



ΕΛΛΗΝΙΚΗ ΔΗΜΟΚΡΑΤΙΑ
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Accreditation Report for the Postgraduate Study Programme of:

Clinical Biochemistry - Molecular Diagnostics

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 **Clinical Biochemistry - Molecular
Diagnostics** 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 **Clinical Biochemistry - Molecular Diagnostics** 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 Soutanas**
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 Andreas Scorilas, Clinical Biochemistry, Dept. of Biochemistry & Molecular Biology, Faculty of Biology, National and Kapodistrian University of Athens, with Associate Professor Aristeidis Parmakelis, Chairman of the Faculty of Biology, 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.

15/11/2023

15:00-15:45. Meeting with faculty of the PSP as follows: Evi Lianidou, Professor of Analytical Chemistry - Clinical Chemistry, Faculty of Chemistry, Diamantis Sideris, Associate Professor of Biochemistry, Faculty of Biology, Antonis Stamatakis, Professor of Biology of Behaviour, Dept. Nursing, Vassiliki Lampropoulou, Assistant Professor, School of Medicine, National and Kapodistrian University of Athens, Panagiotis Adamopoulos, PhD, Research Scientist, National and Kapodistrian University of Athens. 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 10 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: Margaritis Avgeris, PhD, Associate Professor of Clinical Chemistry, Medical School, National and Kapodistrian University of Athens, Ioanna Balgkouranidou, PhD, Scientific Associate, Medical School, Democritus University of Thrace, Adamantia Panagoulia, laboratory shift supervisor, deputy laboratory quality manager, Children's Hospital of Athens "P.& A. Kyriakou", Department of Biochemistry and Hormonology, Konstantinos Soureas, PhD, Medical School, National and Kapodistrian

University of Athens, Konstantina Athanasopoulou, Research Scientist, National and Kapodistrian University of Athens, Sotiropoulou Christina, Scientific Associate, Attikon University Hospital, Emmanouela Foteinou, Owner of a Bio Clinical Centre, Ioannis Kollias, Scientific Associate, National and Kapodistrian University of Athens, Margarita Gkyzi, manager, ANTISEL SA. 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: Dimitris Thanos, Investigator - Professor Level, Director of the Scientific Council, of the Biomedical Research Foundation of the Academy of Athens (*BRFAA*); elected member of the Academy of Athens, Alexander Pintzas, Director, Institute of Chemical Biology, National Hellenic Research Foundation, Athens, Pantelis Constantoulakis, Molecular Biologist-Geneticist, Scientific Director, Genotypos science labs, Athina Aidini, Analytical, Analytical Business Development Director ANTISEL SA. The objective of this meeting was 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. Since most of the people in this panel were academics who had some existing relationship with then PSP in terms of teaching etc, questions on industry involvement were limited.

19:30-20:00 The AP met in conclusion with the head of the PSP Professor Andreas Scorilas, Clinical Biochemistry, Dept. of Biochemistry & Molecular Biology, Faculty of Biology, National and Kapodistrian University of Athens, 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 Clinical Biochemistry - Molecular Diagnostics was established in 2003. In a previous incarnation, it was more closely aligned with the chemistry department before its current status as an inter-disciplinary programme that includes faculty from the departments of biology (majority of faculty), chemistry, medicine and nursing. As stated in the aims of the PSP, “students acquire knowledge of the latest global research findings related to the pathogenesis, diagnosis, prognosis, and laboratory handling of a wide range of diseases that are at the forefront of Biomedical Research.”

The PSP admits approximately 20 students per year (ranging from 18 to 25 in the last 5 years) who graduate on the average after 2.2 years, a good performance given the fact that the programme officially lasts for 4 semesters (2 years). Tuition costs are 4000 euros total, payable per semester. The cohort of admitted students comes from a variety of Universities and departments, including most natural sciences, medical sciences and nursing.

The faculty of the PSP numbers 120 persons, most university professors but a good number who are researchers in various institutes in Athens. To facilitate co-ordination of such a large faculty body, the PSP courses have 10 co-ordinators, one for each course being offered. These co-ordinators together with a 5-member steering committee are responsible for running the programme. Current head of the PSP is Professor Scorilas from the biology department.

Course work for the PSP involves mandatory in person lectures and practicals for the first three semesters, and a mandatory thesis done in the fourth semester with some preparation done in the previous semesters. 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

As explained in a document submitted to the AP, "this PSP offers specialized knowledge and laboratory training for research in fundamental and rapidly evolving areas of applied modern life sciences. Students gain knowledge about the most current global research findings on the

pathogenesis, diagnosis, prognosis, and laboratory handling of a wide range of diseases that are at the centre of interest in Biomedical Research.”

The PSP was originally established in 2003, and it operates on the basis of very explicit goals. It is evaluated internally by the students and faculty of the programme as well as by MOΔΠ and OMEA. The participation of the students in the evaluation process is at 20%.

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 that 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. Other participants in this PSP include the chemistry and nursery departments at the University of Athens and the medical school.

Several mechanisms exist for the continuous evaluation of this PSP, and for deciding on and implementing up to date goals and aims: (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. A number of these areas are well explained in the Greek version of the website, and in a PDF written in English, which is available on the website without being in a website-friendly format.

The faculty of the PSP are of high calibre, and they follow good (although rather traditional) teaching methods. The large number of teaching participants (120) has necessitated the introduction of course co-ordinators who do what their title suggests.

II. Analysis

This is one of the oldest PSPs of the University of Athens. It continues to attract very good students from various departments and its graduates have very good career prospects either in academia or in industry.

The mechanisms in place for the continuous evaluation and improvement of the PSP are good but suffer from low participation of students in course evaluations. Given that very similar PSPs in the same department have achieved completion rates of over 80%, it would be easy for this PSP to communicate with their colleagues and find the secret of their success (hint: mandatory evaluation at the end of exams).

III. Conclusions

Important PSP in the ecosystem of biomedical studies in Greece.

Panel Judgement

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

Panel Recommendations

- English website needs serious improvement
- Improve evaluation rate of course work by the students

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 four participating Departments' (Biology, Medicine, Chemistry and Nursing) overall research strategies in the broad area of biomedical sciences.

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. The third 6-month semester is relatively light in terms of courses taught as there are only two courses, allowing students to make an early start with their research projects. Courses are taught mostly in person. Individual course workloads for this PSP seem to be appropriate, both for students and the teaching staff, although teaching staff highlighted their general heavy teaching/administration loads. Teaching in this PSP is supported by few internal colleagues from other departments such as Dentistry, Pharmacy and Biotechnology, and by several external academic and research colleagues, and clinicians from various institutes and establishments including the University of Thessaly, the Agricultural University of Athens, the University of Patras, IIBEAA, Pasteur Institute, EKEFE Democritus, the National Research Institute and various hospitals.

The average intake of students in this PSP is approximately 25 students per annum and fees have been set at 1,000 euros per 6-month semester, amounting to a total of 4,000 euros. The department provides up to 30% fee reductions for academically outstanding students from poorer economic backgrounds. 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 participated in the relevant meeting with the EEA Panel. Two of the stakeholders were from Research Institutes/establishments. One of the stakeholders was from a company in the field of scientific instrumentation. The fourth stakeholder was from diagnostic services in the health sector. All stakeholders expressed their strong support for this PSP and highlighted their positive experiences in employing graduates from this PSP. 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 clinical biology and molecular diagnostics. 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.

A full and detailed description of the courses is provided on the PSP website (<http://kb-md.biol.uoa.gr/STUDY%20PROGRAMME.html>). 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 clinical biochemistry laboratories in hospitals, molecular biology and molecular diagnostic centres, analytical laboratories in hospitals and commercial companies, health services, research and development (R&D) departments, public bodies and research centres. The largest proportion of graduates nearly 50% go on to work in diagnostic laboratories and pharmaceutical companies with several graduates (approximately 15%) continuing with doctoral and postdoctoral research studies and following 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 2003 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 good interactions with external partners but there is scope for developing these further. For example, placements in various hospitals and diagnostic centres would be beneficial.

There are no documented records of regular, established framework for systematic review and revision of the programme. However, the EEA Panel was assured that this takes place on an annual basis and the PSP should be commended for introducing a new course on Laboratory Management & Business Principles, a topical subject important for the Greek economy and future prosperity.

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

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

Panel Recommendations

- Documented procedures to update and/or introduce new courses should be clearly formulated.
- 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.
- 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

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 "Clinical Biochemistry – Molecular Diagnostics" of the National Kapodistrian University of Athens. The program uses open academic courses, seminar trainings and assignments and

presentations as well as conventional classroom training and laboratory exercises. Regarding any complaints or failures of the educational process, the following procedure is followed: A) The Curriculum Committee and the Director can propose solutions to issues related to academic or educational matters. B) For students who face extensive examination problems with a specific course, a special examination committee can be formed, according to the legislation. C) In even bigger problems, the student can be helped by the student's advocate. D) In addition, the NKUA has institutionalized relevant Committees, made up of members of the educational staff, for the best possible support of its students, by decisions of the Rector's Council and the Senate.

Furthermore, the program uses 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. Furthermore, the students evaluate all the courses both in a formal way, through written questionnaires, and through the daily interaction with the lecturers.

The program aims to enrich the students' skills by adjusting the modes of delivery and pedagogical methods. Seminar courses that have a research character. In the context of these, the elaboration of a thesis is foreseen, which is developed orally and submitted written. In these specific seminar courses, students are trained in research methodology, the use of bibliographic search tools, the identification of topics of research interest and the critical attitude towards the subject under consideration. This way, the weight is given to the search and study of international literature and not the exclusive use of notes and books.

The teaching staff of the "Clinical Biochemistry-Molecular Diagnostics" currently consists of 66 members of teaching scientific staff, 30 researchers, 25 scientific associates and 7 members of laboratory teaching staff and is highly qualified and suitably qualified to carry out high-level teaching and research.

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.

II. Analysis

The post-graduate program "Clinical Biochemistry – Molecular Diagnostics" 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 Academic

Adviser regulation represents a unique student-centred approach of the postgraduate program that can successfully lead to teaching goals implementation.

III. Conclusions

The post-graduate program “Clinical Biochemistry – Molecular Diagnostics” 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

Principle 3: Student-centred learning, teaching, and assessment	
Fully compliant	X
Substantially compliant	
Partially compliant	
Non-compliant	

Panel Recommendations

- Workshops with stakeholder companies and prize (covering congress expenses etc.) for the student with the best academic performance are suggested.
- Offering voluntary practical experience by working in companies might be a strong motivation for endorsement of students’ skills.
- The enrolment of representatives of students for the discussion of critical students’ requests is very important for ensuring effectiveness of the program.

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 “Clinical Biochemistry – Molecular Diagnostics” (CB-MD) PSP started functioning in 2003. The numerous members of this PSP (near 120) are composed of faculty members of the NKUA and staff of other Greek institutions and research centres. This PSP also includes seminars given by invited faculty from other institutions. The CB-MD PSP requires student fees (4.000 euros for the duration of studies). Scholarships are available to be attributed to PSP students with specific needs. The selection of the applicants is based on their study scores, research experience, recommendation letters, foreign language diplomas, etc., followed by candidates’ interviews by an established academic committee composed of three PSP staff members. 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 NKUA. However, the NKUA’s and PSP’s websites are in Greek but not in English. The number of students admitted to the PSP is variable each year, with a mean of 20-25 students per year. Eligible for admission are graduates of the biology department, biochemistry department, medical school, dental school, pharmacology department, allied health professions and graduates from various other fields and disciplines. The PSP has established clear procedures concerning the degree, the duration of studies, rules ensuring students’ progression, and terms and conditions for student mobility with Erasmus+ or other equivalent platforms based

on departmental and NKUA rules described in the related PSP documents. Although terms and conditions for students' mobility with Erasmus+ and Erasmus+ Traineeships described in the related documents of the NKUA exist, these mobility platforms are not used by the CB-MD PSP.

Courses and mechanisms of supervision of PSP students' research projects by academic staff are operational within the CB-MD PSP. The Department of Biology and NKUA have 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. Multidisciplinary studies (research projects) by academic staff within NKUA and by staff from other institutes and research centres are already established and are operational within this PSP.

The duration of the CB-MD PSP is four semesters (30 ECTS 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 are obliged to write a dissertation that is always research oriented. Usually, the students do require additional time to finish their PSP. 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 (5% in 2022, around 15%-18% in more than one year). The panel felt that the communication between PSP students and staff is excellent. PSP faculty is constantly available to assist the students and provide the necessary information. The PSP faculty closely follows students' progress. The importance, role, and functions of the academic advisor are not yet well understood, and therefore the academic advisor is rarely utilised by students of this PSP. PSP faculty works towards introducing and reinforcing the role of academic advisor in the next few years.

The meeting of the panel with current and past students left a very positive impression of the utility of this PSP. Concerning the quality and number of courses given by the faculty, students pointed out that their lectures were clear and allowed them to follow them easily. Similarly, all students mentioned that the PSP is very rewarding. PSP students mentioned that the practical training is satisfactory. However, most of them wished for more practical exercise.

Although the Erasmus+ and Erasmus+ Traineeships platforms are available, the panel was informed that there is no PSP students' mobility. PSP faculty motivates the PSP students to participate in various national meetings. Most of the PSP students graduate later than the 4th semester due to delays in the practical exercises and dissertations writing, even if the PSP faculty encourages them to graduate in a timely manner. PSP graduation documents are obtained electronically within a very short time. A simultaneous English translation of the PSP dissertation is obtained.

II. Analysis

The CB-MD PSP provides an important and interesting basis for all related disciplines involving further studies in the field and fulfils an important need for further education and training for biologists, chemists, medical professionals, etc. This PSP allows most of the students to get a

specialised job in the public or private domain and, to a minor degree, to follow a research- or academic-oriented career. The length of PSP studies (4 semesters) is appropriate.

The 120 faculty members (including visiting faculty) of the PSP deliver their courses live (physical presence). Most of the courses are in Greek. However, the visibility and importance of the present PSP could significantly increase by having the courses and seminars in English. Staff should insist and continuously encourage the PSP students to write their theses in English. This will offer more opportunities for international exchanges, attract foreign students to the PSP, and, furthermore, increase the chances for the students to get jobs in Greece and abroad.

The load of teaching seems appropriate. Theoretical and practical courses are well balanced; however, the addition of more practical training is desirable. It is also desirable that most PSP students finish their studies and deliver their dissertations soon after the end of the 4th semester. However, this is not applied to most of the PSP students.

The PSP should offer a bank of research topics (on its webpage) that the students could consult prior to their practical exercise.

Students' mobility through Erasmus+ and Erasmus+ Traineeships is a problem. PSP staff should promote and use these mobility platforms. The panel estimates that it should be an effort to also use other mobility platforms and opportunities (e.g., short training periods in pharmaceutical industries). There are several good opportunities that should be further explored.

III. Conclusions

This is a very important PSP. The length of the four-semester study is appropriate. The practical training could be enhanced. A formal quality assurance PSP committee of 4 to 5 people should be created to evaluate and reorganise the PSP. One representative of the PSP students must be part of this committee. It will also be beneficial to participate in this committee with a strictly consultative role, including alumni (PSP graduates) and important stakeholders (e.g., pharmaceutical companies). This committee should meet once or twice per year. Students' mobility towards the various European institutions via Erasmus+ and Erasmus+ Traineeships should be adopted and promoted by the PSP faculty. A closer relationship with the pharmaceutical industry and diagnostic centres should be promoted. The panel believes that English for the lectures and seminars should be adopted by the PSP staff. Similarly, the staff should actively encourage the PSP students to deliver their dissertations in English. This will promote PSP's visibility and foster further international interactions and collaborations.

Panel Judgement

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

Panel Recommendations

- PSP faculty should elaborate methods and adopt strict criteria to achieve 100% student participation in this evaluation procedure.
- Increase PSP students' mobility via Erasmus+ and Erasmus+ Traineeships.
- It is recommended to the PSP faculty to further motivate PSP students to participate in international meetings, national competitions, etc.
- A best student price should be adopted by the PSP faculty, offering the possibility for the elected student to participate in an international meeting.
- It is recommended for the PSP staff to deliver their courses in English.
- Similarly, PSP staff should encourage the PSP students to write their dissertations in English.
- The panel suggests the organisation by the PSP faculty of an informative day where the various stakeholders (e.g., pharmaceutical companies, hospitals, etc.) could explain to the students the possibilities of mobility, job opportunities, etc.
- A formal quality assurance PSP committee of 4 to 5 persons (PSP staff and one PSP students' representative) should be created and meet once or twice per year to evaluate and reorganise the PSP. It is also advisable to participate, with no voting rights, of alumni (PSP graduates), and stakeholders.
- The panel urges the implementation of the English PSP web page version.
- Establish more strict criteria for the delivery of diplomas on time (immediately upon completion of the 4th semester).
- An additional effort should be made to increase the number of published scientific articles in which PSP students participate, which will greatly increase the visibility of the PSP.
- The panel recommends students' short mobility (placement) for research purposes at several pharmaceutical companies.
- The panel suggests the addition of a library of research topics to the PSP's web page.
- The panel suggests the invitation of various well-known academics and researchers from foreign institutions to deliver lectures through Zoom or similar communication platforms.
- Increase the number of practical courses.

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 CB-MD PSP staff is made up of dedicated academics whose teaching capabilities and accessibility are very much appreciated by current and former PSP students. The PSP staff consists of around 120 members (among them visiting faculty) per year. A list of the PSP staff, the staff's department of origin and other relative documents are provided. However, information concerning teaching staff accomplishments and performances (publications, h-index, etc.) is not available for all staff members on the CB-MD PSP's web page. 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.

The Department of Biology of the NKUA adheres to transparent procedures for the selection and recruitment of the PSP faculty (ΑΠΕΛΛΑ platform). This recruitment is based on covering PSP teaching needs and well-defined research directions. Most of the staff is recognised for their research quality, and they have a lot of experience participating in academic courses. However, the research activities of many PSP staff members are not visible on the PSP's

webpage. Research activities and the attraction of external funding by the PSP staff are not monitored yet via universally accessible tools (e.g., Google Scholar, Scopus, etc.). Staff's teaching excellence is assessed by means of student evaluations (PSP student surveys). Student participation is not considered satisfactory (15-20%). 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.

The panel felt that the PSP staff should meet formally once or twice per year to adapt the PSP to its actual needs and reorganise some lectures and seminars. There is constant contact with the PSP students during the lectures and research training. The panel notes the absence of specific training in teaching innovation.

II. Analysis

Most of the PSP faculty originates from NKUA, while additional staff or visiting faculty are from other Greek institutions and research centres. The PSP staff covers various aspects of the present field. There is a core group that administers the PSP. However, there is a need for an additional core group, composed by both staff and students, which controls the PSP's quality and reorganises the PSP. There is not a formal policy in place for the faculty's continuous support and development concerning their teaching activities.

III. Conclusions

This is an important PSP serving in both education and training. The connection of the biology department with other institutions and research centres is an excellent initiative, according to the opinion of the panel. This PSP offers mostly job opportunities and occasionally allows further research or academic studies (PhD).

Panel Judgement

Principle 5: Teaching staff of postgraduate study programmes	
Fully compliant	X
Substantially compliant	
Partially compliant	
Non-compliant	

Panel Recommendations

- The panel recommends the creation of a committee of 4 to 5 persons (PSP staff and students) who will meet once or twice per year to discuss progress, problems, and reorganisation of the PSP.
- It is recommended to involve alumni and stakeholders during the PSP content review to get their opinion on additional courses that need to supplement the curriculum based on their experience. This could be realised through an informal advisory team.
- The PSP should have in place a policy for the faculty's support and development concerning their teaching duties.
- The panel recommends the mobility of PSP faculty throughout Erasmus+ and other similar platforms.
- Establish a structured mentorship programme that includes regular interactions between mentors and students. This will help students receive guidance and support throughout their studies.
- Identify mechanisms to encourage students to fill out surveys and questionnaires related to the programme and evaluation of each module, lecturer, instructor, or supervisor.

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. Specifically, it is housed in the building area of the Department of Biology in the University Campus. At the same time, several lectures are held in classrooms and seminars, auditoriums equipped with audio-visual media and laboratories of the Department of Biology as well as of the collaborating Departments if needed. More specifically, in the Department of Biology there is a room with a capacity of forty people and two laboratory - computer rooms. The Sector of Biochemistry and Molecular Biology will also make available the classroom with a capacity of sixty people. In addition, in the Sector of Biochemistry and Molecular Biology there is the room that houses the supporting Secretariat of the post-graduate program. In addition, the students of the "Clinical Biochemistry-Molecular Diagnostics" post-graduate program can use and be served by:

- Multimedia room with library equipped with the post-graduate related books. Furthermore, the students have access to the library of the of NKUA which is housed in an independent three-floor building on the Campus between the buildings of the Departments of Mathematics and Physics, equipped with reliable workbenches and specialized tools for supporting children with disabilities.

- Student Reading Room of the Departments of Biology and Chemistry.
- Teaching Hall "Petros Vlachos":
- University gymnasium room, swimming pool and open fields.
- Clinic

Furthermore, a number of services are provided to the students of the program that 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
- Students' Cultural Club

The post-graduate program “Clinical Biochemistry-Molecular Diagnostics” has resources to support learning and academic activity. The financing can come from:

- tuition fees,
- donations, sponsorships and all kinds of financial support,
- legacies,
- resources from research projects or programmes,
- own resources of the Higher Educational Institution (A.E.I.) and

- the state budget or public investment 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. Libraries and possibilities for access to electronic databases, study rooms, educational and scientific equipment, IT and communication services, support and counselling services, are all available for the students of the post-graduate program.

III. Conclusions

Learning resources and student support are successfully implemented in the post-graduate program "Clinical Biochemistry-Molecular Diagnostics". 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. Finally, a comparative check should be carried out at regular intervals of the structure of the post-graduate program and the contents of its courses with corresponding programs in Greece and abroad.

Panel Judgement

Principle 6: Learning resources and student support	
Fully compliant	X
Substantially compliant	
Partially compliant	
Non-compliant	

Panel Recommendations

The use of new technologies in courses and especially in laboratory courses and synthetic laboratories will be helpful for the teaching process. A comparative check should be carried out at regular intervals of the structure of the post-graduate program and the contents of its courses with corresponding programs in Greece and abroad.

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. Student progression, success, and dropout 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

Principle 7: Information management	
Fully compliant	X
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 and other directions.

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

Information on the PSP is already provided on the NKUA website. The content of the course descriptions and learning outcomes during the four semesters of the PSP studies and the ECTS attributed are clearly presented on this website. The teaching material is also available on the website. NKUA disseminates information about academic events and seminars. Information about PSPs and various other activities within NKUA is also available on this website. Information about PSPs includes the objectives, the organisation of the study cycles (semesters), the mandatory requirements for students, the courses, and the practical/research exercises, etc. The website also includes the teaching methods (lectures, seminars, laboratory work, etc.), the student coursework evaluation, a guide for PSP studies, the description of the PSP, information about the personnel, areas of focus, Erasmus+ and Erasmus+ Traineeship mobility, study advisors, academic advisors, mental health support, hours and resources of the library, publications, etc. The website encourages direct communication between the students and the academic and administrative staff. Information and communication with the PSP students and course content are also adequate via email.

Only a Greek version of the PSP website exists. This website is not user-friendly, not well structured, and old-fashioned, and the contained information is not sufficient. For example, information concerning the teaching staff, their accomplishments, and performances (publications, h-index, etc.), a bank of research topics, etc., is not available. A webpage in English, which could help the PSP's international visibility, does not exist. The PSP faculty informed the panel that the construction of a new Greek webpage and an English version will be realised as soon as possible. The NKUA website dedicates a page to Erasmus+ for students' and staff's mobility. The information is easily accessible, and the web pages are user-friendly. The PSP's website is regularly maintained and updated by the PSP faculty. The goal of PSP is to expose the PSP students to an excellent theoretical and practical training environment and to

their actual research practices. This PSP has already created links with other departments and institutions, thus providing the tools and opportunities for fruitful collaborations.

The PSP staff does not provide information about the PSP through widely used media platforms such as Facebook, Twitter, etc.

A PSP alumni network does not yet exist. The PSP faculty does not hold a public event for the promotion of the programme. Staff from the PSP organise a national meeting every year.

II. Analysis

The international visibility of the PSP suffers from the existence of a poorly structured website in Greek and the lack of an equivalent English website that would explain the aims and goals of the PSP to foreign institutions and stakeholders (e.g., pharmaceutical companies). Hopefully, the creation of a new Greek PSP website and an equivalent English version will solve this issue. It is also important that the Greek version contains the academic and research achievements of the PSP faculty. A PSP alumni network does not exist. This must be solved immediately, and an alumni webpage should be created. The PSP staff does not envisage the use of additional social media platforms (e.g., Facebook, Instagram, LinkedIn, and Twitter) in the near future. The PSP does not organise an open day where stakeholders and PSP students could meet.

III. Conclusions

More effort should be put into public information. Principle 8 is not adequately fulfilled.

Panel Judgement

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

Panel Recommendations

- Create a new, well-designed website in Greek and incorporate information concerning the teaching staff activities, accomplishments, and performances (e.g., use Google Scholar or Scopus for all staff, where publications, h-index, etc. are accessible), as well as a list of the research topics.
- Create an English version of the existing Greek website.
- The panel highly recommends creating, promoting, and activating an alumni web platform run by the PSP administration.
- Distinctions obtained by PSP faculty and students should be communicated and promoted nationally and internationally. These distinctions should be part of the website.

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 PSP has in place an Internal Quality Assurance System that audits and reviews the programme on an annual basis. These evaluation procedures include an assessment of the teaching activities as well as other academic functions. In particular, the content of the curriculum, the progress of PSP students, their degree of satisfaction with the PSP, etc. are constantly evaluated. MODIP and OMEA of the NKUA perform a thorough and consistent evaluation of this PSP. The learning environment and support services are excellent.

Feedback from the students is obtained formally via questionnaires and informally through discussions with staff members. However, the participation of the students in the evaluation procedures is not satisfactory. Students and PSP staff have close relationships, and staff always tries to accommodate student needs. Concerns of the PSP students are considered for

potential future course changes as well as potential improvements to the materials taught based on new advances in science.

Many high-quality faculty with different and specific expertise are involved in this PSP. The objective of this PSP is to provide knowledge to students with diverse backgrounds, such as biologists, chemists, physicians, and other medical professionals, etc. In this aspect, the present PSP is highly beneficial to Greek society. There is always a societal need for molecular diagnostic tools.

Although each PSP student is assigned to a selected faculty member and a close interaction with the staff exists throughout the course, the role of the academic advisor is not known to the PSP students.

The meeting of the panel with employers and social partners of the PSP confirmed that this PSP is of the highest quality.

II. Analysis

The mechanism of internal evaluation seems to be used in this PSP with the aim of continuous improvement. The participation of students in this process, through the completion of questionnaires, is low, resulting in their opinions not being used to their full potential.

This is a well-designed PSP offering essential academic and practical training. The overall management of the PSP is very good. It appears that there is significant communication among students and faculty aiming to improve the PSP. However, a formal committee assuring the quality of the PSP does not exist. Ideally, a formal committee should be established and meet towards the end of each semester to evaluate the PSP, propose potential changes, and, if necessary, reorganise the PSP. The participation of a PSP students' representative is necessary. Overall, this PSP covers a societal need and has good mechanisms in place to monitor, evaluate, and alter its academic and practical courses.

III. Conclusions

This is a well-managed PSP that requires some improvements through enhanced communication among students, faculty, alumni, and stakeholders.

Panel Judgement

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

Panel Recommendations

- A formal PSP quality assurance committee composed of a few faculty members and students' representatives should be formed. The exclusive role of this committee will be to evaluate and reorganise the PSP once or twice per year. It is also highly recommended that alumni (PSP graduates) and stakeholders participate in consulting without voting rights. Both alumni and stakeholders were enthusiastic and positive about this idea.
- Elaborate mechanisms for the participation of all students in this process of evaluation (questionnaires).

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

Principle 10: Regular external evaluation of postgraduate study programmes	
Fully compliant	X
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

- The PSP attracts very good students from various departments and its graduates have very good career prospects either in academia or in industry.
- The PSP is structured clearly and has developed over the years to accommodate modern topics, linking teaching to research.
- The PSP staff is made up of dedicated academics whose teaching capabilities and accessibility are very much appreciated by current and former PSP students.
- The connection of the biology department with other institutions and research centres is an excellent initiative, according to the opinion of the panel.
- 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.

II. Areas of Weakness

- The visibility and importance of the present PSP could significantly increase by having more courses and seminars in English. Staff should continuously encourage the PSP students to write their theses in English. This will offer more opportunities for international exchanges, attract foreign students to the PSP, and, furthermore, increase the chances for the students to get jobs in Greece and abroad.
- Interactions with external stakeholders (especially non-academic) need to be strengthened where they already exist, and established if they are absent. This will improve the job prospects of the graduates.
- The website in both Greek and English needs major improvement.
- Although overall adequate, more publications involving the graduates of the PSP and a better completion rate within 2 years are recommended.
- Specific suggestions for improvement of a more focused nature are outlined below.

III. Recommendations for Follow-up Actions

- Documented procedures to update and/or introduce new courses should be clearly formulated.
- 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.
- The AP 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.

- Workshops with stakeholder companies (e.g., pharmaceutical companies, hospitals, etc.) and a prize for the student with the best academic performance (covering congress expenses etc.) are suggested.
- Offering voluntary practical experience by working in companies might be a strong motivation for endorsement of students' skills.
- The enrolment of representatives of students for the discussion of critical students' requests is very important for ensuring effectiveness of the program.
- PSP faculty should elaborate methods and adopt strict criteria to achieve 100% student participation in the evaluation procedure.
- Increase PSP students' mobility via Erasmus+ and Erasmus+ Traineeships.
- It is recommended to the PSP faculty to further motivate PSP students to participate in international meetings, national competitions, etc.
- A best student price should be adopted by the PSP faculty, offering the possibility for the elected student to participate in an international meeting.
- It is recommended for the PSP staff to deliver their courses in English.
- Similarly, PSP staff should encourage the PSP students to write their dissertations in English.
- A formal quality assurance PSP committee of 4 to 5 persons (PSP staff and one PSP students' representative) should be created and meet once or twice per year to evaluate and reorganise the PSP. It is also advisable to participate, with no voting rights, of alumni (PSP graduates), and stakeholders.
- The panel urges the implementation of the English PSP web page version.
- Establish more strict criteria for the delivery of diplomas on time (immediately upon completion of the 4th semester).
- An additional effort should be made to increase the number of published scientific articles in which PSP students participate, which will greatly increase the visibility of the PSP.
- The panel recommends students' short mobility (placement) for research purposes at several pharmaceutical companies.
- The panel suggests the addition of a library of research topics to the PSP's web page.
- The panel suggests the invitation of various well-known academics and researchers from foreign institutions to deliver lectures through Zoom or similar communication platforms.
- Increase the number of practical courses.
- The PSP should have in place a policy for the faculty's support and development concerning their teaching duties.
- The panel recommends the mobility of PSP faculty throughout Erasmus+ and other similar platforms.
- Establish a structured mentorship programme that includes regular interactions between mentors and students. This will help students receive guidance and support throughout their studies.

- The use of new technologies in courses and especially in laboratory courses and synthetic laboratories will be helpful for the teaching process. A comparative check should be carried out at regular intervals of the structure of the post-graduate program and the contents of its courses with corresponding programs in Greece and abroad.
- 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.
- Create a new, well-designed website in Greek and incorporate information concerning the teaching staff activities, accomplishments, and performances (e.g., use Google Scholar or Scopus for all staff, where publications, h-index, etc. are accessible), as well as a list of the research topics.
- The panel highly recommends creating, promoting, and activating an alumni web platform run by the PSP administration.
- Distinctions obtained by PSP faculty and students should be communicated and promoted nationally and internationally. These distinctions should be part of the website.
- 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	X
Substantially compliant	
Partially compliant	
Non-compliant	

The members of the External Evaluation & Accreditation Panel

Name and Surname

Signature

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