



ΕΛΛΗΝΙΚΗ ΔΗΜΟΚΡΑΤΙΑ
HELLENIC REPUBLIC



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Accreditation Report for the Postgraduate Study Programme of:

Medicinal Chemistry and Chemical Biology

**Department of Chemistry
Institution: University of Patras
Date: 30 September 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 **Medicinal Chemistry and Chemical Biology** of the **University of Patras** 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 **Medicinal Chemistry and Chemical Biology** of the **University of Patras** comprised the following five (5) members, drawn from the HAHE Register, in accordance with Laws 4009/2011 & 4653/2020:

- 1. Prof. Efthimios Mitsiadis (Chair)**
Universität Zürich, Switzerland

- 2. Prof. Konstantin (Gus) Kousoulas**
Louisiana State University, United States

- 3. Prof. Nikolaos Ktistakis**
Babraham Institute, United Kingdom

- 4. Prof. George Christophides**
Imperial College London, United Kingdom

- 5. Ms. Zoi-Lina Koutsogianni (student)**
Aristotle University of Thessaloniki, Greece

II. Review Procedure and Documentation

The Hellenic Authority for Higher Education (HAHE) formed an external and independent assessment panel of experts to assess the compliance of the study postgraduate programme of Medicinal Chemistry and Chemical Biology (MC-CB) of the University of Patras (UP) in accordance with the HAHE Quality Assurance requirements (laws 4009/2011 & 4653/2020). The assessment was conducted through document reviews and online interviews with academic staff, under- and postgraduate students as well as with external partners. The method used was an evidence-based process centred on a sampling of the PSP's activities and it was aimed at evaluating the fulfilment of the HAHE requirements of the relevant Quality Standard of the PSP and commenting on its compliance, effectiveness, and applicability for the scope of the requirements. The information provided by the PSP faculty was assumed to be factually correct. The entire evaluation / accreditation procedure was carried out remotely using the Zoom platform.

In order to facilitate acquaintance and establish a working approach for accreditation procedures, the panel met online on Monday 25th of September 2023 from 15:00-16:00 (Athens time). The evaluation of the PSP started at 16:00 (Athens time). During the first meeting held from 16:00 PM to 17:00 PM, Director of the PSP (Prof. Tselios Theodore), the Head of the Department (Prof. Theocharis Achilleas), OMEAMembers, MOΔIII members and staff, convened to discuss several important aspects of the PSP. The meeting began with a detailed presentation by Prof. T. Tselios providing an overview of PSP, covering the historical background, academic profile, admission procedure, student's opportunities, current status, as well as highlighting the strengths and potential areas of concern. Subsequently, participants engaged in a detailed discussion regarding the degree of compliance of PSP with the Standards for Quality Accreditation. OMEA members (Prof. Stamatatos Theocharis and Prof. Bokias Georgios) presented various aspects related to compliance with accreditation principles (A1-A10). They were joined by MOΔIII representatives, including Prof. C. Stathopoulos, Prof. K. Nikolakopoulos, Prof. E. Billis and Ms. E. Koulouri, as well as MOΔIII staff member F. Papadatou, who provided valuable data support.

The Panel was provided with a [video](#) showing the various UP facilities, including classrooms, lecture halls, libraries, research laboratories etc. From 17:00 to 17:30, the panel discussed with administrative staff members (Kotsokolos A., Priovolou S.) and teaching staff members (Makris C., Piperigkou Z. Rassias G.) issues related to the UP infrastructures and students' access to the various facilities. From 17:30 to 18:00, the panel met privately, engaged in reflection on the impressions of the first day and made preparations for the second day of the online review.

On September 27, 2023, from 15:00 to 16:00, the panel met with the teaching staff of the PSP, Prof. D. Gatos, Prof. S. Skandalis, Prof. A. Vlamis, Prof. G. Rassias, Prof. I. Vasilopoulos, Prof. A. Sgourou, Prof. G. Tsivgoulis and Prof. A. Mouzaki and Assoc. Prof. C. Simal (replacing Prof. C. Athanassopoulou) to discuss about the professional development opportunities, mobility, the teaching methods etc. At 16:00, the panel met with students of the running PSP (mainly 3rd semester students) to discuss about their satisfaction and study experience. At 17:30, the panel met with PSP graduates, G. Biniari, D. Tolis, A. Tsirogianni, E. Vachlioti, G. Bekiaris C. Vassileiou and S. Grigoropoulou to discuss about their experience and their career path. At 18:30, the panel discussed with employers and social partners of the PSP, K. Kagkadis, M. Androutsou, D. Tataraki and E. Giannopoulou. From 19:30 to 20:00, a debriefing among the panel members in private took place. At 20:00, the panel had the closure meeting with the PSP Director T. Tselios, the Head of the Department, Prof. T. Achilleas, in presence of ΜΟΔΙΠ, OMEA members and the Steering Committee and discussed their major findings and recommendations.

During the following days (28-30 September 2023), the panel members received from the PSP director, Professor T. Tselios, additional requested documentation, evaluated the content along with the total of documentation provided and had meetings for the completion of the draft of the Accreditation Report.

III. Postgraduate Study Programme Profile

The postgraduate programme "Medicinal Chemistry and Chemical Biology" (MC-CM) of the Department of Chemistry of the University of Patras (UP) was established in the academic year 2018-2019 as the result of the merging of two similar PSPs ("Medicinal Chemistry Design and Development of Pharmaceutical Products" & "Chemical Biology"). The aim of the PSP is to provide a high level of specialization, which includes both theoretical training and laboratory experience, while conducting research in the fields of Biomacromolecular Chemistry, Molecular Biology, Synthesis of Biologically Active and Pharmaceutical Compounds, Applied Immunology to graduates of Chemistry, Biology, Medicine, and other related departments in order to achieve a successful professional career in the private and public sector. The curriculum is structured in three (3) academic semesters, which include nine (9) courses, and an experimental thesis. The minimum duration for completing the programme is three (3) academic semesters. The total number of credits (ECTS) required for the award of the PSP is ninety (90) ECTS.

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 "Medicinal Chemistry and Chemical Biology" provided the AP with a number of written documents indicating a strong effort to implement and maintain the quality of the programme and to meet the requirements of the (level 7) European and National Qualifications Framework for Higher Education. Mechanisms to implement and evaluate compliance include (a) specific policies that guarantee the quality of the PSP, (b) guidelines

for the handling of the income of the PSP from tuition and fees, (c) yearly review of the aims of the PSP, (d) internal evaluation of the performance of the PSP, (e) gathering of data pertaining to the PSP including student progress, satisfaction with the teaching etc, (f) disclosure of the performance indicators of the PSP to external stakeholders and, starting from this year, (g) evaluation and accreditation by an outside committee.

Guiding efforts of compliance are written guidelines from the University of Patras Chemistry Department and the University of Patras Medical School, the two founding members of the current PSP. In addition to those general guidelines, the PSP has developed its own set of guidelines and aims, and a timeline of achieving them by 31/12/2023.

Evaluation of the PSP is done internally by OMEA and MOΔIII whereas student participation is sought and is partially evident.

Overall, this PSP is appropriately structured and provides to its graduates a good level of training for either an academic (PhD-level) or a commercial career in the industrial or public sector.

Unusually for a PSP at present times, the programme does not have tuition and fees, and this is something that was a characteristic since its inception. As far as the AP was informed, the expenses for running this PSP are covered by individual investigator budgets.

The faculty of this PSP is varied. The majority are from the UP-Chemistry Department, but there are also faculty from the UP Medical School, the UP-Biology Department, the Open University, and a local Research Institute. In addition to the regular faculty, other seminars or short courses are taught by industry people in Greece and by scientists from abroad. Overall, the faculty are very good to excellent in their research profile. Their engagement with the PSP is overall positive although the panel diagnosed some issues of disagreement that will need to be discussed and resolved soon.

II. Analysis

This PSP fulfils an important niche in the biomedical chemistry area for both academic and commercial purposes. The quality of the faculty is very appropriate, and the qualification of the graduates for either academic or industrial pursuits is also very good.

Issues that need to be addressed and resolved are related to the length of studies, the absence of tuition and the overall integration of the curriculum and faculty involvement between the various institutions taking part in teaching and thesis supervision.

III. Conclusions

Good PSP that satisfies most criteria for training students in academic or industrial career. Some restructuring needs to be done.

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	
Substantially compliant	X
Partially compliant	
Non-compliant	

Panel Recommendations

Convene a meeting with all faculty, some students and some external stakeholders in order to restructure some of the PSP, paying special attention to the question of fees, the length of studies, the relationship to industry and the integration of faculty members.

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 panel was given all appropriate documentation in order to evaluate the design and approval of this PSP.

The current PSP came about after fusion of two pre-existing PSPs, one labelled “Medicinal Chemistry: Design and Development of Pharmaceutical Products” which came in existence in 1998 and another labelled “Chemical Biology” which was initiated in 2015. Between them, the two pre-existing PSPs have graduated 298 students, therefore the collective experience in running such programmes is high.

The number of students admitted to the PSP in the last few years ranges from 8 to 20, with a success rate among applicants between 50% to 60%.

Length of studies is 3 semesters although in practice most students require an extra semester to completely finish their courses and thesis. The first semester is spent on obligatory and elective coursework; the second semester is spent on additional obligatory and elective courses as well as the start of the thesis work. The last semester is fully dedicated to thesis work. The PSP emphasises research training and work as evidenced by the fact that thesis work counts for 50% of ECTS. There is no practical placement in this PSP.

Course evaluation is by a combination of exams and oral presentations. In our discussions with the students this was seen as fair and reasonable.

Discussion of the panel with external stakeholders was rather limited and involved mostly people who already had a connection to the PSP by participating in seminars and other talks. Nevertheless, their impression was uniformly positive as to the level of training of the students. In addition, recent graduates were for the most part able to continue their careers, either as PhD students or as employees of private companies in the pharmaceutical sector.

The curriculum revision procedures expect active consultation with students; however, so far, it appears that there is limited student participation.

II. Analysis

Overall, this PSP provides very good training to the students for an academic or a professional career. The experience of the two previous PSPs has enabled the design of the new PSP to be on a solid footing. At the same time, the connection with the previous PSPs may have become a burden in redesigning this PSP to a very high standard in some respects. The AP discussed some ideas with the leadership of the PSP, and it was clear from those discussions that issues identified by the panel are already in line for discussion and restructuring. The panel fully supports this process.

III. Conclusions

Strong PSP with a long history of successful student training, in need of some restructuring.

Panel Judgement

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

Panel Recommendations

- Strengthen connection with industry.
- Hasten the creation of an external advisory panel and include some industry people. Consider a voluntary work placement period during the last semester of studies.
- Consider extending the PSP to 4 semesters but with a very strict deadline. In the opinion of the AP some tuition should be introduced going forward.

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

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

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

The student-centred learning and teaching process

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

In addition

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

Documentation

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

Study Programme Compliance

I. Findings

The PSP "Medicinal Chemistry and Chemical Biology" (MC-CB) is a three-academic semesters programme. It addresses mainly graduates students of chemistry, biology, pharmaceutical,

medicine, or other related departments. To be awarded the diploma, successful completion of nine (9) courses reflecting a wide range of subdisciplines and practical research exercise with the dissertation thesis is necessary. During the first semester, students attend one (1) mandatory course and five (5) elective courses. In the second semester, in addition to the start of the thesis, students take two (2) mandatory courses and one (1) elective course. In the third semester, students work on their thesis.

The courses are conducted through theoretical lectures, while the thesis is research-oriented and the student chooses the supervisor. According to the curriculum guide, the predominant method of course assessment is short-answer questions or multiple-choice type questions and assignments. The exams period is at the end of each semester and the degree of each course is mainly based on the performance in these final exams.

UP provides students with an evaluation system at the end of each academic semester. The evaluation system is given in the form of a questionnaire, where students can rate the courses, lecturers, lecture content etc. The same platform provides an opportunity for students to express any complaints, dissatisfaction, or harassment.

The majority of the lectures and their content are quite understandable to the students. However, in some cases the teaching staff does not consider the diversity of the PSP students, who come from different departments and have different backgrounds of knowledge.

II. Analysis

The curriculum of this PSP includes a wide range of courses covering current and topical issues in the fields of Medicinal Chemistry and Chemical Biology and, the theoretical training of the students at the end of the PSP degree is quite satisfactory, since they will have expanded and specialised their knowledge in this field. This was also communicated to the panel by stakeholders. As for the acquisition of practical experience, the curriculum does not include any laboratory exercises in the context of specific courses, however the one-year thesis project is acceptable long period for students to get practical experience in laboratory. Through the combination of all of these, following this PSP degree, the students may have gained a satisfactory degree of experience in both the professional and research areas of this particular field. The majority of the students are mainly from the chemistry department, and that the laboratory experience provided during their thesis project is quite useful. One issue pointed out by actual and postgraduate students is the need of the implementation of the courses with topics linked to pharmaceutical industry needs, the realisation of a part of their research activities in an industrial partner, the organisation of an informative open day with stakeholders, and the site visit to relative industries and research institutes in order to get a better understanding of the job requirements and future working environment.

Despite the heterogeneity of the students, who come from different departments and have different backgrounds, the comprehension of the courses is generally satisfactory. As the students stated, the teaching staff has adapted the content of their courses to this broad audience, and they are always available to respond to any questions and queries. However, it was also mentioned by students that it can be hard to deeply understand and actively participate in some courses that take place at the school of medicine (e.g., immunology). The current structure and content of the course discourage them from choosing a research topic for their thesis in those fields. The fact that only few students throughout the years of this

PSP have chosen to conduct their thesis in these topics was further confirmed by respective academic staff.

The courses' and teachers' evaluation systems are widespread among students. On the other hand, the participation of the students in the internal evaluation process is not consistent during the academic semesters, and students' opinion and satisfaction is discussed only by a part of academic staff during the semester with the aim of improving the quality of the PSP.

III. Conclusions

The curriculum of the MC-CB PSP is mostly in line with the standards of the HAHE, as it is of high quality. Graduates are provided with strong knowledge and experience in both the professional and research fields.

Panel Judgement

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

Panel Recommendations

To further improve adherence to this Principle, the panel recommends the following actions:

The role of Academic Advisor should be enhanced: at the beginning of the PSP all students must be assigned to a member of academic staff who will act as a mentor and provide guidance throughout the course of study. The meetings with academic advisors should be held and followed as described in provided document entitled “Θεσμός Ακαδημαϊκού Συμβούλου του ΔΠΜΣ «Ιατρική Χημεία και Χημική Βιολογία»”. Moreover, a formal procedure must be developed for the assessment of Academic Advisors by students.

In addition to courses by academic staff, seminars by external partners (e.g., industry, research institutes) should be continued and enhanced by one-day workshops that would allow students to learn about new advances, current needs and requirements in their areas of study.

PSP faculty must implement strategies towards increased student participation in course evaluations; each faculty member must communicate the importance of participation in the evaluation process.

During the conduction of thesis (experimental work and writing process), efforts should be made by supervisors to be actively involved in overseeing and ensuring the smooth progress of the research project, as well as its timely completion within the predefined timeframe. Regular meetings between supervisor and student could contribute to it.

Students’ background should be taken in consideration by the faculty in order to structure or adjust their pedagogical methodologies and content of conceptually difficult courses, such as the Immunology courses. The lectures should not be given in very large groups with interdepartmental students that aim in different learning outcomes and career paths.

A review of the curriculum must be conducted, and appropriate changes must be made to balance the coherence between different subjects.

Academic staff should meet all together in regular basis, discuss the progress of students, address any problems that may arise and jointly agree on issues related to the PSP.

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

This PSP started its function in 2018 and offers the degree of “Medicinal Chemistry and Chemical Biology” (MC-CB). The 25 members of this PSP are composed mainly by faculty members of the Chemistry department of UP and by invited faculty from the Biology department of UP, Physics department of UP, Medical School of UP and from other Greek institutions or establishments (e.g., Hellenic Open University). Student admission for the PSP MC-CB is restricted to 20 per year (minimum number: 5 students per year), with a mean number of 15 students/year. Eligible for admission are graduates of the Chemistry department, Pharmacology department, Medical school, Biology department etc. Students’ number is restricted upon a selection procedure based on the studies scores, scientific activity, knowledge of foreign languages (English), recommendation letters, followed by candidates’ interviews by an already established academic committee.

All procedures for student selection are clearly described to the required supporting documents. Documents also contain information for the student rights and obligations, and ways allowing to monitor their studies progression. Research ethics regulation, regulation of studies, internship, mobility, and student assignments are also provided. All this information also exists in a web site that is builder both in Greek and English versions.

The biggest ratio of candidates who apply to the PSP is from the Chemistry department. The ration of women/men appears not disbalanced. Some of the applicants have a part time job. This creates a problem with the time of studies (3 semesters), which is tackled by having a flexible time for the delivery of their Thesis diploma (most of the students

finish their diploma after the normal 3 semesters period). A hybrid method of teaching applies, live and remote, which is helpful. The proportion of graduates is very good.

The duration of the PSP is three semesters. For the graduation, courses (in form of lectures and seminars) and practical laboratory/research exercise are required for the elaboration of the dissertation. To date, all courses are given in Greek, and the Thesis book is also provided in Greek. Literature-based knowledge is acquired, and practical training modules are available. The students are evaluated at the end of each semester and upon their practical research activity. Students are obliged to write a dissertation, which can be either research based or a literature survey (reviews). Usually, the students require more time to finish the PSP diploma. Faculty of the PSP show understanding and flexibility for students that are working or having specific needs (e.g., military service, health problems). The PSP does not require student fees. The PSP diploma successfully allows to the students to get a job with specific requirements in the public or private domain (mostly to the pharmaceutical companies and some research institutes or private laboratories) or to further develop by acquiring a PhD degree.

The communication between the students and the faculty members of the PSP is excellent. Faculty are constantly available in helping the students and provide all necessary information. Progress of the PSP students is followed closely by the faculty members.

The meeting of the panel with current and past students of the PSP left a very positive impression of the utility of this PSP. All of them were very enthusiastic and positive concerning their experience and knowledge received. Several past students are excelling in the Pharma industry and indicated the big importance of this PSP. This also applies to other students or graduates working in different domains and places within Greece. However, current and past students and stakeholders requested additional courses linking new developments and requests in pharma industry with chemistry. Concerning the quality and number of courses, students pointed out that most of the courses are well-structured and easy to follow. Some difficulties were pointed out by the present and post graduate students in understanding specific medical courses of the PSP (e.g., immunology course). All students emphasised that the PSP is rewarding, greatly helping to their development.

The mobility of the students is not yet satisfactory, even though Erasmus+ and other mobility opportunities are available (e.g., part of the research activity could be performed in laboratories of Pharmaceutical companies located in Patras or Athens). Faculty members inform the students about the Erasmus+ opportunities, however the number of students taking advantage of this platform is low.

The degree certificate template is provided electronically to the students upon completion of PSP in both Greek and English.

II. Analysis

This PSP provides an important basis for job opportunities in the pharmaceutical industry as well as for further studies (PhD) in the field of chemistry. The PSP fulfils an important need for education and training of chemistry professions, pharmaceutical professionals, and biologists (research-oriented careers).

The length of studies of this PSP (3 semesters) is considered satisfactory from the panel. Medical Chemistry and Chemistry Biology are fields that are getting big importance, especially for the Pharmaceutical field. The acquired knowledge is beneficial to the students and in general to the society.

The panel realised that the mobility of the students is not satisfactory. An effort should be produced to more actively use Erasmus+ and other existing mobility opportunities within Greece or abroad. Faculty should take the opportunity that many big pharma industries are located in Patras and to strength the links with them. Part or all of the research activities could be performed in the well-equipped laboratories of the Pharma companies. Similarly, open informative days, where stakeholders can be invited by the faculty in order to present to the students the job opportunities, should be organised.

The teaching mode is satisfactory, but measures should be taken concerning some lessons that are difficult to be followed by the students. The hand-on experience within UP laboratories is an important factor but has to be implemented with further research experience in other laboratories either abroad (Erasmus+ mobility) or Nationally (research centres and Pharma companies in Patras, Athens etc).

An issue is that most PSP students finish their studies after the required 18 months period (a period extended to almost two years). Some of the PSP students have part time jobs, that contribute to this problem. This has to be resolved by the faculty members by either extending the PSP (4 semesters) or to establish more stiff criteria for the delivery of the diplomas on time (immediately upon completion of the 3rd semester). It is recommended the creation of a bank of research topics, with the needed time for the completion of the research, that students could consult. It is also advisable that PSP students start their research activities earlier than the 3rd semester (end of the 1st semester ideally).

The panel, upon consultation with students and stakeholders, believes that this PSP should become more international by delivering all courses and seminars in English and encouraging the students to write their Thesis in English. This will offer more opportunities for international exchanges through Erasmus+, invitations for lecturing to well-known academics or industrial partners from abroad and will increase the chances to the students to get PhD positions or jobs in Greece or abroad. The existence of a web page providing information in both Greek and English is a very positive sign.

Similarly, the panel, upon consultation with faculty members, students and stakeholders, believes that this PSP should not be totally free of fees since this amount could help the realisation of laboratory work by the students by covering, for example, a part of the consumables. In exceptional cases, these fees could be covered by a scholarship or could be alleviated.

III. Conclusions

This is an important PSP on the fields of Medicinal Chemistry and Chemical Biology. The length of the studies and the practical training are satisfactory. A re-organisation/restructuring of the PSP is necessary by the faculty. This restructuring should

ideally involve students and important stakeholders. Students' mobility should be enhanced, and the English language has to be adopted by the faculty for the lectures and seminars. A closer relation with pharmaceutical industry should be envisaged.

Panel Judgement

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

Panel Recommendations

- Invitation for lecturing to several word leaders in the field (from abroad or from Greece).
- Increase of students' mobility via Erasmus+ or other presented opportunities such as Pharma companies.
- The panel suggests the creation of a library of topics, where the candidates could choosetheir topic of interest. This library should be provided in the web page.
- Organisation of an informative day where the various stakeholders could explain the possibilities of mobility, job opportunities etc.
- Reorganisation of the PSP courses and lectures and link with pharmaceutical oriented modern topics.
- Lectures and seminars in English. Similarly, to be encouraged by the faculty the delivery of the dissertation in English.
- Re-examine and rethink the need of student fees in a flexible basis.
- Delivery of the dissertation diploma by the end of the 3rd semester. In case that this is not feasible, extension the PSP by adding a 4th semester.
- Questionnaires are not filled by the majority of students, and this is a problem to reorganise or implement the PSP. Faculty is aware of that but should elaborate methods to achieve the 100% participation of students in the existing evaluation procedure.

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 faculty of the PSP consists of 27 members, almost all from the UP (Chemistry department, Biology department, Physics department, Medical school), and a tiny number of members from other institutions within Greece. Information on faculty members' accomplishments and performances is available in the received documents and was provided during the meeting. Information can be also found in the web page of the UP that shows the high quality and suitability of the faculty to participate in this PSP. The list of the teaching staff, faculty's department of origin etc are provided. Recruited faculty have long time experience in teaching and research and this is indicated by different academic metrics tools (Google Scholar H-index).

Employment regulations and obligations of the teaching staff are also provided and clearly described in the corresponding official documents. There exists a policy of staff support and development. The panel noticed that faculty's mobility is very poor. This could be tackled with academic mobility through various established platforms such as Erasmus+.

During the evaluation, the panel received positive feedback about this PSP and the left with the impression that the majority of the faculty members enjoy being part of the PSP. The panel was informed the panel regularly discuss issues relating to the PSP, implement the PSP, and evaluate the students. However, the panel felt that that the faculty should meet in a more formal way, once or twice per year, in order to adapt the PSP to the actual needs and reorganise some lectures and seminars. It was clear to the panel members that there is a constant contact with the PSP students during the lectures and practical training.

Faculty advancement and career prospects based to the PSP are not very relevant, but staff participation in the PSP enhances their professional CV.

II. Analysis

The faculty body covers many aspects of PSP' specific fields. There is a need for a more active core group that administers and reorganises the PSP, including students representative and important stakeholders.

III. Conclusions

The present PSP is a very good and important programme for the education and training of the students in the field of chemistry. This PSP allows further specialised studies (PhD) in the field of chemistry and most importantly offers great job opportunities in the pharmaceutical industry.

Panel Judgement

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

Panel Recommendations

The panel recommends that all faculty of the PSP meet once per semester to discuss issues related to the aims, progress, and problems of the programme. A students' representative and stakeholders should also be part of these meetings.

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

UP has put in place a comprehensive set of resources and services to support learning, academic activities, and research within its postgraduate study programs, including the evaluated PSP MC-CB. These resources and services encompass human resources, infrastructure, and various support services aimed at providing students with a holistic and enriching educational experience.

Human Resources: The PSP benefits from the expertise of teaching and research staff from the Departments of Chemistry and Medical School, as well as researchers from other departments and research institutes across the University and throughout Greece. These academic personnel members play a role in delivering high-quality education and/or supervising the students' research projects. Administrative and secretarial support for the PSP

is provided by the dedicated Secretariat of the Department of Chemistry, which serves as the coordinating department for the PSP. This support includes administrative assistance to governing bodies, managing announcements and applications, handling candidate documentation, maintaining student records, issuing certificates, facilitating financial processes, and more.

Infrastructure: The PSP utilises lecture halls within the Departments of Chemistry and Medical School for instructional purposes, while dedicated seminar and multimedia rooms offer additional venues for academic activities, discussions, and presentations. Well-equipped laboratories in both Chemistry and Medical School support both research and student training. These facilities meet the PSP's requirements for practical training and experimental work. In these laboratories students have access to scientific instruments necessary for research activities.

Other support services: A range of services to support students throughout their academic journey within the PSP.

- The UP operates an organised Library and Information Centre connected to information banks and major libraries in Greece and abroad. This resource enhances research opportunities and provides access to a vast array of academic materials.
- Students receive @upnet.gr email accounts upon enrolment, ensuring secure and lifelong access to university communication systems.
- The UP and Department employ asynchronous e-learning platforms like Open eClass, which allows students to access educational materials, download course materials, and communicate with instructors for flexible learning. Additional tools like Zoom and Microsoft Teams facilitate remote teaching.
- The UP provides an online platform for students to manage course related documents, registration renewals, progress tracking, certificate and graduation applications, and access academic information.
- Students receive an integrated Student Card that grants access to central electronic services, enhancing their overall University experience.
- Through the "EUDOXUS" programme, students gain access to textbooks and educational resources, minimising the financial burden of course materials.
- The Erasmus+ programme offers students the opportunity to study abroad or undertake internships with full recognition of their work or studies. This international experience enhances their educational journey.
- Students have access to various reading rooms, book lending services, originality checks, and equipment for individuals with special needs.
- UP offers healthcare services to students, ensuring their well-being and medical care if needed.
- The Department of Chemistry provides information about job positions, postgraduate study programmes, conferences, seminars, and more. It also offers counselling services to help students improve their skills and employability.
- When disputes or complaints arise between students and institutional bodies, a Student Advocate provides a platform for resolution.
- Support services are available for students from Vulnerable Social Groups, including psychosocial and counselling support, medical support, financial assistance scholarships, and more.
- After completing their studies, students are encouraged to join the alumni network,

facilitating ongoing engagement with the University community and access to updates on University news and opportunities.

In their self-assessment of the adequacy of resources, the faculty noted that the resources and support services provided by UP are considered sufficient and satisfactory to support learning, academic activities, and research for postgraduate students. These resources have been planned and structured for the long term, ensuring that students in the PSP receive an optimal level of education and support. However, this PSP is one of few programmes that does not require students to pay tuition fees (or registration fees). The financial support for the PSP is primarily derived from the UP-Research Committee (ELKE) and is allocated to cover various programme-related expenses, including laboratory and research needs.

II. Analysis

UP demonstrates a commitment to ensuring the availability and adequacy of resources to support the students on a long-term basis. These resources include human resources, infrastructure, and various support services. UP leverages its academic and research staff, well-equipped laboratories, lecture halls, libraries, e-learning platforms, and administrative support to create an enriching learning environment for students.

UP and PSP faculty acknowledges the diverse needs for PSP students, considering factors such as full-time vs. part-time status, employment status, and disabilities when allocating resources and designing support services. By providing flexible learning options, access to electronic services, and support for individuals with special needs, UP ensures inclusivity and accessibility for all students, regardless of their unique circumstances.

UP employs internal quality assurance processes to assess both the quantity and quality of available facilities and services for students. These processes likely involve regular evaluations of infrastructure, feedback collection from students, and continuous improvement efforts. However, the specific details of these processes are not mentioned in the findings. Indeed, the self-assessment appears to be very brief and fails to report some of the findings of the panel, which have been discussed extensively with the PSP's leadership.

The findings do not provide explicit details regarding the qualifications and professional development opportunities for administrative support staff responsible for assisting the PSP students. It would be beneficial for the UP to have structured training and development programmes to enhance the competencies of these PSP staff members, especially given the diverse needs of students.

UP demonstrates a commitment to financially supporting the infrastructure and services necessary for PSP students. While the specific financial plans and sources of funding are not detailed in the findings, the University's reliance on the UP-Research Committee (ELKE) for financial support suggests a strategic approach to securing resources for the programme. Nevertheless, the discussions with staff identified that the funding through this mechanism is very limited, which together with the strategic decision to not charge tuition and/or bench fees may put the programme's sustainability at risk, as some laboratories may lack the necessary funds to support effective and high-quality training for PSP students. It is

recommended that the PSP faculty explores options such as tuition or bench fees and establishes more concrete collaborations with industry, offering fellowships, internships, and other opportunities to secure financial support.

The documents mention a formal mentorship programme for students. However, the presence of mentors, their frequency of meetings with students, and the scheduling of these meetings are not addressed. Indeed, the findings note that although all students have been assigned mentors, and they are aware of the availability of these mentors for guidance and support, there is currently no structured framework for regular meetings between students and their mentors. The PSP may benefit from implementing a mentorship programme to provide guidance and support to PSP students throughout their studies.

The documents indicate that there are approximately 10 computers available for undergraduate and postgraduate students. Whether this number is sufficient largely depends on the demand and usage patterns. Also, the documents do not elaborate on whether students have a dedicated place to socialise, which is an important aspect of student life and community building.

III. Conclusions

While the UP demonstrates a strong commitment to providing resources and support services for students, there is room for improvement in areas such as mentorship programmes, funding and sustainability profile of the programme, internal quality assurance processes and mentorship programmes. In particular, the PSP could benefit from a more structured mentorship scheme for students to provide guidance and support throughout their academic journeys on a regular basis, e.g., once every term. Additionally, although the institution's commitment to financial support for infrastructure and services is evident, it is recommended that PSP faculty further explores various funding sources, such as tuition or bench fees, and strengthens collaborations with industry to ensure long-term sustainability.

In conclusion, UP and the Department of Chemistry has a robust foundation of resources and services to support this PSP and its students. By addressing the areas of improvement identified, the institution can further enhance the educational experience and support for students, ensuring their continued success within the programme.

Panel Judgement

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

Panel Recommendations

- Consider introducing tuition or bench fees to secure the long-term sustainability of the programme. Explore how these fees can be used to benefit students and programme resources effectively.
- Establish a structured mentorship programme that includes regular interactions between mentors and students to provide guidance and support.

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 PSP has established a comprehensive and well-structured approach to information management, employing various tools and systems to gather, analyse, and make informed decisions. One noteworthy aspect is the programme's strong emphasis on effective information collection. They utilise a high-quality information system capable of collecting data on a wide array of aspects, encompassing students, staff, facilities, programme structure, teaching quality, and service provision. This commitment extends to systematically monitoring key indicators on an annual basis, covering critical areas like performance metrics, student demographics, progress, success rates, and more.

Furthermore, they pay close attention to student satisfaction, resource availability, student support, and student involvement in programme planning and execution.

An essential flexibility exists within the PSP to adapt and monitor additional indicators as required, ensuring alignment with evolving programme needs. The data collected annually are

thoughtfully recorded in the Integrated Quality Information System of the Hellenic Quality Assurance and Accreditation Agency (IQIS-HQAAC), serving as the basis for the formulation of annual Quality Targets in adherence to HQAAC guidelines. Additionally, the programme effectively harnesses data from diverse sources, including the Electronic Registrar System, Quality Management System of MOΔIII, ResCom of ELKE, Department of Employment, Career, and Management System, Erasmus+ programme system, and the Library system, among others.

This PSP deploys specialised tools to facilitate information management, such as the Digital Leap (Electronic Registrar), which streamlines academic processes for teaching staff. It empowers them to efficiently manage grades, certificates, and academic tasks for students. The ISQA-PGP, developed in-house to meet specific programme needs, plays a pivotal role in quality assurance. The PSP also leverages INQIS for the collection of quantitative data from Higher Education Institutions (HEIs) nationwide, and Alexandria tracks the University's bibliometric performance, connecting to international bibliographic databases.

An important aspect of the PSP's information management is the use of online student questionnaires through the ISQA-PGP. These questionnaires facilitate anonymous feedback from students and provide quantitative results. The system also offers statistical analyses, comparisons over time, and data at the department, course, and instructor levels. Academic staff members are encouraged to complete an annual census, providing insights into infrastructure quality, procedures, and factors influencing their work. Additionally, staff can input data related to their research activities, publications, and references.

The PSP effectively leverages the collected information to enhance programme quality through various reports. Notably, an annual internal evaluation report, prepared by the OME.A of the Department of Chemistry, is submitted to the University's MOΔIII, fostering ongoing dialogue on programme improvements. However, it's crucial to highlight a challenge the PSP faces. While the PSP has the tools, mechanisms, and processes in place to collect and process information, it has come to the panel's attention that only a limited number of students complete and submit the questionnaires, and remarks from students regarding specific courses have not been either adequately collected or utilised for programme improvements. Similarly, some teaching staff has mentioned to the panel members that they have raised concerns multiple times, but improvements or provisions have not been implemented in response to their feedback.

In conclusion, this PSP has a robust foundation for information management, yet there is room for improvement in the utilisation of collected data and feedback to drive meaningful enhancements in PSP quality. Addressing these challenges will be instrumental in ensuring continuous improvement and maintaining high standards of education.

II. Analysis

UP has a robust approach to collecting, analysing, and utilising information effectively in the management of PSPs and related activities. They employ a high-quality information system

that systematically monitors key indicators, such as performance metrics, student demographics, progress, and student satisfaction. Data are also harnessed from various sources, including the Electronic Registrar System, Quality Management System of MOΔΠΠ, and more. The PSP's emphasis on information collection is commendable.

The PSP employs a sophisticated information system for managing and monitoring data related to students, teaching staff, course structure, and service provision. This system can contribute to reliable data for decision-making and quality assurance. The programme appears to focus on key performance indicators to evaluate and adjust its operations, including student progression, success rates, dropout rates, and student satisfaction. Although the PSP appears to engage both students and staff in providing and analysing data, challenges are faced in effectively and timely utilising the collected data and feedback. Student participation in questionnaires is limited, and student remarks about specific courses have not been adequately collected or used for improvements. Similarly, some teaching staff members have raised concerns without seeing corresponding improvements or provisions implemented in response.

During the final debrief, it became apparent that the PSP's leadership was already aware of these minor issues. However, they had chosen not to implement improvements at that time, citing a strategy to wait until the external evaluation was completed before initiating such processes. While this indicates that the PSP's leadership is taking a thoughtful and strategic approach to address these concerns, waiting for the external evaluation's findings, is a strategy that can put the PSP at risk, especially since the new academic year is about to begin.

III. Conclusions

The programme excels in information management, utilising a range of tools and systems. Key strengths include strong emphasis on data collection, flexibility in monitoring indicators, and utilisation of multiple data sources. Specialised tools enhance information management, including student questionnaires and staff census. However, challenges persist, including limited student participation in questionnaires and unaddressed teaching staff concerns. The decision to delay improvements until after external evaluation, while strategic, carries risks. Addressing such challenges promptly is crucial for maintaining high educational standards and continuous improvement.

Panel Judgement

Principle 7: Information management	
Fully compliant	X
Substantially compliant	
Partially compliant	
Non-compliant	

Panel Recommendations

- Identify mechanisms to encourage students to fill in surveys and questionnaires related to the programme and evaluation of each module, lecturer, instructor, or supervisor.
- Aim to address challenges including complaints and shortcomings promptly to maintain high educational standards and continuous improvement.

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

There is ample information provided through the dedicated website. The website includes information about the overall purpose of the PSP, criteria for students' selection, educational structure, instructions about the required thesis, a detailed study guide and other course related documents.

There are several documents that are published by the academic units including informational brochures, regulations, etc. Information materials are sent via email to all graduate students enrolled in the programme.

II. Analysis

The PSP communicates primarily through its website all ongoing and current activities including all relevant announcements for lectures, seminars and other scientific events. The documents that are provided to graduate students contain all the necessary information most of which is included in the Study Guide. Upon graduation all students are provided by a key code and invited to access Alumni portal. All quality related data of PSP operations are uploaded to specific portal which is then linked to Integrated National-wide Quality Information System (OPESP).

III. Conclusions

This is a very good PSP that adequately disseminates most important information to students and other stakeholders. The website is very good and functional, both in Greek and English languages.

Panel Judgement

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

Panel Recommendations

- The website of the programme could be further improved with additional information especially with regard to job opportunities, news and views, connections to alumni in academia and industry.
- It is recommended that the PSP staff also explores social media for enhanced communication and further engagement of 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

Internal evaluation of the PSP is carried out annually and included in the annual internal report of the Department of Chemistry. This information is also submitted to MODIP. The entire process is carefully delineated with regard to the responsible parties and the reporting sequence of events.

Specific questionnaires are to be filled by the attending students during electronic evaluation of the courses and other programme activities. Additional aspects of the evaluation include feedback from instructors and external consultants. This information is utilized to make certain changes in the PSP.

There is an appointed coordinator for each course. Responses of PSP students are taken into account for potential future changes in each course as well as potential improvements of the materials taught based on new advances in science.

All graduate students are assigned to an academic advisor and interaction with this advisor is encouraged through the course of study.

II. Analysis

The overall management of the program is satisfactory. It appears that there is significant communication among students and faculty aiming to improve the PSP. PSP students do not complete however the questionnaires. A forum towards the end of the PSP and before students' graduation should take place to discuss the programme and its potential changes.

III. Conclusions

This is a well-managed program that requires only minor improvements through enhanced communication among students, faculty, and other stakeholders.

Panel Judgement

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

Panel Recommendations

Bringing together students, faculty, and other stakeholders in open forums to discuss the programme will assist in the further development of the PSP.

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 actual MC-CB PSP has not been previously subjected to any external evaluation and accreditation process.

II. Analysis

The faculty members were forthcoming in conducting the accreditation process, as they answered the committee's numerous questions and provided the necessary paperwork as well as additional documentation that was requested during the meetings with the panel. It is worth mentioning that all faculty members present in the evaluation/accreditation process, as well as the PSP director, seemed to recognize the importance of the evaluation procedure and its contribution to the improvement of the PSP quality.

III. Conclusions

The evaluation/accreditation process was carried out and completed according to schedule. Communication with all parties involved was excellent, PSP staff were very enthusiastic in participating in this procedure and acknowledgeable for the recommendations of the panel.

Panel Judgement

Principle 10: Regular external evaluation of postgraduate study programmes	
Fully compliant	X
Substantially compliant	
Partially compliant	
Non-compliant	

Panel Recommendations

The panel has no further recommendations in this principle.

PART C: CONCLUSIONS

I. Features of Good Practice

- PSP is recognised nationally for the courses and research in this specific field.
- The PSP is a very important programme for the education and training of students in this field.
- Existence of questionnaires about PSP staff performance.
- Follow up of the PSP students' progression.
- Follow-up of the career paths of graduates.
- Informative website, both in Greek and English languages.
- Relationships between students and teachers are based on appreciation and mutual respect.
- PSP faculty and administrators are enthusiastic and strongly committed to ensure high quality of student support services.
- PSP has well-established procedures ensuring the completion of PSP thesis (duration of studies, rules ensuring student progression, terms, and conditions for student mobility).
- The students' recruitment procedure transparent.
- There is a strong employability potential for the PSP postgraduates.
- Research quality is considered very good.
- There is willingness by the PSP to comply with evaluation procedures.
- The faculty is dedicated, enthusiastic, dealing with both teaching duties and research activities.
- Faculty with important scientific achievements and successful academic career.
- Seminars given to the PSP students by academic and industrial experts.
- UP library is functional and well equipped.
- Stakeholders showed interest in pursuing further existing academic/industrial partnerships.

II. Areas of Weakness

- Although PSP staff tries to collect information from students' satisfaction, only a small percentage of the students is involved in this process.
- Staff and students' mobility is very low and not satisfactory.
- A structured communication plan towards the industry is missing.

- A bank of research topics is missing.
- Period of studies until the PSP thesis diploma longer than the three semesters.
- Absence of student fees.
- Not well-structured approaches for several of the PSP courses.
- No research activities in pharma industry.
- Most of the lectures are given in Greek and not English language. Similarly, the PSP dissertations are provided only in Greek.
- Absence of a specific forum with stakeholders.
- External consultative board (faculty, alumni, stakeholders) is missing.

III. Recommendations for Follow-up Actions

- Convene a meeting with all faculty, some students and external stakeholders in order to restructure the PSP, paying special attention to the question of fees, the length of studies, the relationship to industry and the integration of faculty members.
- Strengthen connection with industry. Reorganisation of the PSP courses and lectures and link with pharmaceutical oriented modern topics.
- Hasten the creation of an external advisory panel and include some industry people. Consider a voluntary work placement period during the last semester of studies.
- The role of Academic Advisor should be enhanced.
- Staff should be actively involved in overseeing and ensuring the smooth progress of the research project and its timely completion within the predefined timeframe.
- Students' background should be taken in consideration by the faculty in order to structure or adjust the PSP.
- A review of the curriculum must be conducted regularly.
- Academic staff should meet in regular basis and jointly agree on issues related to the PSP. Students' representatives and stakeholders should also be part of these meetings.
- Invitation for lecturing to several word leaders in the field (from abroad or from Greece).
- Increase of students' mobility via Erasmus+ or other presented opportunities such as Pharma companies.
- Creation of a library of research topics.
- Organisation of an informative day where the various stakeholders could explain the possibilities of mobility, job opportunities etc.
- Lectures and seminars in English are encouraged. Similarly, to be encouraged by the faculty the delivery of the dissertation in English.
- Re-examine and rethink the need of student fees in a flexible basis. In the opinion of the AP some tuition should be introduced.

- Delivery of the dissertation diploma by the end of the 3rd semester. In case that this is not feasible, extension the PSP by adding a 4th semester.
- Questionnaires must be filled by the majority of students in order to reorganise or implement the PSP. Faculty should elaborate methods to achieve the 100% participation of students in these questionnaires.
- Aim to address challenges including complaints and shortcomings promptly to maintain high educational standards and continuous improvement.
- The website could be further improved with additional information especially with regard to job opportunities, news and views, connections to alumni in academia and industry.
- The PSP staff could explore social media for enhanced communication and further engagement of stakeholders.

IV. Summary & Overall Assessment

The Principles where full compliance has been achieved are: **2, 5, 7, 8, 9, and 10.**

The Principles where substantial compliance has been achieved are: **1, 3, 4, and 6.**

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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2. **Prof. Konstantin (Gus) Kousoulas**
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3. **Prof. Nikolaos Ktistakis**
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