



ΕΛΛΗΝΙΚΗ ΔΗΜΟΚΡΑΤΙΑ  
HELLENIC REPUBLIC



Εθνική Αρχή  
Ανώτατης Εκπαίδευσης  
Hellenic Authority  
for Higher Education

Αριστέιδου 1 & Ευριπίδου 2 • 10559 Αθήνα | 1 Aristidou str. & 2 Evripidou str. • 10559 Athens, Greece  
T. +30 210 9220 944 • E. secretariat@ethaae.gr • www.ethaae.gr

Αθήνα, 29/12/2023

Αρ. πρωτ.: 40595

## ΑΠΟΦΑΣΗ ΠΙΣΤΟΠΟΙΗΣΗΣ

### Το Συμβούλιο Αξιολόγησης και Πιστοποίησης της Εθνικής Αρχής Ανώτατης Εκπαίδευσης (ΕΘΑΑΕ)

Έχοντας υπόψη:

1. Τις διατάξεις του Ν. 4653/2020 (ΦΕΚ 12/Α'/24-01-2020) «Εθνική Αρχή Ανώτατης Εκπαίδευσης. Ειδικοί Λογαριασμοί Κονδυλίων Έρευνας Ανώτατων Εκπαιδευτικών Ιδρυμάτων, Ερευνητικών και Τεχνολογικών Φορέων και άλλες Διατάξεις», όπως ισχύει.
2. Την υπ' αριθμ. 18135/Ζ1/7-2-2020 Απόφαση της Υπουργού Παιδείας και Θρησκευμάτων (ΦΕΚ 94/τεύχος ΥΟΔΔ/7-2-2020), περί διορισμού του Προέδρου του Ανώτατου Συμβουλίου της Εθνικής Αρχής Ανώτατης Εκπαίδευσης (ΕΘΑΑΕ).
3. Την υπ' αριθμ. 15650/23-04-2020 Απόφαση του Προέδρου της ΕΘΑΑΕ (ΦΕΚ 329/τ.ΥΟΔΔ/04-05-2020) «Ορισμός των μελών του Συμβουλίου Αξιολόγησης και Πιστοποίησης (ΣΑΠ) της Εθνικής Αρχής Ανώτατης Εκπαίδευσης (ΕΘΑΑΕ)».
4. Τη σχετική Έκθεση Πιστοποίησης της Επιτροπής Εξωτερικής Αξιολόγησης & Πιστοποίησης του ΠΜΣ Βιοτεχνολογία – Ποιότητα Διατροφής και Περιβάλλοντος του Τμήματος Βιοχημείας και Βιοτεχνολογίας του Πανεπιστημίου Θεσσαλίας.
5. Την 34η/20-12-2023 συνεδρίαση του Συμβουλίου Αξιολόγησης και Πιστοποίησης, θέμα 3 «Έγκριση εκθέσεων πιστοποίησης – Χορήγηση πιστοποίησης».

### ΠΙΣΤΟΠΟΙΕΙ ΟΤΙ

το Πρόγραμμα Μεταπτυχιακών Σπουδών

**Βιοτεχνολογία – Ποιότητα Διατροφής και Περιβάλλοντος  
του Τμήματος Βιοχημείας και Βιοτεχνολογίας**

**του Πανεπιστημίου Θεσσαλίας**

συμμορφώνεται πλήρως με τις αρχές του Προτύπου Ποιότητας για την Πιστοποίηση των Προγραμμάτων Μεταπτυχιακών Σπουδών της ΕΘΑΑΕ και τις Αρχές και Κατευθυντήριες Οδηγίες για τη Διασφάλιση Ποιότητας στον Ευρωπαϊκό Χώρο Ανώτατης Εκπαίδευσης (ESG), για το επίπεδο σπουδών 7 του Εθνικού και Ευρωπαϊκού Πλαισίου Προσόντων.

Η διάρκεια ισχύος της πιστοποίησης ορίζεται για πέντε έτη, από 20-12-2023 έως 19-12-2028.



Ο Πρόεδρος της ΕΘΑΑΕ

Καθηγητής Περικλής Α. Μήτκας



Επιχειρησιακό Πρόγραμμα  
Ανάπτυξη Ανθρώπινου Δυναμικού,  
Εκπαίδευση και Διά Βίου Μάθηση  
Με τη συγχρηματοδότηση της Ελλάδας και της Ευρωπαϊκής Ένωσης





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**Accreditation Report**  
**for the Postgraduate Study Programme of:**  
**Biotechnology – Quality Assessment in Nutrition and the**  
**Environment**  
**University of Thessaly**  
**6 November 2023**



Επιχειρησιακό Πρόγραμμα  
Ανάπτυξη Ανθρώπινου Δυναμικού,  
Εκπαίδευση και Διά Βίου Μάθηση  
Με τη συγχρηματοδότηση της Ελλάδας και της Ευρωπαϊκής Ένωσης



Report of the Panel appointed by the HAHE to undertake the review of the Postgraduate Study Programme of **Biotechnology – Quality Assessment in Nutrition and the Environment** of the **University of Thessaly** for the purposes of granting accreditation.

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## **PART A: BACKGROUND AND CONTEXT OF THE REVIEW**

### **I. The External Evaluation & Accreditation Panel**

The Panel responsible for the Accreditation Review of the postgraduate study programme (PSP) of **Biotechnology – Quality Assessment in Nutrition and the Environment** of the **University of Thessaly** comprised the following five (5) members, drawn from the Hellenic Authority for Higher Education (HAHE) Register of Experts, in accordance with Laws 4009/2011 & 4653/2020:

- 1. Professor Emeritus Spyros Pavlostathis (Chair)**  
Georgia Institute of Technology, Atlanta, GA, USA
  
- 2. Professor Anastassios Papageorgiou**  
University of Turku and Åbo Akademi University, Turku, Finland
  
- 3. Professor Constantinos Varotsis**  
Cyprus University of Technology, Limassol, Cyprus
  
- 4. Professor Panagiotis Soutanas**  
University of Nottingham, Nottingham, UK
  
- 5. Mr. Georgios Bakratsas**  
PhD Candidate, University of Ioannina, Ioannina, Greece

## II. Review Procedure and Documentation

In preparation for the review and assessment of the PSP **Biotechnology – Quality Assessment in Nutrition and the Environment** of the **University of Thessaly**, the External Evaluation & Accreditation Panel (EEA Panel) reviewed multitude of material provided by the Hellenic Authority of Higher Education (HAHE), which included background information and guidance on the review and accreditation process, detailed material and data related to the programme under evaluation, such as the programme accreditation proposal and associated appendices.

The programme review was conducted via teleconference, organized and coordinated by HAHE and the University of Thessaly (UTH). The schedule and agenda of the review were as stated below.

### Monday, 30/10/2023:

- a) Preliminary private meeting of the EEA Panel. Discussion of the programme under review; assignment of writing parts of the draft accreditation report to the members of the EEA Panel.
- b) Welcome meeting and short overview of the two postgraduate study programmes (PSP) with the Head of the Department of Biochemistry & Biotechnology Prof. D. Karpouzas, the Director of the PSP Biotechnology – Quality Assessment in Nutrition and the Environment (PSP1) Prof. K. Moutou, the Director of the PSP Applications of Molecular Biology and Genetics, Diagnostic Biomarkers (PSP2) and Head of OMEA Prof. A.-M. Psarra, the PSP1 Steering Committee members Profs. S. Vasileiadis and V. Skamnaki, the PSP2 Steering Committee members Profs. A. Giakountis and D. Tsikou, the OMEA members Profs. S. Papoutsopoulou and G. Amoutzias, the MODIP members Profs. D. Bogdanos and N. Strimbakos, the MODIP Coordinator Ms. E. Tsironi, and MODIP staff Ms. P. Zoumpopoulou and Mr. T. Zacharis: presentations and discussion of PSP1 and PSP2 history, academic profile, current status and future developments, strengths and areas of concern, degree compliance to the quality standards for accreditation, internal procedures, course examinations, review of students' progress, course/instructor evaluations, etc.
- c) Meeting with PSP1 & PSP2 teaching faculty Profs. K. Papadopoulou, M. Kontou, and P. Giannouli, teaching staff Dr. S. Marras, and administrative staff Mrs. I. Stroulia: View of video and discussion of facilities and learning resources.
- d) Private debriefing meeting (EEA Panel members only).

### Tuesday, 31/10/2023:

- a) Meeting and discussion with PSP1 Biotechnology – Quality Assessment in Nutrition and the Environment teaching faculty Profs. D. Mosialos, K. Papadopoulou, A. Manouras, Th. Giannoulis, E. Malissiova.
- b) Meeting and discussion with eleven (11) current PSP1 students.
- c) Meeting and discussion with six (6) recent PSP1 graduates.
- d) Meeting and discussion with employers and PSP1 social partners: E. Paparizou, Owner of Q & Q Control Laboratory; Ch. Tsamopoulou, Quality Control Manager, ESPA; A. Mastralexi, Laboratory Manager, Food Allergens Laboratory; P. Bagatzounis, Owner of Bagatzounis Spices; K. Konsta, Museum Manager, Grain and Flour Museum of Larissa; G. Gkatzogianni, Chemical Laboratory Manager, FARCOM.
- e) Private debriefing meeting (EEA Panel members only): discussion of the outcomes and findings of the virtual visit; preparation of oral report.

- f) Closure meeting with the Head of the Department of Biochemistry & Biotechnology, PSP1 Director and Steering Committee faculty, OMEA faculty members, MODIP faculty members, coordinator, and staff: informal, oral presentation of the EEA Panel key findings and clarifications.

Wednesday, 01/11/2023:

Teleconference meetings related to PSP2 Applications of Molecular Biology – Molecular Genetics, Diagnostic Biomarkers of the University of Thessaly.

Thursday 02/11/2023 to Monday 6/11/2023:

Draft report writing. EEA Panel virtual meetings. Review and finalization of draft report.

Throughout the review and evaluation process, the EEA Panel was in close communication with the Department and the PSP1 administration, which were very accommodating in providing additional information requested by the EEA Panel. The EEA Panel found that the Department and the PSP1 administration, as well as the faculty, staff, current students, and recent graduates interviewed were eager and helpful in our discussions, providing valuable additional information.

### III. Postgraduate Study Programme Profile

The postgraduate study programme (PSP) Biotechnology – Quality Assessment in Nutrition and the Environment is organized and offered by the Department of Biochemistry & Biotechnology of the University of Thessaly (UTH), located in Biopolis, Larissa. The programme was initially established in 2006. The current PSP was re-established in 2018 (University Senate Decision 194/28-3-2018) and operates with the latest update of its Graduate Programme regulations in 2023 (Official Gazette 436/31-01-2023).

The objectives of the PSP are the scientific training and specialization of scientists in the application of biotechnological methodologies and approaches to control, study, as well as improve the food quality and the environment, thus contributing to the economic development of the country.

Teaching in the PSP is realized by nineteen (19) faculty and one (1) laboratory teaching staff of the Department of Biochemistry & Biotechnology (UTH), seven (7) faculty of other UTH Departments, as well as two (2) external specialized experts from academic and research Institutions. Special technical staff and administrative staff assist the PSP.

The programme has set at twenty (20) the maximum number of admitted students per academic year. In the academic year 2022-2023, the number of admitted students was 11, the number of all registered postgraduate students was 39, while the number of finished graduates (i.e., those that completed all requirements and graduated) was 15. The total number of PSP graduates since its initial establishment in 2006 is 285. Most of the postgraduate students the EEA Panel interviewed stated that the PSP Biotechnology – Quality Assessment in Nutrition and the Environment of the University of Thessaly was among their first choice based on the curriculum, methodologies used, familiarity, and reputation.

The PSP is a minimum of three (3) academic semesters study resulting in level 7 Diploma of Postgraduate Studies. To graduate, the student must have successfully completed a total of 90 European Credit Transfer System (ECTS) credits (66 ECTS for coursework and laboratory exercises and 24 ECTS for the preparation and successful completion of the postgraduate thesis). Lectures for the first and second semester courses are given remotely, synchronously. During the third semester, laboratory demonstration exercises are given remotely, synchronously. Attendance in all three semesters is mandatory. Participation in Internship training for 2-4 months in the private or public sector is optional without any ECTS, but credit is given in the Diploma Supplement. Participation in a seminar entitled “Communication is Science” is optional. The EEA Panel found that the number of courses offered and the rotation cover advanced as well as new topics and technologies in Biotechnology – Quality Assessment in Nutrition and the Environment.

The PSP prepares graduates for careers in both the private and public sector of the economy, such as food industry, quality control laboratories, health services, environmental services, research and development (R&D) departments, public bodies, as well as research Centers. In addition, a small number of graduates continue with doctoral studies. There are strong links to the society, which is key priority of the PSP Biotechnology – Quality Assessment in Nutrition and the Environment, the Department of Biochemistry & Biotechnology, and the Institution.

The Department of Biochemistry & Biotechnology offers and/or participates in six (6) postgraduate study programmes and supports doctoral studies.



## PART B: COMPLIANCE WITH THE PRINCIPLES

### PRINCIPLE 1: QUALITY ASSURANCE POLICY AND QUALITY GOAL SETTING FOR THE POSTGRADUATE STUDY PROGRAMMES OF THE INSTITUTION AND THE ACADEMIC UNIT

INSTITUTIONS SHOULD APPLY A QUALITY ASSURANCE POLICY AS PART OF THEIR STRATEGIC MANAGEMENT. THIS POLICY SHOULD EXPAND AND BE AIMED (WITH THE COLLABORATION OF EXTERNAL STAKEHOLDERS) AT THE POSTGRADUATE STUDY PROGRAMMES OF THE INSTITUTION AND THE ACADEMIC UNIT. THIS POLICY SHOULD BE PUBLISHED AND IMPLEMENTED BY ALL STAKEHOLDERS.

*The quality assurance policy of the academic unit should be in line with the quality assurance policy of the Institution and must be formulated in the form of a public statement, which is implemented by all stakeholders. It focuses on the achievement of special goals related to the quality assurance of the study programmes offered by the academic unit.*

*Indicatively, the quality policy statement of the academic unit includes its commitment to implement a quality policy that will promote the academic profile and orientation of the postgraduate study programme (PSP), its purpose and field of study; it will realise the programme's goals and it will determine the means and ways for attaining them; it will implement appropriate quality procedures, aiming at the programme's improvement.*

*In particular, in order to implement this policy, the academic unit commits itself to put into practice quality procedures that will demonstrate:*

- a) the suitability of the structure and organisation of postgraduate study programmes*
- b) the pursuit of learning outcomes and qualifications in accordance with the European and National Qualifications Framework for Higher Education - level 7*
- c) the promotion of the quality and effectiveness of teaching at the PSP*
- d) the appropriateness of the qualifications of the teaching staff for the PSP*
- e) the drafting, implementation, and review of specific annual quality goals for the improvement of the PSP*
- f) the level of demand for the graduates' qualifications in the labour market*
- g) the quality of support services, such as the administrative services, the libraries and the student welfare office for the PSP*
- h) the efficient utilisation of the financial resources of the PSP that may be drawn from tuition fees*
- i) the conduct of an annual review and audit of the quality assurance system of the PSP through the cooperation of the Internal Evaluation Group (IEG) with the Institution's Quality Assurance Unit (QAU)*

#### **Documentation**

- *Quality Assurance Policy of the PSP*
- *Quality goal setting of the PSP*

#### **Study Programme Compliance**

##### **I. Findings**

The structure and organization of the study programme is suitable to the teaching objectives focus of the PSP. The learning objectives, outcomes and qualifications are in accordance with the European and the National Qualifications Framework for Higher Education – level 7. There are considerable efforts made to promote high quality and effectiveness of teaching, with the

ultimate goal of equipping graduates with skills allowing them to be successful in their careers. The curriculum is dynamic. Continuous attention is being paid towards incorporating material on new trends and developments. Courses are given by staff who have expertise in the subjects taught.

The study programme has been designed based on international standards and are systematically reviewed based mainly on students' questionnaires and staff initiatives. These are proposed to the Study Programme Committee, which then brings them for approval to the General Faculty Assembly. Occasionally, current developments and advancements in various fields and technologies are taken into account, resulting in new/revised courses or educational amendments.

The PSP students have different backgrounds, primarily Food, Agricultural, and Nutrition Sciences. The graduates can be employed in the private and public sectors for research & development, quality control and assurance, including biotech companies, food industry, hospitals, and analytical laboratories. Other outlets for employment include research Institutions as well as national agencies and supervisory/regulatory authorities, organizations overseeing food processes and products, as well as in environmental services. Most PSP graduates follow a career in the private sector. The job opportunities for the graduates indicate sustainability and market value of the PSP.

There is a good quality of support services for students, including gyms and opportunities for various sport activities. Libraries are easily accessible; however, the scattering of computer servers across different cities can cause problems, especially during natural disasters as the recent floods in Thessaly.

The Department plans or revises its quality goals regarding the study programme on an annual basis. For instance, the current process of targeting and implementation of actions ends on 31.12.2023.

Teaching faculty actively participate in externally-funded research projects, a significant requirement for students to successfully participate in research related to their Diploma-related projects, which are experimentally-based and required for all students. The equipment in the research laboratories allows exposure of the PSP students in state-of-the-art instrumentation and analytical procedures. Most instrument training is, however, based on remote, synchronous demonstrations.

An academic advisor is assigned to each student for helping them in the planning of courses and other academic issues as these may arise. Recently, a 'student advocate' office has been also introduced.

Annual review procedures and internal audit of the quality assurance system of the postgraduate programme are managed in collaboration between the OMEA and MODIP. Students evaluate courses/instructors electronically, with an estimated ca. 17% on average

per academic year of the enrolled students submitting evaluations. There is an emphasis on the statistical analysis of the evaluation data.

## **II. Analysis**

The teaching faculty make consistent efforts to promote quality and effectiveness of teaching. Teaching faculty and administrators are enthusiastic and strongly committed to ensuring high quality of student support services. Courses include a project-based report that encourages students to work in groups and analyse recent peer-reviewed publications in the field, then present their analyses to the class. This enhances student critical thinking and communication skills and accounts for 10% of the final course grade.

Changes in the programme are mainly implemented on an ad hoc basis and discussions with the members of the Programme Steering Committee.

Teaching and student training appear to be effectively linked; however, courses are given via remote synchronous lectures with material subsequently uploaded online (e-Class). Instrument training is provided through remote synchronous demonstrations.

Quality targets are in general realistic and build on prior and continuous progress. Some targets, however, are questionable, from modest (e.g., seminar for science communication, from 0 to 1) or extreme (online teaching from 35% to 100%).

## **III. Conclusions**

Through the Department OMEA and the University MODIP, the programme is committed to the continuous improvement of the PSP and a quality policy that supports the academic profile and orientation of the curriculum, the students and the participating teaching staff.

## Panel Judgement

| <b>Principle 1: Quality assurance policy and quality goal setting for the postgraduate study programmes of the institution and the academic unit</b> |          |
|--|----------|
| Fully compliant  | <b>X</b> |
| Substantially compliant  |          |
| Partially compliant  |          |
| Non-compliant  |          |

## Panel Recommendations

To further enhance adherence to Principle 1, the EEA Panel recommends the following:

- Introduction of midterms, short quizzes or other assignments will be valuable in allowing a more even and fair distribution of the final course grade and to keep the interest of the students and teaching efficiency at high level throughout the semester.
- Introductory courses for students with different backgrounds to fill their gaps in knowledge or alternatively, allowing them to attend undergraduate courses should be considered.
- Provisions should be made to minimize the risk of disruption in the smooth running of the University activities owing to natural disasters. Although this is a University issue, the PSP staff could communicate their concerns to the management of the University.
- The programme should discuss with all interested parties the mode of teaching (remote, in-person, hybrid).
- External sources of financial support at administrative level should be continually sought.

## **PRINCIPLE 2: DESIGN AND APPROVAL OF POSTGRADUATE STUDY PROGRAMMES**

**INSTITUTIONS SHOULD DEVELOP THEIR POSTGRADUATE STUDY PROGRAMMES FOLLOWING A DEFINED WRITTEN PROCESS WHICH WILL INVOLVE THE PARTICIPANTS, INFORMATION SOURCES AND THE APPROVAL COMMITTEES FOR THE POSTGRADUATE STUDY PROGRAMMES. THE OBJECTIVES, THE EXPECTED LEARNING OUTCOMES AND THE EMPLOYMENT PROSPECTS ARE SET OUT IN THE PROGRAMME DESIGN. DURING THE IMPLEMENTATION OF THE POSTGRADUATE STUDY PROGRAMMES, THE DEGREE OF ACHIEVEMENT OF THE LEARNING OUTCOMES SHOULD BE ASSESSED. THE ABOVE DETAILS, AS WELL AS INFORMATION ON THE PROGRAMME'S STRUCTURE ARE PUBLISHED IN THE STUDENT GUIDE.**

*The academic units develop their postgraduate study programmes following a well-defined procedure. The academic profile and orientation of the programme, the research character, the scientific objectives, the specific subject areas, and specialisations are described at this stage.*

*The structure, content and organisation of courses and teaching methods should be oriented towards deepening knowledge and acquiring the corresponding skills to apply the said knowledge (e.g. course on research methodology, participation in research projects, thesis with a research component).*

*The expected learning outcomes must be determined based on the European and National Qualifications Framework (EQF, NQF), and the Dublin Descriptors for level 7. During the implementation of the programme, the degree of achievement of the expected learning outcomes and the feedback of the learning process must be assessed with the appropriate tools. For each learning outcome that is designed and made public, it is necessary that its evaluation criteria are also designed and made public.*

*In addition, the design of PSP must consider:*

- *the Institutional strategy*
- *the active involvement of students*
- *the experience of external stakeholders from the labour market*
- *the anticipated student workload according to the European Credit Transfer and Accumulation System (ECTS) for level 7*
- *the option of providing work experience to students*
- *the linking of teaching and research*
- *the relevant regulatory framework and the official procedure for the approval of the PSP by the Institution*

*The procedure of approval or revision of the programmes provides for the verification of compliance with the basic requirements of the Standards by the Institution's Quality Assurance Unit (QAU).*

### **Documentation**

- *Senate decision for the establishment of the PSP*
- *PSP curriculum structure: courses, course categories, ECTS awarded, expected learning outcomes according to the EQF, internship, mobility opportunities*
- *Labour market data regarding the employment of graduates, international experience in a relevant scientific field*
- *PSP Student Guide*
- *Course and thesis outlines*
- *Teaching staff (name list including of areas of specialisation, its relation to the courses taught, employment relationship, and teaching assignment in hours as well as other teaching commitments in hours)*

## **Study Programme Compliance**

### **I. Findings**

The scope and direction of the PSP are in line with the University and the Department's overall research strategy in Agrifood, Environment and Health.

The programme is structured in semesters and follows the European Credit Transfer System (ECTS). The programme consists of three semesters (90 ECTS in total) and includes 2-4 months of Internship training, which is non-compulsory and gives no credits, other than it is mentioned in the Diploma Supplement. The last semester is dedicated to the Diploma thesis work. The individual course workload, in general, does not seem to be heavy, both for students and the teaching staff.

The stakeholders of the labour market, as well as the academic partners who participated in the interviews, mentioned that the graduates of the programme were very well trained. The number of stakeholders the EEA Panel met was adequate and a good picture was obtained about potential opportunities for graduates in the job market. The EEA Panel believes that the postgraduate programme has a good potential in exploring opportunities with industrial and social partners at local and national levels.

Internship training is not compulsory and very few students (ca. 15%) choose it for various reasons (not counting for ECTS, other commitments, no payment).

The structure of the study programme is rational, coherent, and clearly articulated. The Student Guide is complete, concise, and appropriate and offers basic information about the postgraduate programme. A full and detailed description of the courses is provided on the PSP website. All information is revised and updated regularly. The curriculum revision procedures expect an active consultation with students; however, so far, it appears that there is limited student participation. No official procedures appear to be in place to implement changes and approve them in the General Faculty Assembly, with the participation of all interested parties, including external stakeholders.

### **II. Analysis**

The programme has a relatively short history of existence and is continuously developing over the years. The teaching staff is clearly experienced in running the programme.

There are good interactions with external partners, but most of them appear to be not systematic or formalized.

There is no regular, established framework for systematic review and revision of the programme.

Training of the students in instruments is low and mostly through remote, synchronous demonstrations.

### **III. Conclusions**

Overall, the EEA Panel finds that the programme is of substantial compliance with Principle 2, mainly for not having established clear connections with external partners and the lack of a formal framework for the periodic review and revision of the curriculum.

## Panel Judgement

| <b>Principle 2: Design and approval of postgraduate study programmes</b> |          |
|--|----------|
| Fully compliant  |          |
| Substantially compliant  | <b>X</b> |
| Partially compliant  |          |
| Non-compliant  |          |

## Panel Recommendations

To further enhance adherence to Principle 2, the EEA Panel recommends the following:

- Procedures to introduce new courses should be clearly formulated.
- New methods of student engagement should be explored, such as tutorials, new pedagogical methods of learning, quizzes, etc.
- Consider adding some elective courses (e.g., Statistics, Data Analytics) offered by other Departments of the University of Thessaly or other Institutions given the provisions of the new law 4957/2022.
- The Programme Steering Committee should initiate formal discussions with all interested parties to decide on the management of the Internship training and find an optimal, sustainable solution for all parties involved.
- New requirements in the market should be taken into account through formal procedures involving external stakeholders and representatives of the industry. Industry Days could be organized and industry representatives can be periodically and systematically invited to give presentations.
- The EEA Panel could foresee strategic stakeholder alliances with research Institutes, the food and agricultural sector, and others. It is not clear, however, to what extent the stakeholders have participated in discussions for the revision of the curriculum; this needs to be improved.
- The EEA Panel strongly recommends forming a formal External Advisory Board with PSP graduates, stakeholders, and industrial representatives that could meet regularly (e.g., annually) with the Programme Steering Committee and student representatives.

### **PRINCIPLE 3: STUDENT-CENTRED LEARNING, TEACHING, AND ASSESSMENT**

**INSTITUTIONS SHOULD ENSURE THAT POSTGRADUATE STUDY PROGRAMMES PROVIDE THE NECESSARY CONDITIONS TO ENCOURAGE STUDENTS TO TAKE AN ACTIVE ROLE IN THE LEARNING PROCESS. THE ASSESSMENT METHODS SHOULD REFLECT THIS APPROACH.**

*Student-centred learning and teaching plays an important role in enhancing students' motivation, their self-evaluation, and their active participation in the learning process. The above entail continuous consideration of the programme's delivery and the assessment of the related outcomes.*

*The student-centred learning and teaching process*

- *respects and attends to the diversity of students and their needs by adopting flexible learning paths*
- *considers and uses different modes of delivery, where appropriate*
- *flexibly uses a variety of pedagogical methods*
- *regularly evaluates and adjusts the modes of delivery and pedagogical methods aiming at improvement*
- *regularly evaluates the quality and effectiveness of teaching, as documented especially through student surveys*
- *strengthens the student's sense of autonomy, while ensuring adequate guidance and support from the teaching staff*
- *promotes mutual respect in the student-teacher relationship*
- *applies appropriate procedures for dealing with the students' complaints*
- *provides counselling and guidance for the preparation of the thesis*

*In addition*

- *The academic staff are familiar with the existing examination system and methods and are supported in developing their own skills in this field.*
- *The assessment criteria and methods are published in advance. The assessment allows students to demonstrate the extent to which the intended learning outcomes have been achieved. Students are given feedback, which, if necessary is linked to advice on the learning process.*
- *Student assessment is conducted by more than one examiner, where possible.*
- *Assessment is consistent, fairly applied to all students and conducted in accordance with the stated procedures.*
- *A formal procedure for student appeals is in place.*
- *The function of the academic advisor runs smoothly.*

#### **Documentation**

- *Sample of a fully completed questionnaire for the evaluation of the PSP by the students*
- *Regulations for dealing with students' complaints and appeals*
- *Regulation for the function of academic advisor*
- *Reference to the teaching modes and assessment methods*

#### **Study Programme Compliance**

##### **I. Findings**

The PSP Biotechnology – Quality Assessment in Nutrition and the Environment is a three-academic semester programme, which aims to educate new bio-scientists in the development



and application of cutting-edge biotechnological methods and tools for food quality and environmental management and protection.

The PSP uses different modes of teaching, such as theoretical lectures, oral presentations of projects, online laboratory exercises, educational trips in workplaces, and a Diploma thesis in the third semester of the programme. These methods show that the study programme is in parallel with a student-centered approach.

The students are encouraged to develop individual skills, the educational process is governed by mutual respect in the student-instructor relationship, and students are treated as equal scientists and develop a sense of autonomy. The student-instructor relationship is ensured by following the rules as defined by the code of ethics of the University of Thessaly. The teaching staff treats all students with respect and care, regardless of their gender, national origin, religion, or other beliefs. In addition, the PSP has established a regulation for the management of student complaints and objections mechanisms, which aim to improve the quality of the educational and administrative services provided within the PSP to protect primarily the students, but also the educational and administrative staff of the PSP.

The PSP applies in all its courses a specific method of evaluating delivery and application of pedagogical methods. The course/instructor evaluation is done by the students anonymously and electronically, after the completion of the lectures of each course. The questionnaires include questions concerning the instructor, the course content and quality, and the student workload. Students' participation in evaluation reached only ca. 22% of registered students for the academic year 2021-2022.

The PSP has established the institution of the academic advisor, who contributes significantly to the success of students' studies and the achievement of their educational and professional goals by systematically offering guidance and assistance in academic matters, as well as in their activities in the academic field. The Regulation of the Academic Advisor describes in detail the process of appointing the academic advisor, its role, communication with the students, confidentiality that must be maintained for matters concerning the students under advisement, as well as the procedure in case of its replacement.

## **II. Analysis**

The PSP includes theoretical courses for a total of 66 ECTS and a Diploma thesis equivalent to 24 ECTS. The first two semesters are dedicated exclusively to lectures of theoretical courses, which are delivered remotely and synchronously; however, attendance is mandatory. In the third semester, graduate students delve into laboratory practices of biotechnology and prepare their research-oriented Diploma thesis. In addition, a series of laboratory short demonstration exercises is organized before the start of the Diploma thesis research for students to become familiar with most advanced laboratory methods that form the basis of modern biotechnology.

Students were satisfied with the flexible programme, the adequate organization of the lectures, and the hybrid format of the programme which provides the opportunity for an employee to participate in the PSP. Some students expressed their desire to participate in hands-on laboratory exercises and the PSP to provide them with more practical skills in the first two semesters.

PSP graduates are very satisfied with their Diploma thesis project which on some occasions allowed them to continue with PhD studies or to find a job in industry. During the meeting with the PSP social partners, they expressed satisfaction about the scientific knowledge of the graduates and their knowledge in the domain of quality control for food safety and environmental management.

### III. Conclusions

The PSP is in line with the standards of the HAHE, as it is of high quality. Graduates have the opportunity to pursue a career in academia or industry. Overall, the EEA Panel finds that the programme is fully compliant with Principle 3.

#### Panel Judgement

| <b>Principle 3: Student-centred learning, teaching, and assessment</b> |          |
|--|----------|
| Fully compliant  | <b>X</b> |
| Substantially compliant  |          |
| Partially compliant  |          |
| Non-compliant  |          |

#### Panel Recommendations

To further enhance adherence to Principle 3, the EEA Panel recommends the following:

- On-site, hands-on laboratory exercises could be organized during the first two semesters of study. This could be achieved in a way of mini projects for a period of one week or less in order not to prevent employee participation.
- The teaching staff should explain and emphasize the importance of assessment to the students in an effort to achieve a higher participation in the course/instructor evaluation process and thus contribute to the improvement of the programme quality.
- An Open House Day with the participation of all Department laboratories should be organized to showcase the range of research capabilities and on-going projects.

## **PRINCIPLE 4: STUDENT ADMISSION, PROGRESSION, RECOGNITION OF POSTGRADUATE STUDIES, AND CERTIFICATION**

**INSTITUTIONS SHOULD DEVELOP AND APPLY PUBLISHED REGULATIONS COVERING ALL ASPECTS AND PHASES OF STUDIES (ADMISSION, PROGRESSION, THESIS DRAFTING, RECOGNITION AND CERTIFICATION).**

*All the issues from the beginning to the end of studies should be governed by the internal regulations of the academic units. Indicatively:*

- *the student admission procedures and the required supporting documents*
- *student rights and obligations, and monitoring of student progression*
- *internship issues, if applicable, and granting of scholarships*
- *the procedures and terms for the drafting of assignments and the thesis*
- *the procedure of award and recognition of degrees, the duration of studies, the conditions for progression and for the assurance of the progress of students in their studies*
- *the terms and conditions for enhancing student mobility*

*All the above must be made public in the context of the Student Guide.*

### **Documentation**

- *Internal regulation for the operation of the Postgraduate Study Programme*
- *Research Ethics Regulation*
- *Regulation of studies, internship, mobility, and student assignments*
- *Degree certificate template*

### **Study Programme Compliance**

#### **I. Findings**

Twenty (20) postgraduate students are admitted to the PSP per academic year. The selection takes place among applicants of graduates with University degrees from Schools of Natural Sciences, Health Sciences, Agricultural Sciences, Veterinary Medicine, and Engineering. The application as well as the selection procedure of PSP candidates is based on their CV (bachelor's degree, certificate of English language knowledge, research papers, work experience, etc.), as well as at least two reference letters according to the PSP Operating Regulations.

When students are accepted into the postgraduate programme, an orientation meeting is held to inform them about the procedures and operating regulations of the PSP. In addition, an academic advisor is appointed for each student and assumes his/her academic guidance. The postgraduate students acquire all the rights, benefits, and access to facilities for students concerning matters of food, housing, health care, academic identity, assignment of study advisors, and counselling, except the right of access to Eudoxos for textbooks.

The study stages of the PSP are clearly described in the PSP Operating Regulations and consist of theoretical courses (66 ECTS), and a Diploma thesis (24 ECTS). The first two semesters are dedicated to theoretical lectures exclusively remotely. In the third semester, postgraduate students delve into laboratory practices of biotechnology and prepare their Diploma thesis. Research ethics and intellectual property issues are clearly described in the PSP Operating Regulations and the Research Ethics Regulations. In addition to the courses, students are asked

to complete compulsory assignments for each course during the first and second semester of study. The examination takes place remotely after the completion of all lectures at the end of the semester. The final course grade is obtained based on each student's score in the course assignment (10%) and the final examination (90%) and submitted to the Secretariat by the course coordinator. The terms governing the assignment, preparation, and grading are described in the PSP Operating Regulations and the PSP Studies, Internship, Mobility and Assignment Regulations.

Upon successful completion of the programme, the title of Postgraduate Diploma is awarded. The Diploma Supplement is issued in both Greek and English, free of charge to all graduates of the PSP.

The Department cooperates with foreign institutions within the framework of the ERASMUS+ exchange programme. The UTH academic community is informed about the mobility programmes from the UTH Erasmus Office website (<http://erasmus.uth.gr/gr/>).

In addition, postgraduate students can voluntarily participate in Internship training for 2-4 months in recognized establishments of the private and public sectors in Greece. Students who choose to participate in training placement are covered only by insurance in the event of an accident during the Internship training, without financial support. Scholarships can be given to students for the presentation of their research results at conferences; students are selected by the Steering Committee and then confirmed by the Department Faculty Assembly.

## **II. Analysis**

The PSP provides the students with a strong theoretical and practical background in the field of Biotechnology, with a hybrid approach that allows employees to attend the programme. Through the discussion of the EEA Panel with current students and recent graduates of the PSP, the Panel estimates that although student mobility in Internship training is promoted, extra motivation should be provided to students to participate in the Erasmus+ and other training placement programmes. The EEA Panel, students, and stakeholders believe that this could be achieved through financial support of the student's training programme and its compulsory integration into the curriculum. Students were mostly willing to participate in an Erasmus+ placement after the completion of their Diploma thesis rather than in the national training programme. Although most students were satisfied with the study material provided for each course, access to textbooks from the Eudoxos system would be welcomed.

## **III. Conclusions**

The PSP is in line with the standards of the HAHE, as it is of high quality. Overall, current students, recent graduates, and stakeholders had a positive experience with the PSP. The EEA Panel finds that the programme is fully compliant with Principle 4.

## Panel Judgement

| <b>Principle 4: Student admission, progression, recognition of postgraduate studies and certification</b> |          |
|---|----------|
| Fully compliant   | <b>X</b> |
| Substantially compliant   |          |
| Partially compliant   |          |
| Non-compliant   |          |

## Panel Recommendations

To further enhance adherence to Principle 4, the EEA Panel recommends the following:

- The Internship training programme in Greek establishments of the private and public sector should be enhanced by the acquisition of funds specific for such programme.
- Access of postgraduate students to textbooks through the Eudoxos system should be provided.

## **PRINCIPLE 5: TEACHING STAFF OF POSTGRADUATE STUDY PROGRAMMES**

**INSTITUTIONS SHOULD ASSURE THEMSELVES OF THE LEVEL OF KNOWLEDGE AND SKILLS OF THEIR TEACHING STAFF, AND APPLY FAIR AND TRANSPARENT PROCESSES FOR THEIR RECRUITMENT, TRAINING AND FURTHER DEVELOPMENT.**

*The Institution should attend to the adequacy of the teaching staff of the academic unit teaching at the PSP, the appropriate staff-student ratio, the appropriate staff categories, the appropriate subject areas, the fair and objective recruitment process, the high research performance, the training- development, the staff development policy (including participation in mobility schemes, conferences, and educational leaves-as mandated by law).*

*More specifically, the academic unit should set up and follow clear, transparent and fair processes for the recruitment of properly qualified staff for the PSP and offer them conditions of employment that recognise the importance of teaching and research; offer opportunities and promote the professional development of the teaching staff; encourage scholarly activity to strengthen the link between education and research; encourage innovation in teaching methods and the use of new technologies; promote the increase of the volume and quality of the research output within the academic unit; follow quality assurance processes for all staff (with respect to attendance requirements, performance, self-assessment, training, etc.); develop policies to attract highly qualified academic staff.*

### **Documentation**

- *Procedures and criteria for teaching staff recruitment*
- *Employment regulations or contracts, and obligations of the teaching staff*
- *Policy for staff support and development*
- *Individual performance of the teaching staff in scientific-research and teaching work, based on internationally recognised systems of scientific evaluation (e.g. Google Scholar, Scopus, etc.)*
- *List of teaching staff including subject areas, employment relationship, Institution of origin, Department of origin*

### **Study Programme Compliance**

#### **I. Findings**

The Department follows the well-defined transparent procedures, as imposed by government laws, to recruit qualified teaching staff. The expertise of the faculty is very satisfactory, as reflected by the high h-indexes and number of citations in their research areas (*Scopus/Google scholar*). There is an established procedure for further improvement of the teaching competence of the faculty through the University of Thessaly Teaching and Learning Support Centre (<https://www.uth.gr/en/university/assessment-quality/centre-teaching-and-learning>). Even though staff mobility is encouraged, the actual use of such opportunity through Erasmus+, or other initiatives, is limited. The lectures are remote and synchronous; course material is uploaded to e-Class. The workload allows engagement in a lot of research activities. There is a wide participation of students in the research projects of faculty members. The list of teaching staff including their CV, their area of expertise, their education, and publication record is posted of the PSP website (<https://bio.uth.gr/en/professors-en/>).

## II. Analysis

There is systematic evaluation of the courses/instructors by the students through questionnaires and the evaluations are taken into consideration by the faculty. The research productivity of the faculty members is very high and focuses in a variety of scientific areas. The research strategy that would enhance possible collaborations among staff members is satisfactory. The metrics of the research output are on par with other Departments in Greece with similar fields.

## III. Conclusions

The level of knowledge of the teaching staff, as reflected by their research productivity is very satisfactory. A research strategy that enhances collaboration among staff members and ensures further development of research productivity has been established.

### Panel Judgement

| <b>Principle 5: Teaching staff of postgraduate study programmes</b> |          |
|---|----------|
| Fully compliant   | <b>X</b> |
| Substantially compliant   |          |
| Partially compliant   |          |
| Non-compliant   |          |

### Panel Recommendations

To further enhance adherence to Principle 5, the EEA Panel recommends the following:

- The interaction between the PSP students and faculty with industry and other external stakeholders should be enhanced.
- Mobility of students, faculty and other scientific personnel should be strongly encouraged.

## **PRINICPLE 6: LEARNING RESOURCES AND STUDENT SUPPORT**

**INSTITUTIONS SHOULD HAVE ADEQUATE FUNDING TO COVER THE TEACHING AND LEARNING NEEDS OF THE POSTGRADUATE STUDY PROGRAMME. THEY SHOULD –ON THE ONE HAND- PROVIDE SATISFACTORY INFRASTRUCTURE AND SERVICES FOR LEARNING AND STUDENT SUPPORT, AND – ON THE OTHER HAND- FACILITATE DIRECT ACCESS TO THEM BY ESTABLISHING INTERNAL RULES TO THIS END (E.G. LECTURE ROOMS, LABORATORIES, LIBRARIES, NETWORKS, NETWORKS, CAREER AND SOCIAL POLICY SERVICES ETC.).**

*Institutions and their academic units must have sufficient resources and means, on a planned and long-term basis, to support learning and academic activity in general, so as to offer PSP students the best possible level of studies. The above means include facilities such as the necessary general and more specialised libraries and possibilities for access to electronic databases, study rooms, educational and scientific equipment, IT and communication services, support and counselling services.*

*When allocating the available resources, the needs of all students must be taken into consideration (e.g. whether they are full-time or part-time students, employed students, students with disabilities), in addition to the shift towards student-centred learning and the adoption of flexible modes of learning and teaching. Support activities and facilities may be organised in various ways, depending on the institutional context. However, the internal quality assurance proves -on the one hand- the quantity and quality of the available facilities and services, and -on the other hand- that students are aware of all available services.*

*In delivering support services, the role of support and administration staff is crucial and therefore this segment of staff needs to be qualified and have opportunities to develop its competences.*

### **Documentation**

- *Detailed description of the infrastructure and services made available by the Institution to the academic unit for the PSP, to support learning and academic activity (human resources, infrastructure, services, etc.) and the corresponding firm commitment of the Institution to financially cover these infrastructure-services from state or other resources*
- *Administrative support staff of the PSP (job descriptions, qualifications and responsibilities)*
- *Informative / promotional material given to students with reference to the available services*
- *Tuition utilisation plan (if applicable)*

### **Study Programme Compliance**

#### **I. Findings**

The PSP Biotechnology – Quality Assessment in Nutrition and the Environment is hosted in the Biochemistry & Biotechnology building (3-level building) that houses research laboratories, lecture theatres, teleconference/conference rooms, study rooms for students, administrative support and academic offices. Teaching incorporates a variety of modes from traditional lectures to web-based lectures (MS Teams, e-class). Detailed promotional material, information, tools and resources on all aspects of the PSP, including detailed course module descriptions with learning outcomes, transferable skills and recommended bibliography for specific modules, are easily accessible on the dedicated PSP website (<http://nutri-environment.bio.uth.gr/>).



The PSP research and education are supported by eight (8) specialized laboratories (<https://bio.uth.gr/research-laboratories/>). Research activities are supported by a range of specialised equipment pertinent to the PSP.

Although there is detailed information on the laboratories available to support this PSP it is our understanding that there is no ‘hands-on’ laboratory training prior to commencing the research/thesis project. Instead, the module “Practical Training in Advanced Laboratory Methods” is delivered via a distant, electronic format and explains a range of methods including:

- Advanced cloning techniques for synthetic biology
- CRISPR/Cas technology and its application in diet and the environment
- Heterologous expression and purification of proteins for X-ray crystallography
- Construction of metagenomic libraries for environmental samples
- Environmental epidemiology: Analysis of microbial resistance to antibiotics in environmental samples
- Innovative laboratory techniques for added value foods

Tuition fees of 4,000 euros are imposed with a “no fees policy” when appropriate (as defined by socioeconomic criteria of the law N.4957/21-7-22 article 86). 30% of the fees go to the University Special Account for Research Funds (ELKE) and 70% go to the PSP, supporting research (40%), information/promotional material/website (10%) and administrative/academic support (20%). A couple of small scholarships (250 and 1,000 euros) are available as rewards for good academic performance.

Students have access to an Academic Advisor whose role and responsibilities are clearly defined in the PSP regulations. Access to the wider student services and support available at the University of Thessaly is also available to all PSP students.

A list of collaborating stakeholders and potential employers in the public and private sector is provided to the PSP students to choose their work experience placements (2-4 months Internship). Work experience placements can be taken by students after the first 6-month semester. If work placement takes place via the Erasmus programme, it can take place for up to 12 months. Both types of placements are recognised by relevant certificates upon graduation (Diploma Supplement). There is a list of partners and/or stakeholders offering placements on the PSP website (<http://nutri-environment.bio.uth.gr/internship/>).

PSP students can visit companies and industrial establishments in the wider area of Thessaly, Macedonia and Central Greece. During such educational visits students can gain first-hand experience and knowledge of companies and industrial establishments directly relevant to the PSP topics.

Two technical staff members are listed on the website (<http://nutri-environment.bio.uth.gr/teaching-staff/>). Other technical staff that are involved in the maintenance and running of specialised labs were not listed but could be found in various links associated with the research laboratories (<https://bio.uth.gr/research-laboratories/genetics-comparative-and-evolutionary-biology/>, <https://bio.uth.gr/research-laboratories/animal-physiology/>, <https://bio.uth.gr/research-laboratories/structural-functional-biochemistry/>, etc.

No clear information is available publicly on the website or documentation provided for the technical & administrative staff of the PSP regarding job descriptions and responsibilities specifically related to this PSP. External teaching partners that contribute to the PSP are listed

on the website (<http://nutri-environment.bio.uth.gr/teaching-staff/>), but no links to personal websites were provided to obtain further information.

## **II. Analysis**

The infrastructure and consumables to deliver teaching and support students' research in this PSP is partly funded by imposed fees and partly by research grants and University central funds. A range of lecture and study rooms, educational and scientific equipment in research labs, IT and administrative support as well as student counselling and support services facilitate student learning and experience. The Department strives to constantly upgrade the equipment and infrastructure to continuously improve student experience and student satisfaction. This is evident in the student feedback data from current students and recent graduates.

The PSP adopts flexible modes of teaching and learning, striving towards student-centred learning and offering opportunities for work placements and Erasmus exchange experiences. It appears that there is no structured PSP contact framework with students on work or on Erasmus placements, although the EEA Panel was reassured that there have been no problems with students on away placements. However, having a structured student contact framework to keep in touch with students on away placements is good academic practice to ensure their wellbeing and positive experience. Tuition fees are imposed but socioeconomic considerations are applied in appropriate cases and a limited number of scholarships reward good student academic and research performance. A comprehensive list of partners and/or stakeholders offering placements is provided on the PSP website and this is very useful for PSP students to consult.

Administration and support staff are crucial at delivering the PSP. The PSP is supported well by such staff who play an integral part in the organisation and delivery of lab-based and web-based teaching. Credit and public exposure of all staff, including administrative, laboratory teaching staff (EDIP) and academic staff, should be equitable. Such staff should also be clearly listed on the website in the same tab under the Teaching Staff tab (<http://nutri-environment.bio.uth.gr/teaching-staff/>). Alongside their CVs, clear, detailed job descriptions specifically related to this PSP should be included on the website. The EEA Panel did not see a structured and transparent framework for administrative and EDIP staff to offer further developments of their skills and competences to ensure promotion and continuous improvement.

## **III. Conclusions**

Overall, the PSP is fully compliant with Principle 6. It offers the best possible level of studies within the financial framework available. It has sufficient tools and resources to support learning and academic/research activities. The Department takes into consideration the needs of all students and strives to offer flexible modes of teaching methods focusing on student-centred learning. More emphasis should be given to recognising the direct and indirect contributions of administrative and technical staff by acknowledging them better on the PSP website.

## Panel Judgement

| <b>Principle 6: Learning resources and student support</b> |          |
|--|----------|
| Fully compliant  | <b>X</b> |
| Substantially compliant                                    |          |
| Partially compliant  |          |
| Non-compliant  |          |

## Panel Recommendations

To further enhance adherence to Principle 6, the EEA Panel recommends the following:

- Introduce a “structured student contact framework” for students on away placements to ensure student wellbeing and positive experience.
- List all administrative and EDIP staff in the same drop-down menu as the teaching staff (<http://appmolbio.bio.uth.gr/index.php/2023-02-24-11-20-51/ct-menu1-item20>). Even supportive EDIP staff that does basic laboratory preparation and support without being directly involved in teaching a module should be included to highlight and reward the necessary, basic contribution to the PSP.
- For administrative and EDIP staff, include CVs and detailed job descriptions related to this PSP.

## **PRINCIPLE 7: INFORMATION MANAGEMENT**

**INSTITUTIONS BEAR FULL RESPONSIBILITY FOR COLLECTING, ANALYSING AND USING INFORMATION, AIMED AT THE EFFICIENT MANAGEMENT OF POSTGRADUATE STUDY PROGRAMMES AND RELATED ACTIVITIES, IN AN INTEGRATED, EFFECTIVE AND EASILY ACCESSIBLE WAY.**

*Institutions are expected to establish and operate an information system for the management and monitoring of data concerning students, teaching staff, course structure and organisation, teaching and provision of services to students.*

*Reliable data is essential for accurate information and decision-making, as well as for identifying areas of smooth operation and areas for improvement. Effective procedures for collecting and analysing information on postgraduate study programmes and other activities feed data into the internal system of quality assurance.*

*The information collected depends, to some extent, on the type and mission of the Institution. The following are of interest:*

- *key performance indicators*
- *student population profile*
- *student progression, success, and drop-out rates*
- *student satisfaction with their programmes*
- *availability of learning resources and student support*

*A number of methods may be used to collect information. It is important that students and staff are involved in providing and analysing information and planning follow-up activities.*

### **Documentation**

- *Report from the National Information System for Quality Assurance in Higher Education (NISQA) at the level of the Institution, the department, and the PSP*
- *Operation of an information management system for the collection of administrative data for the implementation of the PSP (Students' Record)*
- *Other tools and procedures designed to collect data on the academic and administrative functions of the academic unit and the PSP*

## **Study Programme Compliance**

### **I. Findings**

The programme has developed a satisfactory information management system for its current students. Suitable key performance indicators have been established, and there is a clear availability of learning resources as well as student support. Student progression, success, and drop-out rates are monitored. The evaluation of the courses is performed at the end of each semester for all courses and faculty. It is noteworthy that the faculty have collaborations with graduate students, including research and educational activities.

Information and data on the performance of the faculty members of the programme is under regular monitoring. The Internal Evaluation Unit (OMEA) and MODIP are mainly responsible for the management of the QA associated systems. Key performance indicators (KPIs), such as career paths, student retention/progression, completion rates, etc. are satisfied.

## II. Analysis

Sufficient information for the needs of the National Information System for Quality Assurance in Higher Education (NISQA) based on the data is available.

Course/instructor student evaluations take place using questionnaires with formulated questions, but the percentage of students evaluating their courses is not very satisfactory (ca. 10%). The career paths of graduates are not monitored systematically. Initiatives towards improvement should be considered.

The Department maintains sufficient processes for the analysis and evaluation of data related to the availability and accessibility of resources (equipment, social services, IT facilities, etc.), as these are defined at Institutional level.

## III. Conclusions

The EEA Panel finds that, overall, the programme fully complies with Principle 7. The Department collects and analyses all data related to Quality Assurance and performs analysis of the collected course evaluation data at instructors' level.

### Panel Judgement

| <b>Principle 7: Information management</b> |          |
|--|----------|
| Fully compliant                            | <b>X</b> |
| Substantially compliant                    |          |
| Partially compliant                        |          |
| Non-compliant                              |          |

### Panel Recommendations

To further enhance adherence to Principle 7, the EEA Panel recommends the following:

- The student course/instructor evaluations need further attention. Students must become aware of the importance of the evaluation process so that they can appreciate its significance for improving the programme delivery, thus motivating increased survey participation.
- The career paths of graduates are not monitored systematically. A dedicated alumni portal may be developed to promote post-graduation interactions that can facilitate important networking interactions among graduates and further collaborations with the Department and the programme. Formation of a formal External Advisory Board is expected to help in this direction.

## **PRINCIPLE 8: PUBLIC INFORMATION CONCERNING THE POSTGRADUATE STUDY PROGRAMMES**

**INSTITUTIONS SHOULD PUBLISH INFORMATION ABOUT THEIR TEACHING AND ACADEMIC ACTIVITIES RELATED TO THE POSTGRADUATE STUDY PROGRAMMES IN A DIRECT AND READILY ACCESSIBLE WAY. THE RELEVANT INFORMATION SHOULD BE UP-TO-DATE, OBJECTIVE AND CLEAR.**

*Information on the Institutions' activities is useful for prospective and current students, graduates, other stakeholders, and the public.*

*Therefore, Institutions and their academic units must provide information about their activities, including the PSP they offer, the intended learning outcomes, the degrees awarded, the teaching, learning and assessment procedures applied, the pass rates, and the learning opportunities available to their students. Information is also provided on the employment perspectives of PSP graduates.*

### **Documentation**

- *Dedicated segment on the website of the department for the promotion of the PSP*
- *Bilingual version of the PSP website with complete, clear and objective information*
- *Provision for website maintenance and updating*

## **Study Programme Compliance**

### **I. Findings**

A comprehensive website, dedicated to the PSP is available in Greek and English (<http://nutri-environment.bio.uth.gr/>). The English version is somewhat simpler and less comprehensive than the Greek version. Information on the PSP teaching and academic activities as well as a whole range of student support services related to the PSP are available in a direct and readily accessible way under various drop-down menus and tabs covering general PSP information, staff, PSP studies, training activities, students, graduates, research, announcements and contact information.

Detailed information on individual course modules regarding teaching, learning, assessment procedures and intended learning outcomes are published on the website (<http://nutri-environment.bio.uth.gr/modules/>). The range of research projects are easily accessible on the PSP website (<http://nutri-environment.bio.uth.gr/postgraduate-theses/>). There is a general format how the research thesis should be written and structured but there is no published information on how the assessment will take place and how the marks will be allocated. However, this information was found on the documentation that was provided to the EEA Panel and during our discussions with the PSP teaching staff.

Student evaluations are not included on the website, and it is not clear how implementation of actions arising from student evaluations are communicated to present and future student cohorts.

### **II. Analysis**

The EEA Panel commends the PSP for keeping in touch with its past graduates and providing useful feedback from them in the form of statistical analyses of their professional careers and personalised short videos of selected success stories. This is excellent academic practice

providing reassurance and confidence to current students and to those students who are considering applying to this PSP for their future employment perspectives.

A well-structured and easily accessible website dedicated to the PSP provides a wealth of promotional material and information for current (and future prospective) students covering all aspects of teaching, learning, assessment, research, employment opportunities, transferable skills and relevant announcements. Given that the research/thesis project is a significant part of the PSP and contributes a sizeable mark to the final degree score, more information should be provided on the website for this. Examples of past projects and potential future projects should be provided. A detailed breakdown of how marks are allocated in the assessment of the research/thesis project should be drawn for transparency and fair/equitable marking, given that different projects can vary in their quality and outcomes affected in certain cases by factors that are not the students' responsibilities and/or fault. You should also consider moderating the marking responsibility of the supervisor which currently stands at 50% of the overall mark with smaller contributions from other staff. It is fully understandable that the supervisor is the topic expert and has more day-to-day interactions with the student, hence he/she is better placed to give a more informed mark, but there is a tendency to "mark our own work" a bit more favourably than the work of others. The EEA Panel has full confidence that other members of the committee will be able to apply their professional knowledge and judgement, as they often do in peer review, to provide a more moderated opinion and mark. The supervisor can mark lab performance and collegiate lab behaviour because of his/her day-to-day interaction with the student but other colleagues can mark understanding of the research topic, written presentation of experimental data, analysis of data, oral presentation, ability to answer questions. Should a supervisor strongly disagree with marks provided by the 3-member committee, then a brief discussion can take place to moderate the marks upon collective agreement. For example, an equitable marking scheme could involve, lab performance (25%), understanding of the research topic (10%), collegiate lab behaviour (10%), written presentation of experimental data (25%), analysis of data (10%), oral presentation (10%), ability to answer questions (10%).

### **III. Conclusions**

Overall, the EEA Panel finds that the PSP is fully compliant with Principle 8. Useful information on the PSP activities for prospective and current students, graduates, and other stakeholders as well as the public is provided. This information appears to be updated and current. The recommendations below are intended to facilitate continuous improvement.

## Panel Judgement

| <b>Principle 8: Public information concerning the postgraduate study programmes</b> |          |
|---|----------|
| Fully compliant   | <b>X</b> |
| Substantially compliant   |          |
| Partially compliant   |          |
| Non-compliant   |          |

## Panel Recommendations

To further enhance adherence to Principle 8, the EEA Panel recommends the following:

- Draft and publish a detailed marking scheme for research/thesis projects stating clearly marking criteria.
- Moderate the % mark allocated to the research/thesis project by the supervisor (see detailed comments above).
- Add to the website a tab to publish the implementation of actions arising from student evaluations from past years to increase transparency and contribute towards continuous improvement.



## **PRINCIPLE 9: ON-GOING MONITORING AND PERIODIC INTERNAL EVALUATION OF POSTGRADUATE STUDY PROGRAMMES**

**INSTITUTIONS AND ACADEMIC UNITS SHOULD HAVE IN PLACE AN INTERNAL QUALITY ASSURANCE SYSTEM FOR THE AUDIT AND ANNUAL INTERNAL REVIEW OF THEIR POSTGRADUATE STUDY PROGRAMMES, SO AS TO ACHIEVE THE OBJECTIVES SET FOR THEM, THROUGH MONITORING AND POSSIBLE AMENDMENTS, WITH A VIEW TO CONTINUOUS IMPROVEMENT. ANY ACTIONS TAKEN IN THE ABOVE CONTEXT SHOULD BE COMMUNICATED TO ALL PARTIES CONCERNED.**

*The regular monitoring, review, and revision of postgraduate study programmes aim at maintaining the level of educational provision and creating a supportive and effective learning environment for students.*

*The above comprise the evaluation of:*

- a) the content of the programme in the light of the latest research in the given discipline, thus ensuring that the PSP is up to date*
  - b) the changing needs of society*
  - c) the students' workload, progression and completion of the postgraduate studies*
  - d) the effectiveness of the procedures for the assessment of students*
  - e) the students' expectations, needs and satisfaction in relation to the programme*
  - f) the learning environment, support services, and their fitness for purpose for the PSP in question*
- Postgraduate study programmes are reviewed and revised regularly involving students and other stakeholders. The information collected is analysed and the programme is adapted to ensure that it is up-to-date.*

### **Documentation**

- *Procedure for the re-evaluation, redefinition and updating of the PSP curriculum*
- *Procedure for mitigating weaknesses and upgrading the structure of the PSP and the learning process*
- *Feedback processes concerning the strategy and quality goal setting of the PSP and relevant decision-making processes (students, external stakeholders)*
- *Results of the annual internal evaluation of the PSP by the Quality Assurance Unit (QAU), and the relevant minutes*

### **Study Programme Compliance**

#### **I. Findings**

External evaluation of the Department was done in 2019 as part of the then legal framework. Since then, no further external evaluations have been carried out as they were not legally required.

Internal evaluations by OMEA/MODIP have been carried out and the latest one from early 2023 was included in the submitted documentation.

Regular student course/instructor evaluations of all course modules are undertaken every semester, and extensive statistical data were submitted to the EEA Panel.

Extensive evaluation data from past graduates of this PSP programme were provided to the EEA Panel.

## II. Analysis

Ongoing regular evaluations of the PSP is an integral part of continuous improvement from the students and staff perspective. The EEA Panel understands the legal framework and what is legally required in terms of assessments of the PSP but beyond the legal framework the EEA Panel would expect voluntary actions that would ensure regular monitoring in the spirit of continuous improvement. One such action would be the appointment of an independent, External Advisory Board which would assess and review all aspects of this PSP including teaching content/curriculum revision, infrastructure, research agenda, assessments, and student support.

Although it is clear that recommendations through MODIP and student evaluations are being actioned, this needs to be publicized and communicated clearly to the next student cohort. This will improve transparency and facilitate continuous improvement.

## III. Conclusions

Overall, the EEA Panel finds that the PSP is fully compliant with Principle 9. There have been regular internal evaluations by the Institution’s MODIP consistent with regular monitoring, review and revision of the PSP aiming and maintaining a high level of educational provision through a supportive and effective learning environment. The recommendation below is intended to facilitate continuous improvement.

### Panel Judgement

| <b>Principle 9: On-going monitoring and periodic internal evaluation of postgraduate study programmes</b> |          |
|---|----------|
| Fully compliant   | <b>X</b> |
| Substantially compliant   |          |
| Partially compliant   |          |
| Non-compliant   |          |

### Panel Recommendations

To further enhance adherence to Principle 9, the EEA Panel recommends the following:

- A list of recommendations from MODIP evaluations that have been actioned should be published on the PSP website.

## **PRINCIPLE 10: REGULAR EXTERNAL EVALUATION OF POSTGRADUATE STUDY PROGRAMMES**

**THE POSTGRADUATE STUDY PROGRAMMES SHOULD REGULARLY UNDERGO EVALUATION BY PANELS OF EXTERNAL EXPERTS SET BY HAHE, AIMING AT ACCREDITATION. THE TERM OF VALIDITY OF THE ACCREDITATION IS DETERMINED BY HAHE.**

*HAHE is responsible for administrating the PSP accreditation process which is realised as an external evaluation procedure, and implemented by panels of independent experts. HAHE grants accreditation of programmes, based on the Reports delivered by the panels of external experts, with a specific term of validity, following to which, revision is required. The quality accreditation of the PSP acts as a means for the determination of the degree of compliance of the programme to the Standards, and as a catalyst for improvement, while opening new perspectives towards the international standing of the awarded degrees. Both academic units and Institutions must consistently consider the conclusions and the recommendations submitted by the panels of experts for the continuous improvement of the programme.*

### **Documentation**

- *Progress report of the PSP in question, on the results from the utilisation of possible recommendations included in the External Evaluation Report of the Institution, and in the IQAS Accreditation Report, with relation to the postgraduate study programmes*

## **Study Programme Compliance**

### **I. Findings**

The postgraduate programme has not been previously subjected to any external evaluation and accreditation process. However, an external evaluation for the accreditation of the undergraduate studies programme of the host Department took place in 2019.

### **II. Analysis**

The PSP has not been evaluated before by an external committee for accreditation purposes; thus, no evaluation can be performed relative to outcomes of previous accreditations. Based on the undergraduate accreditation, some recommendations have been applied also to the postgraduate programme as it is administered by the same Department. The faculty members were forthcoming during the accreditation process, answering all questions and providing all the necessary information requested. It is worth mentioning that all teaching staff present during the evaluation process, as well as the postgraduate programme's Director, recognize the importance of the accreditation.

### **III. Conclusions**

Overall, the EEA Panel finds that the PSP is fully compliant with Principle 10.

## Panel Judgement

| <b>Principle 10: Regular external evaluation of postgraduate study programmes</b> |          |
|---|----------|
| Fully compliant   | <b>X</b> |
| Substantially compliant   |          |
| Partially compliant   |          |
| Non-compliant   |          |

## Panel Recommendations

To further enhance adherence to Principle 10, the EEA Panel recommends the following:

- Previous recommendations in the 2019 accreditation report for the undergraduate programme should be implemented in the postgraduate programme as well. It is highly recommended that the Department keeps a detailed record of all actions and implementations.
- All postgraduate study programmes of the Department of Biochemistry & Biotechnology should coordinate efforts as several recommendations are expected to be common to all programmes.

## **PART C: CONCLUSIONS**

### **I. Features of Good Practice**

- The University and the Department have implemented compliant, efficient mechanisms for monitoring and ensuring high quality education and services relative to the PSP. The existing quality assurance and continuous improvement policy and practices followed by the PSP align with the strategic objectives of the Department and the University.
- The faculty and staff are enthusiastic and dedicated to their mission.
- The students' overall experience is very positive. The enthusiasm of current students, recent graduates, employers, and stakeholders was evident.
- Employment of the postgraduate study programme graduates in public and/or private positions is very high.
- Employers and social partners praised the postgraduate study programme and believe there is a clear need for such graduates.

### **II. Areas of Weakness**

- There is no structured, well-defined process for students, graduates and external stakeholders in the PSP improvement.
- Hands-on student laboratory training is insufficient.
- Student participation in Internship training in industry is very limited.
- There is no “structured student contact framework” for students on away placements.
- There is no published historical track of actions in response to past evaluations (students, external and internal evaluations).
- There are limited interactions with stakeholders and alumni after graduation.
- Limited mobility of students, faculty and other scientific personnel.
- There is no formal External Advisory Board.

### **III. Recommendations for Follow-up Actions**

- Establish a formal process for the active participation of students, graduates, external stakeholders in the curriculum development and study programme revisions.
- Increase hands-on student laboratory training.
- Publish on the PSP website all actions in response to past evaluations (students, external and internal evaluations).

- Students' financial support during Internship training in industry should be re-evaluated.
- Increase interactions with stakeholders and PSP alumni.
- Consider organizing job fairs/workshops with potential employers and stakeholders for students to learn about job opportunities.
- Organize an Open House Day with the participation of all Department laboratories to showcase the range of research capabilities and on-going projects.
- Increase mobility of students, faculty and other scientific personnel.
- Consider establishing a formal External Advisory Board comprised of faculty, graduates, and social partners to actively assist and guide the continuous review, revision, and further development of the PSP curriculum, enhance the entire programme, as well as attract resources.

#### IV. Summary & Overall Assessment

The Principles where full compliance has been achieved are: **1, 3, 4, 5, 6, 7, 8, 9 and 10.**

The Principles where substantial compliance has been achieved are: **2.**

The Principles where partial compliance has been achieved are: **None.**

The Principles where failure of compliance was identified are: **None.**

| Overall Judgement       |          |
|-------------------------|----------|
| Fully compliant         | <b>X</b> |
| Substantially compliant |          |
| Partially compliant     |          |
| Non-compliant           |          |

## The members of the External Evaluation & Accreditation Panel

Name and Surname

Signature

- 1. Professor Emeritus Spyros Pavlostathis (Chair)**  
Georgia Institute of Technology, Atlanta, GA, USA
- 2. Professor Anastassios Papageorgiou**  
University of Turku and Åbo Akademi University, Turku, Finland
- 3. Professor Constantinos Varotsis**  
Cyprus University of Technology, Limassol, Cyprus
- 4. Professor Panagiotis Soutanas**  
University of Nottingham, Nottingham, UK
- 5. Mr. Georgios Bakratsas**  
PhD Candidate, University of Ioannina, Ioannina, Greece