



**ΕΛΛΗΝΙΚΗ ΔΗΜΟΚΡΑΤΙΑ**  
HELLENIC REPUBLIC



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# **Accreditation Report**

## **for the Postgraduate Study Programme of:**

**Applications of Biology in Medicine**

**Department: Biology**

**Institution: National and Kapodistrian University of  
Athens**

**Date: 18 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 **Applications of Biology in  
Medicine** of the **National and Kapodistrian University of Athens** 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 of **Applications of Biology in Medicine** of the **National and Kapodistrian University of Athens** comprised the following five (5) members, drawn from the HAHE Register, in accordance with Laws 4009/2011 & 4653/2020:

- 1. Dr. Nicholas Ktistakis (Chair)**  
Babraham Institute, Cambridge, UK
  
- 2. Prof. Thimios Mitsiadis**  
Universität Zürich, Zurich, Switzerland
  
- 3. Prof. Konstantin Kousoulas**  
Louisiana State University, Louisiana, USA
  
- 4. Prof. Panagiotis Soultanas**  
University of Nottingham, Nottingham, UK
  
- 5. Dr. Fotios Tekos**  
PhD Student, University of Thessaly, Larisa, Greece

## **II. Review Procedure and Documentation**

Prior to the online visit, the assessment panel (AP) received from the Post Graduate Study Programme (PSP) a long list of documents that contain the proposal for accreditation, information on student and faculty characteristics, aims of the PSP and examples of course assignments etc. Overall, the AP notes that these documents were sufficient in number and quality to proceed with the accreditation.

Meetings and discussions were held online from 13/11 to 15/11 2023

### **13/11/2023**

14:00-15:00 The panel met privately to discuss the PSP and to distribute the load of writing the report (different members were the lead for the different principles).

15:00-16:00 The panel met with the head of the PSP, Professor Ioannis Trougakos, Faculty of Biology, National and Kapodistrian University of Athens, with Associate Professor Aristeidis Parmakelis, Chairman of the Faculty of Biology, Professor Panagoula Kollia, Faculty of Biology, and Member of the Administrative Board of the PSP as well as MODIP staff/members: Mr. Konstantinos Bourletidis Head of the Quality Assurance Unit (MODIP), National & Kapodistrian University of Athens, and MODIP Secretary Mr. Theodoros Chajitheodorou, MODIP member.

At the end of this meeting (which took longer than one hour) the panel was given the links to watch the video that introduces the PSP facilities (classrooms, laboratories etc). The panel was satisfied that the facilities are of good quality to host the students of this PSP.

### **14/11/2023**

15:00-15:45. Meeting with faculty of the PSP as follows: Panagoula Kollia, Professor, Faculty of Biology, Stamatios Theocharis, Professor, Medical School, Konstantinos Moraitis, Professor, Medical School, Marianna Antonelou, Associate Professor, Faculty of Biology, Joseph Papaparaskevas, Associate Professor, Medical School, Andreas Agathangelidis, Assistant Professor, Faculty of Biology, Charis Alexopoulos, Assistant Professor, Faculty of Biology. During this meeting, the AP discussed with the faculty their impressions of the PSP, how the syllabus is decided, what is the motivating factor for them to teach in the programme and how this affects their professional development.

16:00-16:45. Meeting with 6 students of the PSP at various stages of completion of their degree. The objective of the discussion was to hear how the students feel about the PSP, what are potentially strong and weak points, their relationship with the faculty and the time it normally takes to finish the PSP.

17:30-18:15. Meeting with graduates of the programme as follows: Vasilis Tzounakas, Assistant Professor, University of Patras, Helen Kameta, Scientific Associate Clinical Data Software Company, Alkmini Anastasiadi, Postdoctoral Researcher at the University of Patras, Eleftherios Kontizas Special Technical Scientific Staff –Diagnostic Department (Laboratory of Autoimmune Diseases) of the Hellenic Pasteur Institute, Ioannis Karagiannis, Scientific Technical Staff, at the Vaccine Unit of the Hellenic Pasteur Institute, Maria Economidou,

Biomedical Laboratory Scientist, "ANDREAS ADAMOU", Nicosia, Cyprus, Konstantinos Lentzakis, Owner of a private coaching school ('frontistirio'). Discussions centered around the experience of the graduates from the PSP, how the PSP helped them in their next professional steps, and what things they may want to see changed now that they see the PSP in hindsight.

18:15-19:00. Meeting with stakeholders (employers, social partners) of the PSP as follows: Apostolos Papalois, Secretary General Executive Board, NASCE (Network of Accredited Clinical Skills Centres in Europe) – UEMS (European Union of Medical Specialists), Dimitris Kletsas, Director, Institute of Biosciences and Applications, NCSR "Demokritos", Greece, George Tsaousis, GeneKor MSA, Athens, Greece, Aggeliki Balasopoulou, Laboratory of Genetics-Cystic Fibrosis, Unit of beta-thalassemia, / Experts Centre of Rare haematological diseases "Laikon Hospital" Athens. The objective of this meeting is to discuss with the stakeholders their impressions of the academic background of the graduates of the PSP and their employability, ways that the PSP can have continuous interactions with the industry and finally what the industry can do to make the PSP even stronger. This was partially accomplished because the panel that was invited were for the most part associate members of the PSP (either in a teaching or an administrative capacity) and the industry representation was low.

19:30-20:00 The AP met in conclusion with the head of the PSP, Professor Ioannis Trougakos, Faculty of Biology, National and Kapodistrian University of Athens, Professor Panagoula Kollia, Faculty of Biology, NKUA, Member of the PSP Administrative Board and Assistant Professor Savvas Genitsaris, Faculty of Biology, NKUA, member of the OMEAA committee. The AP thanked the PSP for a very good programme, presented some preliminary findings from the visit and clarified a few items that were unclear from the discussions and the submitted documents.

### **III. Postgraduate Study Programme Profile**

The PSP Applications of Biology in Medicine is one of the most established programmes in the University of Athens having started in 1997. From the beginning, it was designed as an interdisciplinary PSP combining knowledge of biology with its applications in the medical fields, and the training that it offers can be understood at three levels: academic, experimental and professional.

On the average, 20 students are enrolled each year in the programme with 98 students having graduated in the last 5 years; the vast majority are graduates of science departments or medical schools in Greece and Cyprus, and there is a fee of 3000 euros for the 4 semesters (2 years) of studies.

The faculty of the PSP are approximately 45 University professors and 15 researchers, all with a PhD degree. They are drawn from the Biology Department, the Medical School, the Biomedical Research Foundation Academy of Athens, the Democritus Research Laboratories and to a lesser extent other University departments. It is clear from the above that the PSP serves as a focal point of scientists from diverse disciplines and institutions in Athens.

A central aim of this PSP is to educate students in diverse biomedical areas including molecular and cellular biology, organismal biology and disease biology and medicine. In addition to graduates who go to a PhD degree, the PSP aims to graduate competent professional in areas such as genetics, biotechnology and translational work in pharmaceutical and biomedical companies.

The programme of studies requires in person coursework for the majority of the syllabus, and a mandatory thesis which is normally done during the last semester although many students start preparation earlier. One of the stated aims of the PSP is to enable the students to graduate after four, or maximum five semesters, and the AP saw evidence that is successfully implemented. Although there are Erasmus placements for the students, they do not appear to be very popular.

The University of Athens, where this PSP is located, is home to a large student body of over 65000 persons, with over 2000 faculty and a similar number of support personnel. It is the oldest academic institution in Greece and one of the best known.

## 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 PSP operates on the basis of very explicit goals and is evaluated internally by the students and faculty of the programme as well as by ΜΟΔΙΠ and ΟΜΕΑ. The subject matter of the PSP is very appropriate for the graduate requirements of students in the biomedical fields and the



fit of the faculty to the subject areas taught is very high. It is a 2-year PSP, with a good balance between taught courses, practical laboratory exercises and a research thesis which is mandatory. The PSP is based in the Biology department of the University of Athens, and benefits from the rules and regulations of quality assurance that pertain to the entire department and University. At the same time, the PSP enjoys the participation of faculty and researchers from several other departments and institutions in Athens such as the medical school, institute Pasteur, and the bio-academy of Athens. During discussions of the AP with recent graduates and some employers, it was clear that the graduates of the PSP are of excellent quality, and they have no problems finding good jobs afterwards.

The faculty of the PSP are of high calibre, and they follow good (although rather traditional) teaching methods. The students are educated to a high standard in the areas covered by the programme.

Several mechanisms exist for the continuous evaluation of this PSP, and for deciding on and implementing up to date goals and aims. In a document titled Πολιτική Ποιότητας της ακαδημαϊκής μονάδας για την ανάπτυξη και βελτίωση του ΔΠΜΣ «Εφαρμογές της Βιολογίας στην Ιατρική» they are outlined as follows: (a) policy for quality assurance as outlined in documents submitted to the AP (but not on the website); (b) policy for handling income for this PSP; (c) establish annual quality control metrics; (d) evaluate metrics mentioned in c; (e) gather data on the performance of the PSP; (f) communicate information on the performance of the PSP to outside audience and (g) submit all of this information to an outside evaluation as is the case now.

From the discussions of the AP with recent graduates and external stakeholders it was clear that some effort is always made to examine what constitutes ideal qualifications of the students of the PSP for their subsequent career, be it towards a PhD degree, or directly entering the labour market.

In addition to the normal course of studies, this PSP also offers a certificate for training in the use of experimental animals to those students who take the appropriate courses. This provides an additional level of training for those entering the labour market (or even continuing towards a PhD degree).

## **II. Analysis**

This PSP has been designed to fulfil an important gap in post-graduate studies for students who have graduated from biomedical departments in Greece. The combination of in person tuition and a mandatory thesis work during the two years duration of the programme ensures that the graduates are well prepared for subsequent career moves, academic or commercial. In line with many other such programmes, information aimed at an outside audience via the course website is rather sketchy, and in the case of the English version non-existent. This detracts from the visibility of the PSP to outside stakeholders in Greece and abroad.

On the other hand, the internal procedure in place for the continuous evaluation of the PSP are strong and very useful.

### III. Conclusions

Overall, this is a very good PSP that addresses an important need in Greek post-graduate education. Small omissions could be easily rectified.

#### 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	X
Substantially compliant	
Partially compliant	
Non-compliant	

#### Panel Recommendations

Improve the quality and content of the Greek website and design an English version that does justice to the quality of the programme.

## **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 two participating Departments' (Biology and Medicine) overall research strategies.

The PSP is structured in semesters and follows the European Credit Transfer System (ECTS). It consists of three 6-month semesters, each amounting to 30 ECTS (90 ECTS in total) and a final 6-month semester contributing 30 ECTS during which a research project (Diploma Thesis) is conducted amounting to the final 120 ECTS. Courses are taught in the Greek language mostly in person. Individual course workloads for this PSP seem to be appropriate, both for students and the teaching staff, although teaching staff raised some concerns regarding their general heavy teaching/administration loads. Teaching in this PSP is supported by several external academic and research colleagues from various institutes and establishments including IIBEAA, Pasteur Institute, Research Centre Athena, EKEFE Democritus, Alexander Fleming Research Centre, European University of Cyprus and Genecor.

The average intake of students in this PSP is approximately 20 students per annum and fees have been set at 3,000 euros for the 2 years of study. Research projects offered each year are more than student numbers, on average twice as many students, to allow student choice. There is a distinct effort to promote inter-departmental cross-disciplinary and multidisciplinary research projects between the two departments.

Four stakeholders of the labour market participated in the relevant meeting with the EEA Panel. One stakeholder was an external contributor of lectures in the last year only and a second stakeholder was an external contributor of lectures for several years while at the same time he had experience of PSP graduates working at his establishment. The other two stakeholders have been involved in accepting PSP students for research projects. The number of stakeholders the EEA Panel met was rather limited to extract a representative picture of potential benefits from graduates in the job market but collectively from the statistical data and our discussions, the EEA Panel believes that this PSP is of high societal value. The EEA Panel further believes that the postgraduate programme has further significant unexplored potential opportunities with a wider range of industrial and social partners at local and national levels.

The structure of the study programme is rational, coherent, and clearly articulated. A wide range of important topics are covered directly relevant to applications of biology in medicine. The course guide provides detailed learning outcomes and acquired skills in line with the European and National Qualifications Framework (EQF, NQF) and the Dublin descriptors for level 7. Student feedback/evaluation is considered to continuously improve the structure, content, organization of courses and teaching methods. Assessment methods are appropriate and clearly described in the course guide.

The Student Guide is complete, concise, and appropriate and offers detailed information about the PSP. A full and detailed description of the courses is also provided on the PSP website (<https://biol-med->

[applications.gr/%cf%80%ce%b5%cf%81%ce%b9%ce%b3%cf%81%ce%ac%ce%bc%ce%bc%ce%b1%cf%84%ce%b1-%ce%bc%ce%b1%ce%b8%ce%b7%ce%bc%ce%ac%cf%84%cf%89%ce%bd/](https://applications.gr/%cf%80%ce%b5%cf%81%ce%b9%ce%b3%cf%81%ce%ac%ce%bc%ce%bc%ce%b1%cf%84%ce%b1-%ce%bc%ce%b1%ce%b8%ce%b7%ce%bc%ce%ac%cf%84%cf%89%ce%bd/)). All information is revised and updated regularly. Although we have been assured that the PSP is being updated on an annual basis there does not seem to be an official procedure in place to implement changes and approve them in the General Faculty Assembly, with the participation of all interested parties, including external stakeholders.

The PSP prepares graduates for careers in the commercial, industrial, and public sectors of the economy, such as hospitals, diagnostic centers, quality control laboratories, health services, research and development (R&D) departments, public bodies and research centers. In addition, a sizeable number of graduates (20-25%) continue with doctoral studies and follow research/academic careers. The graduates of this PSP we have talked expressed their satisfaction at the quality of the PSP. The knowledge they acquired from the PSP aided their future careers.

## **II. Analysis**

The PSP has a long history of existence since 1995 originally and is continuously developing over the years. It was renewed through a decision of the General Faculty Assembly in 2018 to run until the academic year 2027-28 and confirmed through the publication of the Governmental FEK in 2023. The teaching staff is highly experienced and research-active helping to run a high-quality PSP. However, the teaching methods seem to be rather traditional with no evidence of incorporating modern teaching practices e.g. appropriate videos, quizzes, in-class exercises, specialised experimental training etc.

There are some interactions with external partners but most of them appear to be non-systematic and not formalized.

There are no documented records of regular, established framework for systematic review and revision of the programme. However, the PSP should be commended for introducing a new course on Innovation & Business, a topical subject important for the Greek economy and future prosperity.

Several students mentioned the lack of “hands-on” experimental experience prior to the onset of the research projects. The Panel understands the limitations of available laboratories to cover the whole spectrum of undergraduate and postgraduate degrees, but the PSP should try to introduce more practical experimental training in some appropriate courses.

The future transformation of this PSP into being delivered entirely in English will increase its international visibility and perhaps help attract international students with increased fees. Internationally established scientists can be invited to contribute some teaching elements either remotely or in person.

### III. Conclusions

Overall, the EEA Panel finds that the programme is compliant with Principle 2. It is a well-designed PSP with well-defined aims and objectives. It provides detailed information sources and processes relevant to the PSP. It is structured clearly and developed over the years to accommodate modern topics, linking teaching to research.

#### Panel Judgement

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

#### Panel Recommendations

- Procedures to update and/or introduce new courses should be clearly formulated and documented.
- New methods of student teaching, learning and engagement should be explored, such as tutorials, new pedagogical methods of learning, quizzes, on-line exercises/videos etc.
- Introduce more experimental training where appropriate in different courses.
- 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.
- Consider the evolution of this PSP to be delivered in English. This can be done with the delivery of few courses in English initially, followed by the gradual transformation of the rest of the courses in English.

### **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**

As part of the effort to strengthen the student-centred educational process, interactive educational material in the program courses is well established in the post-graduate program "Applications of Biology in Medicine" of the National Kapodistrian University of Athens.

Courses can be taught either face-to-face or remotely, in accordance with current legislation. However, through the expressed opinion and strong preference of students and teachers, live teaching with physical presence and meeting of students with lecturers and, where appropriate, use of modern online teaching in emergency situations.

With the main aim of achieving the learning goals, activating the participation, and increasing the interaction of the students in the post graduate program, as well as meeting the individual and group learning needs, a range of educational methods and tools are used.

The continuous monitoring and assurance of the quality of the teaching work at the DPMS is carried out with appropriately structured regulations:

- Course and teacher evaluation system by students. Students evaluate all the courses both in a formal way, through written questionnaires, and through the daily interaction with the lecturers.
- The Academic Advisor Regulation. This regulation determines the implementation details of the institution of the Academic Advisor for Postgraduate Studies in the context of strengthening the student-centred educational process, aiming at the success of graduate students in their studies and professional careers and to assist the student based on their personal needs. The Academic Advisor highlights in a student-centred way the student's sense of autonomy while assuring collaboration of each student with the teaching staff to overcome any obstacle. Opportunities are also given to students who are less extroverted showing respect to any learning peculiarities of them.
- Mechanism for consultation and management of student complaints. The NKUA Liaison Office provides advisory support to students in matters of study and professional rehabilitation. Also, the Committee for Undergraduate and Postgraduate Subjects of the Biology Department of NKUA is responsible for recording and managing complaints and denunciations from postgraduate students. Finally, the institution of the Student Advocate is also activated, which examines student requests, reports-complaints for violation of provisions and rules of university legislation and ethics, facilitates their contact with administrative bodies and services, and informs them about their rights and their obligations as members of the University Community.

Furthermore, the program aims to enrich the students' skills by adjusting the modes of delivery and pedagogical methods. The post-graduate program is a leader in the use and application, and creation of open academic courses, the use of seminar training and assignments and presentations as well as conventional training in auditoriums. A critical point in the overall education process is the existence of a mandatory research-type diploma thesis which, according to the general confession of both students and teachers, "makes the difference" in the level of education provided.

The teaching staff of the " Applications of Biology in Medicine " currently consists of 47 members of teaching scientific staff, 16 researchers, and 1 member of laboratory teaching staff and is highly qualified and suitably qualified to carry out high-level teaching and research.



## II. Analysis

The post-graduate program “Applications of Biology in Medicine” of the National Kapodistrian University of Athens, meets the criteria for professional development of the students in both the private and public sectors. Teaching staff and their methods are evaluated by students with personal questionnaires contributing to their fair evaluation. The assessment process applies equally and is in-time communicated to all students. The process is adhered to the established regulations and protocols. Students are well-informed through announcements on the website and using the online class platform and through adequate communication with the Academic Advisor assuring collaboration and appreciation between each individual student and teaching staff.

## III. Conclusions

The post-graduate program “Applications of Biology in Medicine” of the National Kapodistrian University of Athens, complies with transparency through its predefined rules and regulation. Further improvement based on students’ questionnaires can be implemented.

### 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

- Optional practical experience by working in companies might be a strong motivation for endorsement of students’ skills.
- Design workshops for introducing the current market needs and professional orientation and career opportunities to ensure effectiveness of the program.
- Expand selection of thesis topics and offer the opportunity to conduct the thesis in English.
- Streamline the weekly workload with more analysis and discussion during lectures, enrichment and better organization of the educational material provided and improved coordination between courses/teachers to eliminate any overlaps.

## **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**

The Interdepartmental Master's Program (M.Sc.) "Applications of Biology in Medicine" was initially decided by the faculty members of the Department of Biology and the School of Medicine of EKPA and was approved by the Ministry of Health in 1995. This postgraduate program is its twenty-eight years of operation. Participating faculty (65) are from the Department of Biology, the faculty of Medicine and researchers from Greek research foundations and institutes. The continuously updated program aspires to provide high-level theoretical and practical training and technological education in biomedical research. The new study program includes lectures by guest speakers from major educational and/or research institutions in Greece and abroad. Most of the enrolled students seek employment in biomedical service-paid institutions, while a minority of the students continue to obtain a doctorate in various areas of the Biosciences.

The PSP has well-defined regulations that define the study process, the duration of the studies, the conditions for the promotion and ensuring the progress of postgraduate students, the terms and conditions for the strengthening the mobility of students and the procedures for awarding and recognizing the degree. The study recognition procedures are based on relevant academic practices for the recognition of the transfer of credit units between different Departments and Institutions in Europe, in accordance with the principles of the Lisbon Convention on the Recognition of Academic Qualifications. Each graduate after completion of the program receives documents that describe the specialization acquired, the grade awarded

and the level of studies that were pursued. The lessons are conducted only in the Greek language. Students are required to take 11 compulsory courses of the DPMS, complete a total of at least 171 credits or 240 credits of the European Credit Transfer System (ECTS), attend four academic semesters and prepare a diploma thesis, which is selected and pursued during the third and fourth semester. However, several students require additional time to complete their thesis research but cannot exceed 12 months from the beginning of the thesis assignment. It is not clear how many students exceed the four-semester time frame, but it appears that the majority require at least one-two extra semesters.

The selection of students is made in accordance with the current national legislation, Regulation of Postgraduate and Doctoral Studies of EKPA and its provisions of this Regulation. A selection committee composed of three members of the E.P.S. or at least three members of D.E.P. who are involved in the program. There is a list of required documents that include the application form, CV, copy of diploma, grades for undergraduate courses, certification of mastery of the English language, at least one letter of recommendation, and any evidence of prior professional or research activity. Provisions are also in place for the potential acceptance of foreign students; however, knowledge of Greek is required. The evaluation of the candidates and the selection of the admitted ones is based on the first-degree grade (15%), diploma thesis (15%), English language (10%), Recommendation letters (10%) and oral interview with three faculty members (40%). These procedures are clearly described in the required supporting documents, which also contain information about student rights and obligations and ways to monitor their progression. Research ethics regulation, regulation of studies, internships, mobility, and student assignments are also provided in the supporting documents and on the website of the program. There are no courses that address research integrity issues that needs to be incorporated into the program. The maximum time allowed to complete the studies is set at eight (8) academic semesters, after a reasoned application of the student and its approval E.P.S.

The PSP has in place appropriate processes and tools to collect and effectively analyse information concerning the PSP students' progress. This information is stored within the PSP students' registration system. The duration of the CB-MD PSP is four semesters (30 ETCS each semester), with lectures, seminars, and practical exercises, followed up by the dissertation, which starts in the third semester and finishes at the end of the fourth semester. Students are evaluated at the end of each semester. Students must write a dissertation that is always research oriented. The maximum time allowed to complete the studies is set at eight (8) academic semesters, after a reasoned application of the student and its approval E.P.S.

The PSP diploma allows most of the students to get jobs with specific requirements. Graduated PSP students can further develop a scientific or academic career by acquiring a PhD degree, but the number of students following this direction is relatively low. Apparently, there is good communication among PSP students and PSP staff and faculty. Individual mentoring faculty appear to take a lot of interest in mentoring and guiding each student pursuing thesis research in their laboratories. The program should also have an independent academic advisor that may participate in potential conflict resolution among faculty and students. The current role of academic advisors is not clearly defined. All current and past students indicated that the program has been strong over the years and valued their faculty. A common wish was to have additional opportunities for practical applications. A strength of the program that students participate in national meetings to present their work. However, it would be

appealing if they could participate in international meetings especially by taking advantage of the Erasmus+ and Erasmus+ Traineeships platforms.

## **II. Analysis**

The PSP provides has a long history of success and is being revised with a variety of new courses and instructors. The presence of faculty from biology and medicine provides a good exposure of students to biomedical applications in medicine. Graduating students can pursue employment in industry and have adequate preparation to pursue a doctoral degree after graduation. The length of the PSP studies is appropriate although it appears that most of the students require additional time-at least one semester-to finish the research thesis. Efforts should be made to have students complete the program within the specified time frame.

The 65 faculty that are listed as instructors of various courses deliver their courses in person with all courses delivered in Greek. This is also evident from the website of the program, which is only in Greek while an English version is apparently under construction. This program must at least provide certain courses and seminars in English since the English language is necessary for the review of literature. It appears that both instructors and students are well versed in English, therefore, there may not be significant issues in converting certain courses in English. Mastering the English language as it pertains to biomedical research and applications will enable students to potentially pursue careers abroad.

The courses that are provided cover a variety of current biomedical research areas. Most of the courses contain a high amount of content, which is compacted within the first two semesters. One potential improvement is the reduction of didactic courses and inclusion of practical courses, rotations in laboratories that have specific technical knowledge and potential visits to commercial laboratories that utilize certain technologies. It is noted that there is no formal teaching and discussion of research integrity issues.

Students select research topics for their thesis research from a catalogue of topics that are provided by faculty interested to oversee thesis research. Apparently, there is flexibility to include certain research topics agreed upon by individual mentees and faculty that are then included in the list of available topics. It will be prudent that this list of potential research areas is completed as soon as possible to allow students for a variety of topics and faculty to work with.

Noted strengths of the PSP include high quality scientific training, significant research presence, use of interactive materials in courses (could be enhanced), reasonable participation of students in the evaluation of the program process and a relatively high degree of absorption of graduates in the labour market. The program is attractive since only a portion of the applicants is admitted to the program. Potential areas for improvement are the use of the English language for certain courses and theses writing, the inclusion of English-speaking seminar speakers, and an increased communication with graduates and other stakeholders.

### **III. Conclusions**

The PSP follows the standards of the HAHE, and it has been successful over 28 years. Current students, graduates, faculty, and stakeholders appear to have an overall positive experience with the PSP. Bridging of biological concepts with applications in medicine renders this program very attractive to students. The program could benefit for increased communication among all participants. There is special need to involve graduates of the program as mentors to current students regarding their career development. These graduates and external stakeholders could participate in advisory committees to offer their view of the need for certain courses and practical exercises as well as provide important connections to the outside world. This program may be very attractive to foreign students if it was taught in English. However, it is understood that most of the graduates find employment with Greece where mostly Greek is used. A reasonable solution may be to have certain courses in English and allow theses to be written in either Greek or English. A seminar series should be created allowing foreign experts including those of Greek descent to deliver lectures remotely on areas of high interest in biomedical research and applications. Formal teaching of research integrity issues needs to be added to the program.

## Panel Judgement

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

## Panel Recommendations

- Although it appears that a significant number of students submit their reviews of the program, steps should be taken to have students fill the questionnaires in class during final exams to secure 100% participation.
- The program should adopt the English language in most if not all courses. (The Greek terminology could be provided in parallel to ensure that those students that will find employment in Greek institutions that utilize the Greek Language could be able to use both languages with easiness.)
- Efforts ought to be made to increase communication with all stakeholders. This can be achieved by hosting a social event per year or perhaps a symposium to allow external stakeholders to participate and share their knowledge and experience.
- A seminar series that can utilize foreign speakers (especially Greek-born scientists) may be particularly useful to connect the program to major foreign laboratories and industry.
- An external advisory-evaluation committee could also help provide unbiased review of the program.
- Establish more strict criteria for the delivery of diplomas on time (immediately upon completion of the 4th semester).
- Make effort to increase the number of published scientific articles in which PSP students participate, which will greatly increase the visibility of the PSP.
- Decrease didactic courses and increase practical exercises within hosting laboratories as well as visitors in other than the mentor's laboratory including potential external institutions and industry.
- Formal teaching in research integrity issues should be added.

## **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 teaching staff of the DPMS includes 47 faculty members, 1 EDIP member and 16 Researchers (all PhD holders) and is highly qualified and suitably specialized to carry out high-level teaching and research. There is a five-member Curriculum Committee which selects the proposed lecturers ensuring transparency and meritocracy of the DPMS regarding the selection of the teaching staff. All faculty are experienced in their respective fields; however, there is no formal continued education and training that is provided to faculty to improve their teaching. The five-member Curriculum Committee invites visitors, distinguished scientists who have a position or qualifications as a professor or researcher in a research centre. Most of these invitees are from Greek-based institutions.

There is a listing of all faculty and staff, however there is lack of information concerning teaching staff accomplishments (publications, h-index, etc.) for all teaching faculty. There is no information on available extramural funding for most of the faculty involved in the program. Employment regulations and obligations of the PSP staff are also provided and described in the corresponding official documents. A policy for the faculty's support and development is

also in place. Apparently, there is discussion for institutionalization of teaching awards to provide additional motivation and recognition to faculty. This is not in place now, but it will help boost the morale of teachers and help motivate them to excel in the future.

Faculty teaching is evaluated by students anonymously. This is a very important function that can help improve the program in the future. These evaluation questionnaires should be administered during final exams to ensure 100% participation of all students. A survey of past graduates regarding how the program has helped them pursue their careers will be useful. The curriculum committee should also review all the syllabi of all courses and potentially attend certain lectures to provide additional feedback to individual teaching faculty. Overall, the staff's research productivity and teaching quality are adequate and comparable with those of similar departments in Greece. The teaching load is acceptable. The PSP staff has not been mobile by means of the Erasmus+ programme.

It is recommended that the PSB faculty meet as a group at least once per year to discuss the overall program and its direction. This meeting could be attended by expert teachers that can provide new methodologies for didactic lectures including incorporation of team exercises and involvement of students in presenting papers in journal clubs that are part of each course.

## **II. Analysis**

Overall, the PSP is successful in accomplishing the stated goals of the program. The faculty involved in the program are experienced and involve mostly faculty from the Biology Department. Increasing the number of certain faculty from external entities could further enrich the program. This is a rather large cadre of faculty that teach independently. It is recommended that the entire teaching faculty meet once per year to discuss the entire program and receive expert consultation for new teaching methodologies that involve "active" participation of students.

## **III. Conclusions**

This is a successful PSP that has evolved over decades to its current state. There is significant interaction with external institutions and research centres that should be further enhanced. The PSP can be further enhanced by incorporating teaching in English and increase participation of external stakeholders in advisory and evaluating capacities to the program.



## 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

- The panel recommends the more active involvement of current and graduate students in advising the director and the curriculum committee of the need for certain courses and practical exercise. This can be accomplished by an advisory committee composed of past graduates, other stakeholders, faculty, and current students that can provide consultation about the entire program and propose potential changes.
- It is recommended that there is formal mechanism for validating and enhancing teaching credentials through participation in teaching methodology seminars and providing opportunities for faculty to participate as guests in other programs that have teaching enhancement activities. In this regard, the panel recommends the mobility of PSP faculty throughout Erasmus+ and other similar platforms.
- Inclusion of evaluation questionnaires during final exams will ensure the 100% participation of students in the evaluation process.

## **PRINCIPLE 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 post-graduate program and NKUA make available to the students the appropriate facilities to ensure an appropriate teaching and learning environment. The cooperating Departments of the NKUA have at their disposal auditoriums/rooms for the delivery of the courses and computer laboratories for the teaching of laboratory courses as well as a library. Especially for the implementation of the academic activities of the post-graduate program the following building infrastructures are available:

#### **1. Auditoriums/Halls**

The teaching areas (indicative as there may be changes every year) are:

- Microscope Room, Laboratory of Pathological Anatomy, School of Medicine NKUA

- Library Room, Microbiology Laboratory, Faculty of Medicine, NKUA
- Auditorium of the Forensics & Toxicology Laboratory of the School of Medicine
- Hall of the Pharmacology Laboratory, Faculty of Medicine, NKUA
- Lecture hall of the Department of Anatomy - 'Anatomy' of the NKUA
- Room "PANTAZI", Department of Biology
- Room "LUKA H. MARGARITIS", Department of Biology
- Seminar Room, Department of Genetics & Biotechnology, Department of Biology
- Room #50, New Wing of the Department of Cell Biology & Biophysics

The auditoriums and halls have modern audio-visual and computing equipment, as well as a high-speed connection to the network.

2. Two Research Laboratories
3. Multimedia room with library equipped with the post-graduate related books.
4. University gymnasium room, swimming pool and open fields.

Furthermore, several services are provided to the students of the program, which are functional and readily available. Detailed information on these services can be found easily by the students on the websites of the post-graduate program. The services provided are:

- e-class, a fully integrated electronic learning management system which supports the up-to-date training of NKUA students without limitations and restrictions
- Electronic Secretariat Offices
- Library and information centre
- Service of “Multimedia Content Hosting and Search”
- Academic advisor
- Academic ID
- Digital services
- Access to counselling services in the areas of professional orientation and counter-psychosocial problems, through the specialized units and structures of the Institute
- Student advocate service for examining students’ complaints
- Foreign language teaching school
- Support for Students with Disabilities

The resources of the post-graduate program “Applications of Biology in Medicine” come mainly from Tuition Fees which amount to €3000 per student.

The management of the resources of the is carried out by the Special Research Funds Account of the University. The resources of are distributed as follows:

- a) an amount corresponding to thirty percent (30%) of the total income derived from tuition fees is withheld by Special Research Funds Account.
- b) the remaining amount of the total income is available to cover the operational costs of the post-graduate program.

## II. Analysis

Based on the findings obtained from student, graduate, and faculty interviews, written documentation provided by MODIP, and the website, it is evident that the post-graduate program provides all the necessary support services and facilities for the successful implementation of the program.

## III. Conclusions

Learning resources and student support are successfully implemented in the post-graduate program "Applications of Biology in Medicine". Based on students' questionnaires, it will be helpful to maximize the use of new technologies in courses and especially in laboratory courses and synthetic laboratories as well as reinforcement with modern equipment in multiple units to ensure that all students practice individually and not in groups as much as possible.

### Panel Judgement

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

### Panel Recommendations

Maintaining modern equipment of the laboratories is crucial for improving the effectiveness of the post-graduate program "Applications of biology in medicine" of the NKUA.

## **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 Department maintains a centralized information system to manage the Quality Assurance process. Course evaluation surveys are conducted and there is a process for analysing and acting upon the evaluation results, although this is not documented over the years. Student progression, completion and drop-out rates are monitored. Evaluation of courses is carried out at the end of each semester for all courses and teaching faculty. The participating Departments and faculty have continuous feedback interactions with its graduates, including research and educational activities.

The Internal Evaluation Unit (MODIP) is mainly responsible for the operation of the QA associated systems. Information and data on faculty performance analysis, administrative support, funding, etc. are also under regular monitoring. The PSP should be able to identify and document sufficient key performance indicators (KPIs), such as career paths, student retention/progression, completion rates, etc.

## II. Analysis

A sufficient range of information is provided for the needs of the National Information System for Quality Assurance in Higher Education (NISQA) based on the data available. 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 analyses 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

- 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**

The DPMS Applications of Biology in Medicine of the Department of Biology and the School of Medicine provides public information through its website, the website of the Department, the website of the EKPA, social media, as well as through information leaflets, etc. The PSP website has most documents that relate to the program including the study guide for the current year, regulations for the program's operation, research ethics regulation, the content and directions of the program, information about lectures, seminars, conferences, and other events that relate to the program. Also shown are scientific and research fields that are carried by the teaching faculty and the collaborators of the DPMS with biographies that include their research, writing and academic activity as well as the administrative and technical staff who support the implementation of the DPMS. The website of the PSP is still missing essential elements that are under construction and it is only available in Greek. This website needs to be significantly improved to be more user friendly and contain additional information on the program. Although it is mentioned that social media are utilized, there is no evidence that these have been extensively utilized to publish information about the program. There is no information on the website for featured seminar speakers, listing of previous graduates and their current employment, potential ways to post new positions available in academia and industry. Also, the website could be used to further enhance communication among all participants through a dedicated chat-comment function that can be centrally managed by the director, advisors and the curriculum committee.

### **II. Analysis**

Overall, this is a successful program in transition and needs to be more modernized to fulfil its mission. Faculty participants are commented on their significant efforts to deliver state-of-the-art lectures in diverse topics. The programs visibility could be further enhanced if it delivered

in English allowing students to learn terminology in both Greek and English if needed. The website of the program is the “window” to the world and should be significantly enhanced and available in both Greek and English. Steps should be taken to enhance communication among all stakeholders by providing an annual symposium that will allow participation of past graduates, industry representatives as well as enhanced communication among the teaching faculty. The website can be used as a communication gateway where jobs are posted, comments can be provided with responses from a central webmaster, etc. Additional emphasis should be given to bioethics and research integrity formal training.

### III. Conclusions

There is a need for better communication among all participants and significant enhancement of the website and presence of the program in social media and other means for publishing information about the program. Vertical and horizontal integration of stakeholders will ensure a great future for this program.

#### Panel Judgement

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

#### Panel Recommendations

- The website of the program needs to be significantly enhanced to provide current information and utilized to enhance communication among all stakeholders. Information on current research activities, sources of funding, publications and research findings can be included on the website.
- A newsletter can be created as a PDF document that can be downloaded for further dissemination. This newsletter could be updated monthly or bimonthly and emailed widely within Greece and abroad. An English version of the website needs to be created.
- The panel highly recommends creating, promoting, and activating an alumni web platform run by the PSP administration. Awards, prizes, and grants received by faculty and students should be advertised on the website and in newsletters sent out to all stakeholders.



## **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**

The ESDP EKPA includes all evaluation procedures required by the institution for the internal and external systematic evaluation and improvement of all the educational and research work carried out at EKPA, as well as the implementation of the required certification procedures of its study programs. These evaluation procedures include evaluation of the teaching work, as well as other academic functions and activities. The Study Program appears to be systematically evaluated on an ongoing basis with the participation of students, teachers, and the proposals of other interested parties. These evaluations include the content of the study program, the relative workload of the courses, the degree of satisfaction of the students attending the program and each course that is evaluated on a six-month basis. Adjustments are made to ensure that the content reflects societal and labour market needs. There is an Internal Evaluation process aiming to identify strong and weak elements of the program and

establish new goals and match them with the desired quality levels. The results of the internal evaluation are recorded in a special report drawn up by MODIP, which describes in detail the findings of the evaluation, the proposed improvement actions, the timetable for their implementation, the people involved in them and the required resources. Feedback from the students is via questionnaires and informally through discussions with staff members. However, the participation of the students in the evaluation procedures needs to be improved. Submitting these questionnaires at the end of exams will provide 100% participation.

Mentoring to each student is provided by the faculty member that oversees the thesis research. There are also academic advisors; however, their role in mentoring is not clearly delineated and may not be accessible to students by their own admission.

Overall, the PSP is very good to excellent. All stakeholders are very supportive of the program and indicated willingness to participate more toward improving the program in the future.

## **II. Analysis**

There are appropriate evaluation processes that ensure substantial feedback to the organizing committee and the faculty involved. Efforts should be made to enhance communication among all stakeholders and allow students to participate in an advisory capacity to various committees that seek to improve the program. Involving alumni through visits, seminars or participation in advisory committees will further enhance communication and provide potential improvements to various aspects of the program. The program will benefit by creating an external evaluating committee that reviews all aspects of the program in an unbiased way and offer potential improvements. Recent graduates and external to the program faculty could participate in this external advisory-evaluating committee. This evaluation could happen yearly or at least every two years and submitted independently for quality assurance purposes.

## **III. Conclusions**

This is a very well managed PSP with a history of success in placing graduates to industrial and academic positions. Enhanced communication among all stakeholders and specific activities to bring stakeholders together to discuss the PSP's future will pay dividends in the future.

## Panel Judgement

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

## Panel Recommendations

- Efforts should be made to enhance communication among all stakeholders and allow students to participate in an advisory capacity to various committees that seek to improve the program. This can be accomplished in part by upgrading the website of the PSP to include additional information on past graduates, potential links to future employers, etc.
- It is suggested that an external evaluating (advisory) committee in which past graduates and at least one close to graduating student can participate and offer potential improvements annually or every few years.
- It is suggested that there is a formal seminar series a few times per semester with seminar speakers from Greece and elsewhere to enhance the exposure of both faculty and students to state-of-the-art research and training and receive additional feedback about the PSP from external experts.

## **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 PSP has not been previously subjected to any external evaluation and accreditation process. However, institutional evaluations in 2015 and 2018 produced several generic recommendations applicable to this PSP and relevant actions were undertaken to comply.

### **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 previous institutional evaluations, some generic recommendations have been applied also to the PSP. Faculty staff were forthcoming and engaging during the accreditation process, answering all questions, and providing all necessary information that was requested. All staff present during the evaluation process, as well as the PSP Director, recognize the importance of accreditation and its value to ensure continuous improvement.

### **III. Conclusions**

The EEA Panel finds that the PSP is fully compliant with Principle 10 and believes that the PSP Director and the staff involved will work towards actioning all recommendations from this and future external assessments.

## 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

Previous and future recommendations of accreditation reports for the PSP should be implemented. It is highly recommended that the Department keeps a detailed record of all actions and implementations.

## **PART C: CONCLUSIONS**

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

- Well-designed PSP with well-defined aims and objectives. It is structured clearly and developed over the years to accommodate modern topics, linking teaching to research.
- The combination of in person tuition and a mandatory thesis work during the two years duration of the programme ensures that the graduates are well prepared for subsequent career moves, academic or commercial.
- Current students, graduates, faculty and stakeholders appear to have an overall positive experience with the PSP.
- There is significant interaction with external institutions and research centres that should be further enhanced.
- Learning resources and student support are successfully implemented in this PSP.
- The Department collects and analyses all data related to Quality Assurance and performs analyses of the collected course evaluation data at instructors' level.
- The PSP has a good history of success in placing graduates to industrial and academic positions.

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

- Greek website needs improvement, and English website needs to be created.
- Enhanced communication with external stakeholders is important.
- Participation of students in decisions about the PSP is recommended.
- Ways to strengthen the exposure of students to the labour market are important.
- Mobility of students and faculty via Erasmus will strengthen quality of the PSP.
- A number of specific and direct follow up recommendations are listed below.

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

- Procedures to update and/or introduce new courses should be clearly formulated and documented.
- New methods of student teaching, learning and engagement should be explored, such as tutorials, new pedagogical methods of learning, quizzes, on-line exercises/videos etc.
- Introduce more experimental training where appropriate in different courses.
- 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.

- Consider the evolution of this PSP to be delivered in English. This can be done with the delivery of few courses in English initially, followed by the gradual transformation of the rest of the courses in English.
- Optional practical experience by working in companies might be a strong motivation for endorsement of students' skills.
- Design workshops for introducing the current market needs and professional orientation and career opportunities to ensure effectiveness of the program.
- Expand selection of thesis topics and offer the opportunity to conduct the thesis in English.
- Streamline the weekly workload with more analysis and discussion during lectures, enrichment and better organization of the educational material provided and improved coordination between courses/teachers to eliminate any overlaps.
- Although it appears that a significant number of students submit their reviews of the program, steps should be taken to have students fill the questionnaires in class during final exams to secure 100% participation.
- The program should adopt the English language in most if not all courses. (The Greek terminology could be provided in parallel to ensure that those students that will find employment in Greek institutions that utilize the Greek Language could be able to use both languages with easiness.)
- Efforts ought to be made to increase communication with all stakeholders. This can be achieved by hosting a social event per year or perhaps a symposium to allow external stakeholders to participate and share their knowledge and experience.
- A seminar series that can utilize foreign speakers (especially Greek-born scientists) may be particularly useful to connect the program to major foreign laboratories and industry.
- Establish more strict criteria for the delivery of diplomas on time (immediately upon completion of the 4th semester).
- Make effort to increase the number of published scientific articles in which PSP students participate, which will greatly increase the visibility of the PSP.
- Decrease didactic courses and increase practical exercises within hosting laboratories as well as visitors in other than the mentor's laboratory including potential external institutions and industry.
- Formal teaching in research integrity issues should be added.
- It is recommended that there is formal mechanism for validating and enhancing teaching credentials through participation in teaching methodology seminars and providing opportunities for faculty to participate as guests in other programs that have teaching enhancement activities. In this regard, the panel recommends the mobility of PSP faculty throughout Erasmus+ and other similar platforms.
- Maintaining modern equipment of the laboratories is crucial for improving the effectiveness of the post-graduate program "Applications of biology in medicine" of the NKUA.
- 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. Inclusion of evaluation questionnaires during final exams will ensure the 100% participation of students in the evaluation process.

- 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.
- The Greek version of the website of the program needs to be significantly enhanced to provide current information and utilized as a way to enhance communication among all stakeholders. Information on current research activities, awards, prizes and grants received by faculty and students can be included in the website.
- An English version of the website needs to be created.
- A newsletter can be created as a PDF document that can be downloaded for further dissemination. This newsletter could be updated monthly or bimonthly and emailed widely within Greece and abroad.
- Efforts should be made to enhance communication among all stakeholders and allow students to participate in an advisory capacity to various committees that seek to improve the program. This can be accomplished in part by upgrading the website of the PSP to include additional information on past graduates, potential links to future employers, etc.
- It is suggested that there is a formal seminar series a few times per semester with seminar speakers from Greece and elsewhere to enhance the exposure of both faculty and students to state-of-the-art research and training and receive additional feedback about the PSP from external experts.
- Previous and future recommendations of accreditation reports for the PSP should be implemented. It is highly recommended that the Department keeps a detailed record of all actions and implementations.



#### IV. Summary & Overall Assessment

The Principles where full compliance has been achieved are:

**1, 2, 3, 5, 6, 7, and 10.**

The Principles where substantial compliance has been achieved are:

**4, 8, and 9.**

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

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