



ΕΛΛΗΝΙΚΗ ΔΗΜΟΚΡΑΤΙΑ
HELLENIC REPUBLIC



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Ανώτατης Εκπαίδευσης**
Hellenic Authority
for Higher Education

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Accreditation Report **for the Postgraduate Study Programme of:**

**Applied Biochemistry: Clinical Chemistry, Biotechnology, Evaluation of
Pharmaceutical Products**

Department: Chemistry
Institution: University of Patras
Date: 30 September 2023



Επιχειρησιακό Πρόγραμμα
Ανάπτυξη Ανθρώπινου Δυναμικού,
Εκπαίδευση και Διά Βίου Μάθηση



Report of the Panel appointed by the HAHE to undertake the review of the Postgraduate Study Programme of **Applied Biochemistry: Clinical Chemistry, Biotechnology, Evaluation of Pharmaceutical Products** 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 **Applied Biochemistry: Clinical Chemistry, Biotechnology, Evaluation of Pharmaceutical Products** 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 panel of experts to assess the compliance of the study postgraduate programme of “Applied Biochemistry: Clinical Chemistry, Biotechnology, Evaluation of Pharmaceutical Products” (AB) 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 post-graduate students as well as with external partners. The method used was an evidence-based process centred on a sampling of the Department'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 entire evaluation and accreditation process was carried out remotely using the Zoom platform. Prior to the online meetings the evaluation panel had access to a long list of documents that contain the proposal for accreditation, information on student characteristics and satisfaction, faculty infrastructure, aims and regulations of PSP, etc. The information provided by the Department was assumed to be factually correct.

The first online meeting of the panel members occurred on September 25, 2023, between 15:00 and 16:00 (Athens' time). The primary objectives of this meeting were to foster mutual introduction and develop a working approach for accreditation procedures. The panel review of the PSP AB started officially via Zoom at 16:00. During the meeting held from 16:00 PM to 17:00 PM, Director of the Postgraduate Programme (Prof. Dimitrios Vynios), the Head of the Department (Prof. Theocharis Achilleas), OMEA members, MODIP members and staff, met with AP and discussed several important aspects of the PSP. The meeting began with a detailed presentation by Prof. D. Vynios providing an overview of the PSP, covering its historical background, academic profile, admission procedure, students' 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 the PSP with the Standards for Quality Accreditation. OMEA members (Prof. Stamatatos Theocharis and Prof. Bokias Georgios) and MODIP representatives, including Prof. C. Stathopoulos, Prof. K. Nikolakopoulos Prof. E. Billis and Ms. E.Koulouri, as well as MODIP staff member F. Papadatou, who provided valuable data support.

A video was provided to the panel members for an online tour of various facilities, including classrooms, lecture halls, libraries, research laboratories etc (<https://www.youtube.com/playlist?list=PLZxjw1zyPpCBQI44kFv-wJWpTr-fMMeME>).

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' infrastructure and students' access to the various facilities. The panel met privately from 17:30 to 18:00, engaged in reflection on the impressions of the first day and made preparations for the second day of the online evaluation process.

On September 26, 2023, from 15:00 to 16:00, the panel met with the teaching staff of the PSP, Prof. A. Aletras, Prof. N. Karamanos, Prof. S. Skandalis, Prof. A. Vlamis, Dr. D. Kletsas, Dr. V. Sophianopoulou, Dr. A. Chroni, Dr. T. Papakyriakou, Dr. G. Drossopoulou, Dr. E. Mavrogonatou to discuss about the students' opportunities, mobility, the teaching methods etc. At 16:00, the panel met with PSP students to discuss about their degree of satisfaction and study experience. At 17:30, the panel met with PSP graduates, K. Cheli, P. Fountas S. Gerostathis, A. Kypraiou, D. Bainantzou, A.M. Christodoulou, M. Kelemeni M. Glarou to discuss about their experience and professional career. At 18:30, the panel met with employers and social partners of the PSP, Prof. M. Gotte, Prof. A. Passi, Dr. S Brezillon, Mr. A. Roussidis, Mr. P. Bouris, Mr. C. Angelopoulos and discussed about their experience and objective on the quality of this PSP, the relation of the content of the PSP with current status of work labour and research field as well as the exchange opportunities for students.

At 19:30 a final debriefing among panel members took place. At 20:00, the panel had a closure meeting with the Director of the PSP D. Vynios, the Head of the Department, Prof. T. Achilleas, in presence of MODIP and OMEA members. The panel informed about the major findings and suggested ways of PSP improvement.

During the following days (27-30 September 2023), the panel members had private meetings for the completion of the draft of the Accreditation Report.

III. Postgraduate Study Programme Profile

The PSP AB of the UP was originally established in year 1993 as “Applied Chemistry”, re-established in 2012 and final version of this PSP was established in 2018 as a collaboration between the Department of Chemistry of the UP and the Institute of Biosciences and Applications of the E.K.E.F.E. “Democritus”. The PSP includes tuition fees of €1,500, divided in three separate payments of 500 € per semester upon registration. The total number of ECTS required for the acquisition of the PSP degree is ninety (90). The curriculum is structured in three (3) academic semesters, which include five (5) courses and an experimental thesis. The minimum duration for completing the programme is three (3) academic semesters. The courses in the PSP are organized on a semester basis and the lectures take place either in University of Patras or in “Democritus” Institution. Teaching methods include lectures with physical or online participation. The aim of the PSP is to provide a high level of specialization, which includes both theoretical training and laboratory experience.

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 panel was given several documents from the PSP "Applied Biochemistry: Clinical Chemistry, Biotechnology, Evaluation of Pharmaceutical Products" (AB) 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.

At one level, such efforts at compliance are related to the overall quality assurance mechanisms of the UP and more specifically of the Department of Chemistry at both undergraduate as well as graduate levels of studies. Specifically for this PSP, another level of compliance is related to similar quality assurance efforts by the “Democritus” Institute which is an academic partner to the current PSP.

Evaluation of the PSP is done internally by OMEA and ΜΟΔΙΠ whereas student participation is sought and is partially evident. A very ambitious set of aims for the PSP is set in consultation by the internal evaluators which is meant to be completed by December 2023.

Decisions on the operation of the PSP are taken by a 7-member committee with 4 members from UP and 3 members from “Democritus”.

Critical to the success of this PSP is the high quality of its teaching staff as evidenced by their very good to excellent publication record and impact. This is true for both UP and “Democritus” staff. In discussions with the panel, it was clear that the teaching staff is enthusiastic about their participation in the PSP and its achievements over the years. In addition, given that the orientation of this PSP is towards research, it is important to have faculty which do research at a high level.

Part of the funding of the PSP is provided by tuition fees set at 1500 euros per student for the 3 semesters of studies. The panel was not shown a detailed list of how this money is spent, but in general it is clear that the funds are not enough to support high-quality and expensive research as that done during the thesis projects.

Support services serving this PSP (secretariat, library etc) appear to be adequate, and this is also true for classrooms and equipment.

II. Analysis

The subject of this PSP is very appropriate for the needs of PSP students in Greece as well as for the requirements of the labour market, and this is evident by the good employment prospects of the graduates and the positive opinion of the level of training of the graduates as experienced by the outside stakeholders.

There is a clear difference in the academic expertise of the PSP between the UP-Chemistry faculty (more chemistry oriented) and the “Democritus” staff (more molecular and cell biology oriented), which can either be a source of positive tension and pluralism or a source of potential conflict which may lead to one of the two directions being less popular. This is an area worthy of care now and in the future. For example, the current class is composed of over 90% of students staying in Patras for their thesis work; if this continues it may

eventually deplete “Democritus” labs of student participation.

III. Conclusions

Strong PSP with good to excellent faculty and fulfilling a clear need in Greek postgraduate education and for the labour market. Relations between UP and Democritus need to be carefully monitored and nurtured.

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

- Consider instituting a quota in the number of students that would do their thesis work at Democritus each year.
- Consider creating a forum between all faculty of the PSP to discuss current performance and future challenges.

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 from the PSP in order to evaluate the design and approval of this PSP.

The current PSP is a continuation of a previous programme titled “Applied Biochemistry” and inaugurated in 1994. Its current name was established in 2011, whereas the current form of the PSP with the collaboration with Institute “Democritus” was initiated in 2018 following all appropriate regulatory approvals. Since 2018, the number of students in the PSP has ranged from 7 to 14 representing 40% to 60% success rate of applicants.

The PSP officially lasts for 3 semesters. Course work takes place during the first semester (total of 3 courses) and part of the second semester (two additional courses) whereas thesis work starts during the second semester and extends to the third semester. Grades for some courses are based on exams and for others on written presentations. Students are free to choose their thesis lab and project; a very large number of subjects is available for research. There is no requirement for work placement.

It was emphasised to the panel during our meetings that familiarising the students with research is a primary goal of this PSP. The importance of this is best evidenced by the fact that thesis work counts for 50 out of 90 ECTS.

No formal mechanism exists for the interaction between the PSP and external stakeholders, most importantly those from the labour market. Nevertheless, graduates of the PSP were well evaluated by the stakeholders and almost 70% of them are currently employed by the private sector in Greece and abroad.

The study programme is well designed and covers well the areas of the PSP. The Student Guide describes adequately the Department of Chemistry at UP. An equivalent short version for “Democritus” would be useful. Course work is well described on the website. As the panel understood, revision and evaluation of the PSP by the steering committee is a constant concern and aim.

Although the PSP tries to measure student satisfaction via written questionnaires, this is only partially successful due to low student participation.

II. Analysis

The PSP is well designed and its graduates are well trained in research. Good collaborations exist with many institutions abroad, and in general the orientation of the programme is outward looking.

Work load is appropriate for the students but the graduation rate always exceeds 3 semesters.

Although the interaction with industry is limited during the course of studies, the employment prospects appear to be very high.

Student participation in evaluation of the PSP is limited, and this needs to be improved.

III. Conclusions

This is a strong PSP that graduates students ready to continue in academia or to be employed by the private or public sector.

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

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 AB of the UP is a three-academic semesters programme. It addresses mainly graduates students of chemistry, biology, pharmaceutical, or other related departments. To be awarded the PSP degree, successful completion of five (5) courses, reflecting a wide range of subdisciplines and the PSP thesis is necessary. All courses are mandatory while the choice of thesis project and supervisor is up

to the student and can be carried out either in UP or in Democritus. 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.

The 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 mostly understandable to the students' population.

II. Analysis

The curriculum of this PSP includes a wide range of courses covering current and topical issues in the fields of Applied Biochemistry 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. 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 thesis, the students may have gained a satisfactory degree of experience in both the professional and research areas of this particular field. It is worth noting that academic staff was aware of the progress of the whole PSP, and this was also communicated to the panel members during the meetings with under- and post-graduate students. One issue pointed out by the students is the need for better connection and communication of the teaching staff between Democritus and UP regarding the content of their courses, ensuring that their lectures have logical continuity and coherence. Moreover, there were different experiences of students regarding the organization of travel to Democritus, the duration of the courses held there and the cost of accommodation. It should be acknowledged that academic staff took into consideration the experience of postgraduates and tried to improve the curriculum for the new students as well as to cover their expenses (travelling and accommodation). Students were satisfied by the variety of different seminar-like lectures organized by UP and given by external partners, mostly foreign professors and researchers, that specialize in relevant topics. However, the organization of a site visit to some industry or research institute, or one-day workshop, in order to get a better understanding of their future potential working environment and its requirements, would further improve the PSP curriculum.

It is also worth noting that this extroversion and connections of academic staff of UP set the basis and encouraged students to participate in exchange programmes (e.g. Erasmus+). During the meeting with the social partners of the PSP, they expressed their satisfaction and enthusiasm about the scientific knowledge and practical experience that students earn through their studies. Last but not least, 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.

III. Conclusions

The curriculum of this PSP is 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	x
Substantially compliant	
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. All students were aware of who their advisor was, however meetings between student and advisor were absent. Academic advisors should take action and encourage the conduction of these meetings. Moreover, teaching staff of Democritus should engage more in the role of academic advisor especially when the student they are assigned to conduct the thesis project in UP.
- 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.
- The PSP staff must implement strategies towards increased students' participation in course evaluations; each instructor must communicate the importance of participation in evaluation processes.
- 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.

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

Student admission for the PSP AB is restricted to 20 per year. Eligible for admission are graduates of the chemistry department, biologists, pharmacology, medical schools etc.

This PSP started functioning in 2018 joining the Chemistry department of UP with Democritus Institute. The 25 members of this PSP are composed by faculty members of the UP (13) and by staff of Democritus (12). The PSP also includes seminars given by invited recognised faculty from Institutions from abroad. PSP applicants' number is restricted upon the selection procedure. Candidates are selected with well-defined and established criteria based on the studies scores, recommendation letters and upon interview of the candidates by an academic committee. All these procedures are clearly described to the required supporting documents. These documents contain information for the student rights and obligations, and monitoring of their progression. Research ethics regulation, regulation of studies, internship, mobility and student assignments are also provided. A web site with all this information exists, in both Greek and English version. The PSP has established clear procedures concerning the degree, the duration of studies, rules ensuring student progression, terms and conditions for student mobility with Erasmus+ or other equivalent platforms based on Departmental and UP rules described in the related UP and PSP documents.

Multidisciplinary studies, mechanisms of co-supervision of PSP students' research projects by academic staff within other departments and Democritus are already established and are operational within this PSP. A hybrid method of teaching applies, live and remote,

which is helpful.

The panel felt that the Department of Chemistry of UP has in place appropriate processes and tools to collect and effectively analyse information concerning the process of PSP students' progression. This information is stored within the PSP students' registration system.

The duration of the PSP is three semesters (30 ETCS each semester) with lectures and seminars followed by the dissertation. Students are evaluated at the end of the courses and the end of their practical/research activity. Students are obliged to write a dissertation, which is research oriented. Usually the students require additional time to finish their PSP. The PSP requires student fees (1.500 Euros). The PSP diploma allows to the students to either further develop a scientific or academic career by acquiring a PhD degree, or to get a job with specific requirements. The communication between PSP students and staff is excellent. Faculty is constantly available in helping immediately the PSP students and provide the necessary information. Progress of the PSP students is followed closely by the faculty.

The meeting of the panel with current and past students left a very positive impression of the utility of this PSP. Some concerns brought up by current and past PSP students about the short visits to Democritus (one or two weeks) and organisation of lectures. Lectures appeared not well-structured, sometimes out of the context, and finally the lectures were taking many hours during the day (lectures from 9:00 to 18:00). Concerning the quality and number of courses given by the faculty of UP, students pointed out that their lectures were clear and allow them to follow them easily. Similarly, all students mentioned that the PSP is very rewarding.

The panel noticed that the mobility of the students is satisfactory. Erasmus+ platforms are available, as well as other opportunities for student mobility. PSP faculty adopted methods to further motivate students by participating in national and international meetings, competitions distributing prizes to PSP students (prizes for poster presentations etc). PSP faculty encourages PSP students to graduate in a timely manner soon after the 3rd semester. Students fulfilling all course requirements and the practical/research training are allowed to graduate. PSP documents are obtained electronically within a very short time. A simultaneous English translation of the PSP dissertation is obtained.

II. Analysis

This PSP provides an important and interesting basis for further studies in the field and fulfils an important need for further education and training on applied biochemistry for chemists, biologists and medical professionals.

The panel believes that the length of studies (3 semesters) of the PSP is appropriate. Biochemistry is a field with increasing importance and it will be beneficial to the PSP students to follow either a research/academic career or to get a job at the pharma industry.

It is recommended the creation of a bank of research topics that students could consult. It is also advisable that PSP students start their research activities much earlier than the

3rd semester (starting 2nd semester ideally).

The panel estimates that although students' mobility is satisfactory, it should be an effort to use the Erasmus+ platform or other opportunities (pharmaceutical industries) of student mobility and exchange within Greece or abroad. Actually, there are several great opportunities that should be further explored. PSP faculty is aware of this and works towards this direction.

The panel, upon consultation with students and stakeholders, believes that this PSP could become even 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 and will increase the chances to the students to get PhD positions of jobs in Greece or abroad.

One question that needs to be addressed is the teaching mode for Democritus staff. Teaching should be more structured and not given in some few days. Instead of lectures, the term of seminar should be adopted by the PSP staff of Democritus. Teaching of Democritus staff is beneficial for the students, but it is more desirable in general for students to require hand-on research experience in the laboratories of Democritus. This is not applied to most of the PSP students, since most of the research activities are taking place in the UP. A balance should be established towards this direction, allowing students to perform their research activity, at least a part, in Democritus. The PSP members will need to carefully rethink this issue, and look for the right balance of practical / research activities between the two institutions.

III. Conclusions

This is a PSP on the important field of biochemistry. The length of the studies is appropriate, as well as the dynamic practical/research training. Reorganisation of the PSP should also involve students and important stakeholders. Students' mobility towards pharmaceutical companies or research centres should be promoted. The English language has to be adopted by all staff PSP members for the lectures and seminars. A closer relation with pharmaceutical industry should be promoted.

Panel Judgement

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

Panel Recommendations

- The panel suggests that an effort should be provided by the staff to increase the number of published scientific articles where PSP students participate, which will greatly serve for the visibility of the PSP and both Institutions.
- The panel recommends students' mobility in several Pharma companies located in Patras or Athens for research purposes.
- The panel suggests the creation of a library of topics, where the candidates could choose their 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 delivered by Democritus staff, in form of seminars.
- Lectures should be given in English. Similarly, students should be encouraged to deliver their dissertations in English.
- Delivery of the dissertation thesis by the end of the 3rd semester.
- Questionnaires are not filled by the majority of students. PSP faculty is aware of that and should elaborate methods to achieve the massive participation of students in this 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 staff of the PSP consists of 25 members, 13 from the UP (Chemistry department) and 12 from Democritus. The list of the PSP staff, faculty's department of origin etc are provided. The UP PSP teaching staff is made up of dedicated academics of high quality whose teaching and accessibility are very much appreciated by current and former students. Employment regulations and obligations of the PSP staff are also provided and described in the corresponding official documents. There exists a policy of staff support and development.

The Department of Chemistry adheres to meritocratic and transparent procedures (using the ΑΠΕΛΛΑ platform) for the selection and recruitment of PSP faculty. This recruitment is based on covering PSP teaching needs and well-defined research directions. Staff from Democritus is very qualified and recognised for the research quality. However, Democritus staff have not a long experience in participating in academic courses (teaching experience not high). There are links between teaching and research.

Research activities of PSP faculty are monitored *via* universally accessible tools (e.g., Google Scholar) and attraction of external funding. Similarly, Democritus staff activities are accessible via the same tools. The PSP staff is evaluated by means of student surveys carried out online, but PSP student participation is low, and therefore the evaluation results are not statistically sound.

The panel felt that that the PSP staff should meet formally once or twice per year, in order to adapt the PSP to the actual needs and reorganise some lectures and seminars. There is a constant contact with the PSP students during the lectures and research training.

Overall, faculty's research activities and teaching quality are of high degree. Teaching load is not high. A very small percentage of the UP PSP faculty has been mobile by means of the Erasmus+ and related programmes.

II. Analysis

There is a faculty body from the UP and staff from Democritus that can cover diverse aspects of the field of the present PSP. It is not very clear to see how the Democritus staff members can interfere in the development and modification of the PSP without offering research opportunities in this Institution. It is also hard to see how Democritus staff can design, implement and follow policies and procedures. There is a core group that administers the PSP.

III. Conclusions

The PSP is a very important for the education and training. This PSP is a pioneer in post-graduate education in biochemistry within Greece. The connection of UP Chemistry Department to Democritus is an excellent initiative according to the opinion of the panel. However, the panel believes that PSP staff should organise better the theoretical courses and practical/research activities in order to get a more balanced PSP between the two Institutions.

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 body (including faculty of UP and staff from Democritus) that will meet once or twice per year to discuss progress, problems and reorganisation of the PSP.
- The panel recommends the addition of in this panel of a PSP students' representative as well as of some important stakeholders.

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 PSP AB relies on a robust set of resources and services to facilitate learning, research, and academic activities. These resources encompass human capital, infrastructure, and various support services that collectively ensure the programme's effectiveness and success.

Human capital: The programme benefits from the expertise of faculty members from the Department of Chemistry and researchers from the Institute of Biology, Experimental Medicine, and Pharmaceutical Research (IBEPHAR "Democritus"). This diverse pool of educators and researchers enhances the quality of education and research. The inclusion of adjunct teaching personnel enriches the programme's curriculum with real-world industry insights and practical knowledge. The Department of Chemistry Secretariat plays a pivotal role in administrative support by facilitating various processes, including enrolment,

documentation management, and certificate issuance.

Infrastructure: The programme has access to well-equipped laboratories, both at the UP and "Democritus" tailored to the specific needs of applied biochemistry and related fields. Lecture halls appear to provide conducive spaces for teaching, discussions, and presentations. Computer centres enable students and faculty to access digital resources and conduct research activities. Both institutions have libraries and information centres with access to extensive research materials, both physical and electronic. Facilities like the machine shop, inorganic analysis laboratory, and electron microscopy and microanalysis laboratory enhance research capabilities.

Support services: Students receive a dedicated email address, promoting effective communication and information sharing. Various tele-education platforms are used including Open eClass, Zoom, and Microsoft Teams, which facilitate remote learning and collaboration, offering flexibility and convenience. An electronic secretary system streamlines administrative tasks, empowering students to manage their academic journey efficiently.

Students have an ID/student card that grants them access to essential university services and facilities. The UP Library and Information Centre offers diverse services, including book lending, plagiarism prevention, and assistance for students with special needs. Participation in Erasmus+ administered centrally by the UP enhances students' global exposure and academic mobility. All students have access to health care services including medical and hospital care, whilst a health and safety office ensures a safe and healthy environment across UP facilities. Finally, a social welfare services office can assist vulnerable students in various aspects of their academic journey. The employment and career services support students in career development and job opportunities. The institution of the students' advocate is established to resolve disputes and conflicts within the University community. The UP retains an alumni network register that connects current students with university alumni, promoting ongoing engagement and career development.

In their self-report, the PSP coordinators indicate that resources, including facilities, services, IT infrastructure, and support services are deemed sufficient and satisfactory for this PSP. These resources collectively contribute to an optimal learning and research environment. However, they identify that, while the PSP primarily relies on tuition fees for funding, the programme faces financial limitations, especially regarding funding for the experimental projects of students, which require additional resources. These financial needs are typically met through UP budget allocations and research programme funding. A Tuition Fee Utilisation Plan is in place and serves as a crucial source of financial support for the PSP. With this plan, approximately 30% of the fees are retained by the Research Committee (ELKE) in adherence to prevailing legislation. Of the remaining amount, approximately 30% is allocated for purchasing consumables necessary for graduate students' thesis projects. The remaining portion is directed towards maintaining equipment and facilities, as well as addressing specific programme needs such as announcements and conference-related expenses.

II. Analysis

The PSP ensures the availability of resources by maintaining well-equipped libraries, electronic databases, study rooms, and IT services. Both physical and electronic libraries appear to be regularly updated to provide access to current research materials. Study rooms are available for students' use, and IT services are designed to support academic needs. These resources are sustained on a long-term basis through regular assessments, budget allocations, and collaborations with external partners.

The programme benefits from staff members from the Department of Chemistry and the Institute of Democritus. Administrative support is provided by a Department administrator (operations secretary) and one officer. During the presentations and discussions, it remained unclear what provisions are in place in Democritus for administrative and student affairs support.

PSP staff takes into account the diverse needs of students through inclusive resource allocation and support service design. This includes accommodating full-time and part-time students, providing flexibility in course scheduling, and offering services to support those who are employed. Accessibility features are integrated into IT services to cater to students with disabilities. The UP has internal quality assurance processes to assess both the quantity and quality of facilities and services for PSP students. Regular audits, feedback mechanisms, and surveys seem to be conducted to evaluate the adequacy and effectiveness of resources and services. Awareness of these services is promoted through orientation programs for new students and ongoing communication throughout their academic journey. Administrative support staff responsible for assisting students are selected based on their qualifications and expertise in student services. Professional development opportunities are provided to enhance their competencies. Training sessions, workshops, and participation in relevant conferences and seminars are offered to ensure that support staff remain well-prepared to assist PSP students effectively.

UP appears to have plans or commitments to financially support infrastructure and services for students. These plans could involve budget allocations from the institution's resources, partnerships with external organisations, or reliance on state funding. These financial commitments align with the institution's goals for PSP education, ensuring that resources are available to meet the evolving needs of students.

Although students have been assigned mentors and have access to their contact details, there isn't a structured schedule in place for regular interactions with their mentors. Consequently, most students have not engaged with their mentors, suggesting the need for a more organised mentorship approach.

III. Conclusions

The PSP AB, being an integral part of a major University in Greece, has a comprehensive array of resources and services to facilitate learning, research, and academic activities. These resources, including human capital, infrastructure, and support services, are evaluated as sufficient and conducive to an optimal educational experience. Despite limited financial resources primarily reliant on tuition fees, the PSP efficiently allocates these funds to cater to the diverse needs of its students and faculty, ensuring the PSP's success and continued growth.

Panel Judgement

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

Panel Recommendations

Establish a structured mentorship programme that includes regular interactions between mentors and students. This will help students receive guidance and support throughout their studies.

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 UP has a robust information system capable of collecting, analysing, and utilising various types of data related to students, personnel, infrastructure, programme structure, teaching quality, and more. This information is systematically monitored, and key indicators are assessed annually. Students play a role in this assessment process, contributing to the improvement of programmes and services. More specifically, UP has a central identification service to oversee the posting of grades, academic progress monitoring, and overall student academic activities. Collaborating with the Department's Secretariat, this service ensures secure management of student data, adhering to relevant legislation. User authentication is primarily based on institutional email, enhancing security. The Digital Leap serves as a vital tool for academic staff to manage grading, control academic activities, and monitor student progress across all levels of education. It interfaces with the central identification service to provide a seamless academic management process, ensuring the security and confidentiality of student data.

MODIP has developed a specialised Quality Assurance Information System (QAIS) supporting its operations. QAIS enables electronic completion of questionnaires for course assessments, laboratory exercises, clinical exercises, and overall undergraduate and postgraduate programmes. Integration with the UP's electronic services ensures online questionnaire completion with participant anonymity. QAIS also processes and presents questionnaire results, allowing for statistical analysis and result comparisons over time. Access to data is regulated to ensure data security and is granted to relevant UP personnel, including Department bodies and instructors. Furthermore, academic personnel complete their Academic Personnel Census Sheet annually through their personal accounts.

The Integrated National Quality Information System (INQIS) that is part of the Hellenic Quality Assurance and Accreditation Agency for Higher Education (HQAAHE) facilitates the collection of quantitative data from Higher Education Institutions (HEIs) across the country. INQIS aims to support certification processes for study programmes and internal quality assurance systems by providing relevant quantitative data. This data allows for the generation of various reports with aggregated information and qualitative indicators, focusing on quality assurance. INQIS collects data on undergraduate and postgraduate programs, among other aspects.

The Alexandria tool connects to international bibliographic databases and tracks the bibliometric performance of the UP over specific time frames. Users can access both individual and aggregated bibliometric data, sorted by School, Department, and Degree Programme. Every year, a comprehensive internal evaluation report is submitted to the UP' Internal Quality Assurance Unit (IQUA). This report, prepared by the Department of Chemistry's IQUA, covers various aspects, including undergraduate and postgraduate study programmes, infrastructure, personnel, achievements, and potential challenges faced by the Department. PSP staff is assessed through a set of objective indicators. These include the number of publications in international scientific journals, reflecting the extent of research work, and the number of citations received by these publications, indicating the quality and recognition of the research within the international scientific community.

Data collected through the assessment processes are recorded and coded by the Internal Quality Assurance Unit (IQUA) of the Department. The results are shared during Department assemblies at the start of each academic year, leading to in-depth discussions and corrective actions if necessary. The results of these assessment processes inform the Department's strategic planning, allowing for continuous improvement in teaching and research activities. This data-driven approach ensures that PSPs evolve to meet the changing needs of students and the academic community.

II. Analysis

The UP demonstrates a strong commitment to taking full responsibility for collecting, analysing, and utilising information effectively in the management of postgraduate study programmes and related activities. UP has established a comprehensive information system and utilises various tools and processes to ensure data accuracy and accessibility, aligning with

Principle 7. UP employs a central identification service, Digital Leap, Quality Assurance Information System (QAIS), Integrated National Quality Information System (INQIS), and Alexandria to manage and monitor data related to students, teaching staff, course structure, and services provision. These systems contribute to reliable data for decision-making and quality assurance by ensuring secure data management, online questionnaire completion, statistical analysis, and benchmarking against international bibliographic databases.

UP places importance on key performance indicators (KPIs) related to PSP. These include performance indicators, student demographics, progression, success rates, dropout rates, and student satisfaction with their programmes. Data on these KPIs are collected systematically and analysed to evaluate programme quality and effectiveness.

UP involves both students and staff in data gathering and analysis processes. Students actively participate in completing electronic questionnaires, providing valuable feedback for programme improvement. Teaching staff are assessed based on objective indicators such as research publications and citations, fostering a culture of data-driven decision-making. Additionally, the institution conducts annual internal evaluation reports and follows up with corrective actions based on the results, ensuring continuous quality enhancement. To enhance the quality of the programme, it is recommended that students are encouraged to actively participate in surveys and questionnaires.

In addition to the mentioned documentation, the UP utilises specific tools and procedures to collect data related to academic and administrative functions. The Alexandria tool is employed for bibliometric data collection, while INQIS serves as a comprehensive system for quantitative data collection across Higher Education Institutions (HEIs).

It was noticed that most female PSP staff are located in Democritus, while the teaching and academic staff in Patras are mostly males. It is strongly advised that each institution look carefully into these statistics and make the necessary provisions for correcting these anomalies regarding gender equality (also in career progression) and equal opportunities.

III. Conclusion

Effective information management provided centrally by UP appears to be in place to successfully manage the PSP and its activities. The UP employs a range of tools and systems, including Digital Leap, MODIP's QAIS, INQIS, Alexandria, and comprehensive internal evaluation processes, to collect, analyse, and utilise data. Overall, the institution has a well-structured and integrated approach to information management, leveraging technology and active involvement of stakeholders to ensure data accuracy, accessibility, and effective utilisation for enhancing the quality of postgraduate education.

Panel Judgement

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

Panel Recommendations

- Consider how to address gender imbalances among teaching staff in each institution (UP and Democritus) and encourage equal opportunities and promote within both the teaching and academic staff.
- Identify mechanisms to encourage students to fill in surveys and questionnaires related to the programme and evaluation of each module, lecturer, instructor, or supervisor.

PRINCIPLE 8: PUBLIC INFORMATION CONCERNING THE POSTGRADUATE STUDY PROGRAMMES

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

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

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

Documentation

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

Study Programme Compliance

I. Findings

The PSP AB has a dedicated site, which is provided in both Greek and English. Information on the Department and PSP is provided in the website. This site contains information about the purpose of the PSP, criteria for students selection, the course descriptions and learning outcomes during the 3 semesters of the studies, the ECTS attributed, faculty involved, regulations including instructions for writing a thesis. Additional information is provided about issues of compliance, ethics, etc. The Director of the PSP is responsible of its contents working closes with another faculty member of the Chemistry Department.

PSP AB provides various documents and brochures with guides, informational leaflets, a detailed guide and other Secretariat-related documents. Communication with students is mainly via email.

II. Analysis

The PSP website appears to contain all the necessary materials related to the programme including announcements, scientific events, student activities, etc. The provided study guide is a useful document that contains all necessary information about the PSP including information about grading etc.

Questionnaires about the PSP to students are available through the website in a protected manner, although it the majority of the students does not submit these evaluation reports. Quality-related data are gathered and uploaded to a dedicated portal that is linked to national quality reporting systems.

III. Conclusions

Ample dissemination of the information is principally achieved through the dedicated website of the PSP. It appears that all necessary information is adequately disseminated to graduate students and other stakeholders through the website and via email.

Panel Judgement

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

Panel Recommendations

- It is possible that the website of the PSP can be further improved by providing current scientific news and views, highlighting accomplishments of graduate students, provide a forum for job postings and career advice for the graduates.
- The website should provide a forum for alumni contributions including providing information of graduates that are succeeding in academia and industry.
- The PSP faculty should explore the use of social media for enhanced communication with 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 PSP 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 postgraduate 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 though the course of study.

II. Analysis

The overall management of the PSP is excellent. It appears that there is significant communication among students and faculty aiming to improve the programme. Only a small part of the PSP students complete the questionnaires (courses evaluation). Ideally, there should be a forum towards the end of the programme and before students graduate to discuss freely PSP improvement with the faculty and suggest potential changes.

III. Conclusions

This is a well-managed PSP 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

Minor improvements through enhanced communication among students, faculty and other stakeholders. Bringing together these participants in open forums to discuss the PSP will assist in the further development of the programme.

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.

II. Analysis

The faculty members were cooperative during the accreditation process, readily addressing the committee's questions and providing the required documentation. It is worth mentioning that all professors present in the process, as well as the postgraduate program's director and the department's director, seemed to recognize the importance of accreditation and its contribution to the improvement of the postgraduate programme's quality.

III. Conclusions

The evaluation process was carried out according to schedule. Communication with all parties involved was sufficient and were all very enthusiastic and respectful of the recommendations made by the panel.

Panel Judgement

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

Panel Recommendations

Not applicable.

PART C: CONCLUSIONS

I. Features of Good Practice

- PSP AB is recognised nationally and internationally for the courses and research in this specific field.
- The PSP AB is a very important programme for the education and training of students in this field.
- PSP shares the knowledge of UP faculty and Democritus staff.
- Existence of questionnaires about PSP staff performance.
- Follow up of the PSP students' progression.
- Follow-up of the career paths of graduates.
- Well-functioning and informative website, both in Greek and English.
- Relationships between students and teachers are based on appreciation and mutual respect.
- Mentoring of the PSP students.
- PSP faculty and administrators are enthusiastic and strongly committed to ensure high quality of student support services.
- PSP AB 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 is meritocratic and transparent.
- There is a very strong employability potential for the PSP postgraduates.
- Research quality is considered very good.
- There is big willingness by the PSP AB to comply with evaluation procedures.
- The PSP staff is dedicated, enthusiastic, dealing with both teaching duties and research activities.
- PSP staff with important scientific achievements and successful academic career.
- There is awareness of the importance of research impact.
- On site and online (20-30%) courses.
- Seminars given to the PSP students by world-recognized experts.
- Important interactions with academic and research institutions from abroad.
- UP library is functional and well equipped.
- Stakeholders showed great enthusiasm and interest in pursuing further existing academic/industrial partnerships with PSP AB.

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 not high.
- A structured communication plan towards the industry and society in general is missing.
- A bank of research topics is missing.
- Period of studies until the PSP thesis diploma longer than the three semesters.
- Not well-structured approach for the teaching period in Democritus.
- Not well-balanced PSP research activities between UP and Democritus laboratories.

III. Recommendations for Follow-up Actions

- Consider instituting a quota in the number of students that would do their thesis work at Democritus each year.
- Consider creating a forum between all faculty of the PSP to discuss current performance and future challenges.
- Strengthen connection with industry.
- Consider a voluntary work placement period during the last semester of studies.
- Delivery of the dissertation thesis by the end of the 3rd semester. If not, consider extending the PSP to 4 semesters but with a very strict deadline.
- Organisation of an informative day (one-day workshops), allowing PSP students to know about new advances, current needs and possible requirement opportunities.
- An effort should be provided by the staff to increase the number of published scientific articles where PSP students participate.
- Students' mobility in several Pharma companies located in Patras or Athens for research purposes should be promoted.
- Creation of a library of topics, where the candidates could choose their topic of interest.
- Reorganisation of the PSP courses delivered by Democritus staff, which could be in form of seminars.
- Lectures could be given in English. Similarly, students should be encouraged to deliver their dissertations in English.
- Creation of a body (including faculty of UP and staff from Democritus) that will meet once or twice per year to discuss progress, problems and reorganisation of the PSP. Hasten the creation of an external advisory panel and include PSP alumni and some industry people.
- Establish a structured mentorship programme that includes regular interactions between mentors and students. This will help students receive guidance and support throughout their studies.
- Consider how to address gender imbalances among teaching staff in each institution (UP and Democritus) and encourage equal opportunities and promote within both the teaching and academic staff.

- Identify mechanisms to encourage students to fill in surveys and questionnaires related to the programme and evaluation of each module, lecturer, instructor, or supervisor.
- Further improve the PSP website by providing current scientific news and views, highlighting accomplishments of graduate students, provide a forum for job postings and career advice for the graduates.
- The use of social media is recommended for further advertisement of the PSP and enhance communication with potential stakeholders.

IV. Summary & Overall Assessment

The Principles where full compliance has been achieved are: **1, 2, 3, 5, 6, 7, 8, 9, and 10.**

The Principles where substantial compliance has been achieved are: **4.**

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
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	