Sustainable management of wildlife refuges and controlled hunting areas to protect wildlife species while maintaining adequate populations of game species, maximizing harvesting and maintaining ecological balance, Analysis and design of sustainable game harvesting systems species, Breeding and release systems of game species so that populations are strengthened and resettled where and when the factors that led to their degradation or disappearance are eliminated, Analysis of the human dimension of hunting activity and its effects on modern societies, etc.

MB124. Advanced applications of Geographical Information Systems in the management of forest ecosystems

The teaching content (2 hours/week) of the course includes the sections:

Operation of Geographical Information Systems (GIS) and their contribution to the management of forest ecosystems, Available software and use of the popular GoogleEarth program, Management of GIS databases, Application of GIS in the management and

identification of suitable sites for forest recreation and ecotourism activities, Application of GIS in the management of forest, grassland and wetland ecosystems. Included are complex analyzes of landscape changes over time and analysis of the causes/consequences of these changes, Application of GIS in wildlife management (permanent, migratory, small or large range species), Application of GIS as a management, protection and utilization decision-making tool of forest ecosystems and the natural resources associated with them.

MB125. Management of ecosystems for the production of Non-Wood Forest Products (mushrooms, resin, aromatics)

The teaching content (2 hours/week) of the course includes the sections:

Detailed description of (major) non-wood forest products, Brief description of other non-wood forest products (NWFPs), Aromatic/Medicinal plants, Essential oils, production, utilization, creation of super-multiple value products, Relation of Multipurpose Forestry to NWFPs, Correlation of green consumerism in developed countries with NWFPs, Benefits for the non-forest population of the use and production of NWFPs, Development of crops, post-harvest, crafts and industries for the processing and sale of NWFPs, Cultivation of aromatic and medicinal plants, Drug drying techniques, Distillation and extraction of essential oils, Collection, preservation and packaging of fresh and dried fruits, Writing a feasibility study for NWFP, Visiting industries processing non-timber forest products.

MB126. Urban green management

The teaching content (2 hours/week) of the course includes the sections:

The specific ecological conditions of cities and their effect on the planning and management of urban greenery, Functions of urban greenery, The conceptual framework of green infrastructure and the possibilities of the contribution of various forms of urban greenery to its creation, The concept of the mixed zone of urban and forest covers and their special management needs to prevent the spread of forest fires from the peri-urban area and for their contribution to mitigating extreme conditions in the centers of settlements and cities, The institutional framework for planning, installation and management of urban greenery in the public and private space, The role of urban green in and around settlements within rural landscapes in maintaining biodiversity in the rural landscape. Conservation policies and incentives, Methods of favoring and preventing wildlife species in urban greenery, Strategies and methods of adapting urban greenery to climate change to maintain the provision of its services, Methods of collaboration with local communities and all stakeholders in planning and the implementation of urban green management, Modern methods of inventory, monitoring and supervision of urban green.

MB127. Modern approaches to ecotourism

The teaching content (2 hours/week) of the course includes the sections:

Separation of ecotourism and forest recreation from other forms of tourism (conceptual approach, basic definitions, legislation), Basic information on protected areas, their management agencies, sustainable utilization, values and functions of the natural environment for recreation, and the concept of environmental interpretation, Recognition of the particular characteristics of an area for the organization of ecotourism activities (landscapes, flora, fauna, vegetation, geology, special formations, history, infrastructure, accessibility, etc.), Categories of ecotourism activities and infrastructure and specifications for the selection of suitable places for their installation – Basic technical works and constructions,

Identification of the potential of an area for its ecotourism exploitation – Comparative advantages and limitations – Relevant research methodologies, Carrying capacity – Elaboration of an ecotourism exploitation plan, Identification and monitoring system of its effects and impacts tourism and ecotourism in the local community, economy and the natural environment, Basic principles of ethics in ecotourism and forest recreation, as well as related business management, Designing ecotourism packages based on international experience, Basic rules for sightseeing, safety and hygiene, and safeguarding of protected objects, Basic knowledge of reading and understanding maps, orientation and use of positioning devices (GPS), Typical examples of ecotourism activities in areas of Greece and the rest of the world.

MB128. Properties and applications of innovative wood products of High Added Value

The teaching content (2 hours/week) of the course includes the sections:

Update on the course - introduction to new requirements and new materials, Solid wood and its properties after chemical-thermal treatment, Surfaces with low density using honeycomb, CLT (CROSS LAMINATE TIMBER), Beams reinforced with carbon fibers, DENTROLIGHT, Reinforcement of surfaces for greater resistance to humidity and UV radiation, Applications of titanium and zinc oxides, Nanomaterials - nanotechnology, Wood and energy, New wood materials with high energy efficiency, Technology for the production of energy wood products, Application examples of all materials.

MB129. Biomass energy utilization technologies

The teaching content (2 hours/week) of the course includes the sections:

Teaching the basic concepts regarding biomass and the categories in which it is distinguished, Description of all types of biomass (solid waste, biogas, ethanol, etc.), emphasizing wood and agricultural residues, Reporting the advantages and disadvantages of using of biomass for each product separately., Reference of the bio-energy products and by-products that are currently used for energy production in various ways, Presentation of the primary and secondary products of biomass, Detailed presentation of the ways of biomass management in global, European and Greek level with case studies that have been implemented and with a comparison of their sustainability, Detailed reporting of the cost-production relationship per period in relation to the quantity per geographical area, Presentation of the different methods of exploitation of biomass (combustion, gasification, pyrolysis, cogeneration of electricity and heat, etc.) with examples of application, Analysis of all methods of collection and storage, without burdening the environment and without simultaneously degrading the biomass, Careful analysis of thermal utilization technologies both by burning them in automatic stoves or water heating boilers for domestic use, but also moving bottom or fluidized bed combustion technologies for maximum combustion efficiency of low-grade biomass, Detailed transfer of pellet production technologies and briquettes that can bring profit to the investor for the utilization of biomass.

MB130. Marketing of biological products

The teaching content (2 hours/week) of the course includes the sections:

Function and objective of modern marketing for bio-products, Conducting market research of bio-products companies (necessity, market research process, questionnaires), Development of new bio-products - Their life cycle, Market segmentation - Identification of the target market, Distribution channels and factors affecting them, Integrated strategic communication, Business brand development, corporate image and culture, principles and values, Pricing of bioproducts, Design and implementation of business marketing strategies, Preparation of an effective marketing plan.

MB131. Cultural Ecology

The teaching content (2 hours/week) of the course includes the sections: History, definitions and theories about Nature and the nature-culture relationship, The main stations in the history of meanings about nature and the basic ideas about Nature as they are formed in different time periods, cultures and religions, Ethnobiology: Introduction to science and research methods with empirical examples from the field of ethnobotany and issues of conservation, preservation of local knowledge and rights of local societies for the use of their natural resources in the modern context and globalization, Bio-cultural diversity, linguistic ecologies and popular natural classification systems of the world, Anthropogenic biodiversity as a result of the adaptation of organisms to the long-term presence of man on earth, Cultivated plants and domesticated animals in Mediterranean ecosystems - Adaptations to human management, Human-animal relationship past and present, The history of the interaction of natural environment and culture on the large scale of landscapes, The concept of cultural landscapes, their main types, their characteristics and the perspectives of their institutional protection, Sacred forests and ancient trees and their importance for the preservation of nature and biodiversity as well as local cultures, Local nature and natural resource conservation systems on a small scale: The example of Sacred Natural Sites, Conservation Theories - The history of national parks worldwide and in Greece, such as Yellowstone National Park (HPA) and Samaria National Forest, Basic principles of political ecology, with an emphasis on biodiversity conservation and forest areas, Urban greening, biodiversity and environmental inequality: the case of Athens, Conflicts and exclusions of local communities from protected areas, Contemporary participatory conservation practices, Contemporary theories and practices for conservation: The theory of "rewilding" nature; the "half-earth" proposal; convivial conservation.

4.4 Thesis

In the 3rd semester, each student prepares a thesis that is clearly of a research nature, on a topic related to one of the Program's courses, which he publicly defends before a three-member examination committee (1 supervisor and 2 faculty members) appointed by the assembly of the DFWS, after a relevant proposal by the Director of the M.Sc.

Each faculty member or the teacher based on the p.d. 407/1980 informs the Secretariat in writing in the 8th week of the 2nd semester of the subjects of the diploma theses he proposes. These topics in the 10th week of the courses of the same semester, will be communicated to the students. In a period of three (3) weeks, students should choose one of the available thesis topics or, in collaboration with the supervising professor, propose an alternative topic. At the end of the courses and exams of the 2nd semester courses, the students together with the supervising professor should inform in writing and submit the relevant subject request form to the M.Sc. Secretariat for the selected subject.

The C.C. after the candidate has submitted the application form for undertaking the subject of the candidate's diploma thesis, provided for by the Quality Assurance System of the University (indicate the proposed title of the postgraduate thesis, the proposed supervisor, summary, etc.), designates its supervisor and sets up a 3-member Examination Committee for the approval of the work, one member of which is the supervisor. The final approval of the assignment of the subject of the thesis, as well as the 3-Member Examining Committee, is made by the assembly of the Forestry, Wood Sciences and Design department. The members of the 3-member Examining Committee must have the same or related scientific specialty as the subject of the M.Sc.

The presentation of the Master's Thesis is supported publicly, before the 3-Member Examining Committee on a date and place set by the department's meeting, following a recommendation by the Director of the M.Sc. Following its approval by the Committee, it is compulsorily posted

on the website of the Institutional Repository of the University of Thessaly <http://ir.lib.uth.gr> and the M.Sc.

In exceptional cases, if there is an objective weakness or an important reason (illness, absence abroad, etc.), it is possible to replace the supervisor or a member of the 3-Member Examining Committee after a decision of the Director of the M.Sc. and the approval of the C.C.

The procedure for submitting the thesis for examination is as follows: After taking up the topic of the thesis and in a period of at least one academic semester, having had a constructive cooperation between the postgraduate student and the supervising professor of the thesis, when the supervising professor judges that the thesis has been completed, gives his consent for the postgraduate student to submit it for judgment and evaluation. The graduate student communicates with the members of the advisory committee, who may request any clarifications or corrections. After the completion of the above procedure, the postgraduate student submits to the M.Sc. Secretariat his thesis in paper and/or electronic form. The supervising professor and the postgraduate student fill in and jointly sign the "INTRODUCTORY REPORT ON COMPLETION OF GRADUATE/DIPLOMATIC THESIS AND SUBMISSION FOR EXAMINATION" form of the University of Thessaly provided by the Quality Assurance System. The thesis together with the above form should be delivered to the M.Sc. Secretariat at least ten (10) days before the presentation date.

The examination and grading of theses is done by the members of the three-member examination committee, after the oral presentation and support of the subject by the postgraduate student, by completing the relevant form "GRADING OF DIPLOMATIC THESIS", where the following are evaluated:

- the essential specifications at a rate of 60%,
- the standard specifications at a rate of 20% and
- the oral presentation at a rate of 20% of the total score.

Each examiner signs the relevant form. The final grade of the thesis results from the average score of all three examiners.

The above relevant form in the original form is delivered under the responsibility of the supervising professor directly to the M.Sc. Secretariat. In the event that the student did not receive a passable grade in the oral presentation of the thesis, he may be called once more for this examination in a subsequent period, upon his application. If he fails a second time, the student, with his application, requests a new topic in the same area in order to be examined in the next period of diploma theses examinations.

After the successful support and incorporation of any corrections, the candidate submits two (2) bound copies for the M.Sc. Secretariat and the Library. The *Diploma Thesis Drafting Guide* for the way of writing and its structure is posted on the website of the M.Sc., where the length, the font, the way of writing, the number of copies of the postgraduate diploma thesis to be submitted and anything else related to its structure as well as its correction schedule.

For the successful completion of the obligations of the student leading to the receipt of the Graduate Diploma, he must have received a passable grade in ten (10) courses and in his thesis. The grade of the Master's Degree (MD) results from the weighted average of the MDS courses and the Master's Thesis (the weighting is done by the credit units of the courses and the MD) and is calculated, with an accuracy of two decimal places, with the following method: The grade of each course and the Master's Thesis (where provided), is multiplied by the corresponding number of credits (ECTS) and the sum of the products is divided by the minimum number of credits required to receive the BMI which is 90.

4.5 Completion of studies

A student is considered to be a holder of the Postgraduate Diploma from the moment he has fully completed his obligations. In order to take part in the recognition ceremony, the student must have:

- Successfully complete the study cycle, as provided by the Study Program.
- To have handed over the academic identity card.
- To have no pending issues with the Library.
- To have settled the financial outstandings.

The registration for postgraduate students is carried out by the Rector's Authorities, in the presence of the Director of the M.Sc. and the Head of the Department. The graduation ceremony is defined by a decision of the Rector's Council.

Master's Degree in Specialization

M.Sc. awards a Master's Degree (M.Sc.) with the title: "M.Sc. in Multifunctional Management of Natural Ecosystems and Bio-economy".

Conditions for obtaining a Master's Degree.

To obtain a Postgraduate Diploma, 90 ECTS credits are required, which are obtained after:

- Successful attendance and examination in ten (10) courses (60 ECST) and each course corresponds to six (6) credits (ECTS)
- Elaboration and successful examination of original Thesis (30 ECTS) in accordance with what is defined in art. 33, par. 5 of Law 4485/4-8-2017.

Certificates

The format of the Master's Degree, and the swearing-in ceremony, are defined in the institution's regulations. For the form of the Diploma Supplement, the decision of the Rector's Council of its 224th /17-10-2008 meeting and the provisions of the YA apply. Φ5/89656/B3/13-8-2007.

M.Sc. website

The official website of M.SC. (<https://M.Sc.-forest.fwsd.uth.gr/>) is constantly updated and contains all the information and announcements of the Program and is the official information space for students.

Institutional repository

The approved Master's theses, after the possible corrections proposed by the examination committees, are submitted by the candidate Master's students to the library in two copies, one (1) bound paper and one (1) copy in electronic form. The Secretariat of the department does not complete the stages of the performance of the corresponding academic title, if it does not previously receive from the candidates, a certificate of submission of the master's or doctoral thesis from the Library of the institution. Under the responsibility of the central library of the University of Athens, all these works are published in the institutional repository of the University <http://ir.lib.uth.gr/handle/11615/1>.

5. TUITION FEES AND SCHOLARSHIPS

The M.Sc. is self-financed and its main source of funding is the tuition fees of postgraduate students which amount to €2800 per postgraduate student for the whole of each study cycle and may be modified by a relevant decision of the Department Assembly.

Tuition is non-refundable after the start of classes for each AE. The delay in payment of the amount of the tuition installment beyond thirty (30) days creates an obstacle for the participation of the students in the exams.

According to par. 2 of article 35 of Law 4485/2017, it is possible to be exempt from tuition fees, M.SC. students, at a rate that does not exceed 30% of the total number of students admitted to M.SC. "whose individual income, as long as they have the same income, and the

family disposable equivalent income do not independently exceed one hundred percent (100%) and the family seventy percent (70%) of the national median disposable equivalent income, according to the most recently published figures of the Hellenic Statistical Authority (EL.STAT.).

This exemption is granted for participation in a single M.Sc. The application for exemption from tuition fees is submitted by the interested party to the Coordinating Committee (C.C.) of the M.Sc. after the completion of the selection process of the students at the M.Sc., which recommends the relevant approval to the Assembly of the DFWS

It is planned to grant excellence scholarships to postgraduate students as follows:

One (1) scholarship to the student who completes the highest grade in the 5 courses of the 1st semester, which is equivalent to a one (1) semester tuition fee waiver, worth €1400.

One (1) scholarship to the student who completes the highest grade in the 5 courses of the 2nd semester, which is equivalent to an exemption from the tuition fees of one (1) semester, i.e. a value of €1400.

A scholarship is not granted if the graduate student is already receiving a scholarship from another source.

It is possible to grant excellence scholarships to students who will receive the highest scores in all ten (10) courses of the M.Sc., which are equivalent to the exemption of tuition fees or part thereof, which may be offered by companies related to the subject of the M.Sc., as long as they be accepted by the M.Sc. C.C. or the Assembly of the DFWS.

Scholarships are not granted to students who have been admitted to the M.Sc. without the obligation to pay tuition fees.

ANNEX

ANALYTICAL CONTENT OF THE COURSES

Please refer to:

https://msc-forest.fwsd.uth.gr/wp-content/uploads/2024/05/%CE%A0%CE%95%CE%A1%CE%99%CE%93%CE%A1%CE%91%CE%9C%CE%9C%CE%91%CE%A4%CE%91-%CE%9C%CE%91%CE%98%CE%97%CE%9C%CE%91%CE%A4%CE%A9%CE%9D-%CE%A0%CE%9C%CE%A3-%CE%A0%CE%9F%CE%9B%CE%A5%CE%92%CE%99%CE%9F_compressed.pdf