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Accreditation Report
for the Postgraduate Study Programme of:

Science and Technology of Polymers and Composite Materials

Department: Chemical Engineering
Institution: University of Patras
Date: February 2025

Με τη συγχρηματοδότηση της Ευρωπαϊκής Ένωσης
ΕΣΠΑ 2021-2027
Πρόγραμμα
Ανθρώπινο Δυναμικό και Κοινωνική Συνοχή
enqa.

Report of the Panel appointed by the HAHE to undertake the review of the Postgraduate Study Programme of **Science and Technology of Polymers and Composite Materials** 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 Science and Technology of Polymers and Composite Materialsπα 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. Koutsos Vasileios (Chair)
   University of Edinburgh

2. Prof. Emeritus Argyropoulos Dimitrios
   North Carolina State University (NCSU)

3. Ms. Koutsogianni Zoi-Lina
   Aristotle University of Thessaloniki

4. Prof. Pontikis Vassilis
   Institut Rayonnement-Matière de Saclay (Iramis), Commissariat à l'énergie atomique et aux énergies alternatives (CEA)

5. Prof. Varotsis Constantinos
   Cyprus University of Technology

II. Review Procedure and Documentation

The members of the External Evaluation and Accreditation Panel (EEAP) for the review of the postgraduate study programme of Science and Technology of Polymers and Composite Materials of the University of Patras were appointed by the Hellenic Authority for Higher Education (HAHE) of the Register of Independent Experts in accordance with Laws 4009/2011 & 4653/2020. The EEAP reviewed all documents supplied (which we, as panel members, have examined) and agreed during our deliberations on key issues related to our evaluation.

The External Evaluation Procedure

- Dates & Times of the Evaluation

The evaluation was carried out remotely from 3:00-6:30 pm on January 27th, 2025, and from 3:00-9:00 pm on January 28th, 2024.

On the first day (Monday January 27th, 2025) initially, a virtual meeting was held with the Director of the PSP, the Head of the Department, MODIP, and Steering Committee/ OMEA. Specifically, the following individuals participated and addressed, at various points, the committee.

- Prof. Alexandros Katsaounis – Head of Department (Chem. Eng.)
- Assoc. Prof. George Pasparakis – Director of PSP (Chem. Eng.)

Steering Committee

- Prof. Vassilis Kostopoulos (Mech. Engineering)
- Assoc. Prof. Valadoula Deimede (Chemistry)
- Prof. George Kyriakou (Chem. Eng.) MODIP
- Prof. Ierotheos Zacharias – MODIP member
- Fieroula Papadatou – Head of MODIP
- Konstantinos Santas – Technical Support

During this meeting, the external evaluation committee (EEC) was presented by Professor Pasparakis, with the general features of the Postgraduate study program (PSP) of the University of Patras. In particular, an overview was made of the PSP (history, academic profile) current status and strengths. A brief review of student assignments, theses, exam papers & examination material was made followed by a discussion in relation to compliance of the programme to the Standards for Quality Accreditation and key performance indicators.

A brief on-line tour of the classrooms, lecture halls, libraries laboratories, and other facilities related to the PSP was provided. Discussion ensued with those present (Faculty and administrative staff member), as they are related to the facilities presented in the video and other relevant issues to the evaluation.

The faculty and administrative staff members present were;

- Assoc. Prof. Konstantinos Dassios (Chem. Eng.)
- Chrysoula Pyli

Konstantinos

- Administrative staff
- Santas – Technical Support

This session was aimed to offer the opportunity to evaluate the available facilities and learning resources virtually and to ascertain if the learning materials, equipment and facilities are adequate for the successful execution of the PSP.

During the second day (Tuesday January 28th 2025) a virtual meeting with the teaching staff of the PSP took place that was composed of:

- Prof. Georgios Bokias (Dept of Chemistry)
- Prof. Vlasis Mavrantzas (Dept of Chem. Engineering)
- Prof. Yannis Dimakopoulos (Dept of Chem. Engineering)
- George Voyiatzis – Research Director @ FORTH/ICE-HT
- Assist. Prof. Katerina Andreopoulou (Dept of Chemistry)
- Assoc. Prof. George Kalosakas (Dept of Materials)
- Prof. Spyros Yannopoulos (Dept of Chemistry)
- Konstantinos Santas – Technical Support

This was a very useful session and the discussion was centered on professional development opportunities, mobility, competence, and adequacy of the teaching staff to ensure learning outcomes, workload, evaluation by students; links between teaching and research; the teaching staff's involvement in applied research, projects and research activities directly related to the programme and possible areas of weakness.

This was followed by a meeting with a selection of current graduate students in the programme. The students in attendance were:

- Myrto Nikolaou (3rd semester)
- Anastasia Oikonomou (3rd Semester)
- Nikolaos Ploumis (3rd semester)
- Evaggelos Petlis (2nd semester)
- Katerina Michalarou (2nd semester)
- Paraskevi Rizou
- Eirinaios Tsamis (2nd semester)
- Apostolos Mpatakogias (2nd semester)
- Anastasia Anagnostou
- Alexandros Tsamis
- Konstantinos Santas – Technical Support

This session offered the opportunity for the EEAP to discuss issues related to students' satisfaction from their study experience and as it relates to Department / Institution facilities and issues concerning student life and welfare. The discussion was frank and congenial in every aspect and a multitude of opinions were freely expressed.

The logical continuation of the committee's work was to talk and understand the sentiments of a selection of the program's graduates. The committee had the opportunity to talk with the following graduates of the program:

- Christos Fragkogiannis - PhD student, FORTH- IESL, Crete
- Odysseas Kakarelidis – PhD student, Imperial College UK
- Andreas Doukas – Pharmaceuticals sector
- Athanasia Athanasiadi – n/a
- Themis Revenas - Entrepreneur, private sector
- Aliona Georgali – Project manager, defense industry
- Garifallia Tzaferi – Quality control, food industry
- Amalia Iliopoulou – Photovoltaics, Energy

This discussion outlined the experience of the above individuals after their postgraduate studies and their career paths.

The committee had also the opportunity to discuss the relations of the postgraduate study programme with various external stakeholders from the private and the public sector, namely;

- Vasilis Bakatselos – Chemical Engineer Masterbatches Marketing Department at Plastika Kritis SA
- Vivi Mintza - Human Resources Manager @Kotronis Packaging
- Antonis Vavouliotis – co-Founder and Managing Director @ Adamant Composites Ltd
- Panos Kotsakis – Group R&D & Quality Director @ Sarantis Group
- Sofia Papadopoulou – HR Generalist at ISOMAT
- Evangelos Karachalios – President of the Technical Chamber of Western Greece
- Dimitris Bellos – Brite Solar

This was a very informed discussion as well since it showed the impact the program has on the community at large and specifically as it relates to the industrial development of this sector in Greece.

Finally the work of the committee, via the online meetings, was concluded with a closure meeting with, the Head of the Department, the director of the PSP, MODIP staff, PSP Steering Committee/ OMEA members whose specific names and identities are enumerated at the onset of this document.

In Summary: The host department of the PSP program offered a programme that allowed virtual meetings and discussions that pertained to most aspects of the postgraduate study program. During these meetings, essential functional members and teaching staff were present, namely; administrators, professors, laboratory instructors, students, graduates, alumni, employers and community partners. In addition, a brief video tour of the laboratories and instrumental infrastructure was provided.

- Appropriateness of sources and documentation used

The documentation required for this evaluation was uploaded and examined by the members of the external evaluation committee, prior to and during the evaluation process. Additional documents with detailed information concerning several requested items related to various functional issues of the PSP that were missing were requested and received.

- Quality and completeness of evidence reviewed and provided

The furnished reports partly reflect the current situation i.e., detailed number of students and graduates as well as placement and employment opportunities as they developed to date. Better record keeping and more thorough documentation have been identified as being essential elements for improvement.

III. Postgraduate Study Programme Profile

The University of Patras is a major academic hub in Greece with about 34,000 students comprised of seven schools that in turn contain 31 departments with versatile and innovative activity in natural and health sciences as well as in humanities and economics. The University of Patras aspires to serve as a stimulus for the modernization of the Greek Higher Education System, with priority given to the fields where highly trained personnel would be able to contribute to the economic development of the country.

The Department of Chemical Engineering is part of the Engineering School of the University of Patras. It was founded in 1977 with the mission to offer education and research in most aspects of chemical engineering including development and optimization of methods for the production of industrial products, materials technologies, environmental protection and energy production. The department also aspires to be a pioneer and a centre of excellence in areas such as biotechnology and biological engineering, nanotechnology, renewable and alternative energy forms. It is to be noted that the Department regularly participates in assessment exercises, both in terms of teaching quality and research performance. These are all done following international, national and local procedures.

The postgraduate studies program (PSP) entitled “Science & Technology of Polymers & Composite Materials” is subject to the present accreditation procedures, and functions, operated without interruption, since 1998. In 2018 the PSP was re-established (under protocol number 820/12752 (ΦΕΚ Β’, 628/10.05.2018) after a thorough internal study related to the need of the precise specialization topic, its sustainability and viability for existence.

This is a unique PSP in Greece, that deals with polymeric and composite materials. The PSP is a collaboration of the following departments at the University of Patras: Chemical Engineering, Material Science, Mechanical & Aeronautical Engineering, Chemistry, Research and Technology Foundation (via a memorandum of understanding); with the Department of Chemical Engineering being in the leading and administering position for the PSP.

The objectives of the PSP in the Science & Technology of Polymers & Composite Materials are:

- Promotion of research and creation of advanced knowledge in the general area of the Science and Technology of Polymers and composite materials
- Competitive Improvement of Greek scientific personnel in a European & Global context.
- Educating new and appropriately informed personnel capable to be employed in research centres as well as in Universities and related industrial establishments and material accreditation organisations.

The fundamental characteristics of the PSP are:

a. It does not require tuition fees from its participant students.

b. It is composed of three academic semesters. Since 2024 this can be extended to 6 semesters for part-time (otherwise employed) students.

c. It emphasizes skill acquisition via research & the execution of a graduation thesis.

The number of announced positions each year is 30. To date, relevant statistics show that present admission and graduation figures vary between ca. 10-15 students annually.

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 program titled 'Science and Technology of Polymers and Composite Materials' is currently unparalleled in Greece, as it integrates both theoretical knowledge and practical training in polymers and composites within a single educational framework of the highest quality.

- Teaching is delivered by faculty members from four internationally recognized schools at the University of Patras: Chemical Engineering, Chemistry, Mechanical Engineering, and Aeronautics. The research conducted by the

teaching staff members is extensive and frequently referenced in academic literature.

- Graduates occupy both industrial and academic roles in Greece and internationally, while the managers of the PSP have noted the notably low barriers to entering the professional sphere. Furthermore, the core and elective courses provided are of superior quality, demonstrating the academic unit's commitment to excellence in research and education.
- The PSP has undertaken initiatives to involve students in collaborative research projects involving the faculty and various European academic and research institutions, particularly concerning diploma theses.
- The established Quality Assurance Policy follows the Quality Assurance Policy of the University. It encompasses commitments to meet pertinent requirements and foster enhancement through various approaches. These approaches include the assessment of courses and teaching personnel by students, carried out via anonymous surveys each semester, as well as the periodic review of the curriculum as necessary.

II. Analysis

- The Panel observed that the quality assurance methods in place (KPIs) have not facilitated the monitoring and advancement of objectives. These matters are not routinely addressed by the relevant committees, as indicated by the lack of recorded meeting minutes. While some faculty members do make individual adjustments, the adaptation, evolution, and enhancement of teaching methods employed by the faculty are neither presented nor discussed in the appropriate committees, as noted in response to a question posed by the Panel during the meeting with the director of the PSP and members of MODIP and OMEA.
- The Panel was informed that the current methods of communication with students are ineffective, leading to persistently low levels of student engagement and participation in the semester evaluation process.

III. Conclusions

- The faculty members possess the necessary qualifications to effectively contribute to the educational objectives of the PSP and the research output of the faculty is considered excellent. Additionally, the University’s resources, including computing laboratories and library facilities, are of high quality.
- In the brief duration of its establishment, the PSP has shown a dedication to maintaining the quality of its academic programme. Nevertheless, there is a lack of institutional financial support.
- There is a need for specific measures to enhance the monitoring of activities through key performance indicators (KPIs) and to foster a collaborative spirit among the teaching staff. It is recommended that faculty members convene formally every three months to discuss, evaluate, and make decisions regarding the effective implementation of teaching activities.

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

- The PSP must cultivate robust relationships with both national and international private sector employers, as these connections can serve as a vital bridge between educational initiatives and the current demands and trends within industry and society. This objective can be effectively pursued by engaging faculty members and industry representatives in dialogues concerning educational and research goals through the establishment of a consultative advisory board.
- An Alumni Society should be established.
- The faculty and administrative staff of the PSP should enhance their initiatives to elevate the program's visibility, thereby attracting a greater number of students from Greece and abroad. Such initiatives may encompass but are not limited to, organizing special events, establishing an Alumni Society, producing an annual newsletter that showcases the achievements of both faculty and graduates, and recruiting highly esteemed teaching personnel.
- The PSP should also enhance its methods of disseminating information regarding educational and research activities, which may include maintaining up-to-date web pages and conducting regular formal meetings among the teaching staff.

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 PRORAMME 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 PSP ”Science & Technology of Polymers & Composite Materials” of the University of Patras provides an excellent knowledge foundation and relevant experimental training in the specific areas of:

- Synthesis and physicochemical characterisation of Polymers and composites.
- Analysis of structure-property relationships for multifunctional polymers, biopolymers and composite materials
- Computational design & property prediction of polymers & composites using molecular simulation and numerical analysis methods.
- Recent developments of polymers and composite materials in the area of nanotechnology, energy & environment.

In these realms the PSP enjoys an excellent reputation, peer and industry recognition. The overall academic profile, program orientation, research character, scientific objectives, and the specific subject areas and specializations were described and delineated in the relevant documents and during the discussions during the accreditation. Overall, the curriculum compares well with appropriate, universally accepted standards for the specific area of study. Furthermore, the structure of the programme is rational and clearly articulated with somewhat informal yet effective procedures in place for periodic revisions of the programme curriculum. The student workload is following the European Credit Transfer and Accumulation System (ECTS) for level 7 and it is deemed to be appropriate.

The quality involvement and support of the teaching staff, the students and the administration provide for an effective structure in place. It is to be noted that the academic calibre of the teaching staff is of high quality, of international recognition, and excellent academic contributions in the area as evidenced by the respective matrices (h-indices and Google scholar information) provided.

Limited participation of the shareholders was noted in setting up the program for success and promoting its efficacy at a national level. While some rather informal processes are in place, aimed at implementing curriculum revisions, the involvement and consultation of stakeholders, external experts, students, and graduates needs to be further promoted and as such it is encouraged.

The departments that participate in the PSP provide adequate laboratory space to the program and are regularly making appropriate arrangements for hands-on training of the students.

The University of Patras has instituted a mandatory Health and Safety seminar and reportedly, the appropriate university committee regularly makes visits to the departments to ensure the enforcement of relevant regulations The laboratories, however, would benefit from an examination by an independent health and safety body providing an independent risk assessment.

The overall educational attributes of the PSP's success were discussed during the accreditation process, with input from students, graduates, teaching staff, and stakeholders. This process offered a quality assessment and identified areas that require attention and improvement. For example, there is little evidence that students, graduates, and external stakeholders actively participate in curriculum changes and improvements. PSP educational activities to promote and develop soft and transferable skills to the students were also noted as an area for improvement, especially by the industrial stakeholders. The introduction of courses or relevant

course material that links economic and market variables in selecting novel polymeric materials was also noted.

II. Analysis

The PSP in the Science & Technology of Polymers & Composite Materials provided by the University of Patras is unique in Greece and it is of comparable quality and efficacy to similar programs in the EU. It has been designed and it is implemented by a set of dedicated academics serving national and international needs in the area. The program offers documented professional avenues to dedicated students both nationally and internationally.

The curriculum revision procedures seem to involve limited consultation from stakeholders, external experts, students, and graduates. Such an involvement will certainly be of significant benefit to the program as evidenced by the deliberations of this accreditation panel as well as conversations of the panel with stakeholders.

It is to be noted that the PSP's success is evident from the quality of its graduates who are doctoral candidates in national and internationally renowned universities as well as reputable companies and relevant organizations occupying functional positions of professional responsibility.

III. Conclusions

The PSP in the Science & Technology of Polymers & Composite Materials is of comparable quality and efficacy to similar programs in the EU and it complies with accepted standards and practices at other institutions. The diversity and thematic relevance of the offered areas of specialization apparent in the program are effective and appropriate to fill the needs of students for continuing in doctoral programs and/or applying their knowledge and skills to Industry. The graduates and stakeholders were supportive of the program with ideas for promoting its efficacy and willingness to be further integrated in its future success.

Panel Judgement

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

Panel Recommendations

- It is recommended that students, graduates, and external stakeholders actively participate in curriculum changes and improvements.
- The industrial stakeholders noted that educational activities to promote and develop soft and transferable skills to the students would be of benefit.
- The introduction of course material with techno-economic relevance that links economic and market variables could be of benefit in linking the skills of the students to industry needs.
- The laboratories could benefit from an examination by an independent health and safety body providing an independent risk assessment.

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 postgraduate programme is a three-academic semester programme addressing mainly graduates of material science, chemistry, physics, chemical engineering, and other departments. In total the curriculum consists of five compulsory courses, two elective courses, and the dissertation. The latter is research-oriented, starts during the second semester, and is completed in the third, based on the study guide and the presentation by the director of

the PSP. The courses are conducted, only with physical presence, through theoretical and laboratory/practical lectures. In addition, the PSP staff provides students with the opportunity to fill in a questionnaire, where students can rate the courses, lecturers, lecture content etc.

According to the study guide and interviews with teaching staff, students, and graduates, the predominant method of course assessment is either written or oral exams. The supervisor of the dissertation is selected by the student based on his/her research interests.

For the postgraduate program, a student complaints and appeals management committee has been established, for which the curriculum committee has administrative and operational responsibility.
The PSP has introduced the role of Academic Advisor to enhance student-centred education and improve educational and administrative services.

II. Analysis

The PSP curriculum includes a wide range of courses covering basic knowledge and current issues in the fields of Polymer Chemistry and Polymer Composites. The theoretical knowledge of the students at the end of the PSP degree is quite satisfactory as they will have expanded and specialized their knowledge in this field. Moreover, a year-long thesis project and laboratory exercises as part of the curriculum enhance students' acquisition of practical experience. A strong advantage of the PSP is that students are actively involved in the process of writing and publishing research articles. The above observations and conclusions are based on an analysis of the study guide and information from interviews with students and graduates.

Students and graduates, interviewed by EEA Panel, were satisfied with the variety of different lectures organized by the PSP, while they expressed their interest in the organization of a site visit to industry or research Institutes, or a one-day workshop, to get a better understanding of their future potential working environment and its requirements.

It was also communicated to the EEA Panel members during the online meetings with students and graduates that the majority do not complete their studies within the typical duration of the PSP (3 semesters). Instead, it was observed that these students commonly require an additional period of one semester (at least) to complete their studies.

Regarding the participation of the students in mobility programs, such as Erasmus, it was observed that none of the students, that were admitted to the PSP since its establishment, participated in such actions. However, the efforts of the academic staff in this regard should be acknowledged as it was mentioned that few students moved abroad through their supervisors' personal connections / recommendations / collaborations.

The regulation for the students' complaints management has never been

activated/used. However, the initiative of some professors to create a more direct and prompt way for reporting students' complaints and problems was mentioned by the students.

Finally, the courses' and instructors' evaluation systems are widespread among students. On the other hand, the participation of the students in the internal evaluation process of the PSP is considered low in terms of the feasibility of using the resulting data for statistical analysis and implementing changes/corrective actions.

III. Conclusions

The curriculum of this PSP is mostly in line with the standards of the HAHE, as it is of high quality. The EEA Panel finds that the PSP is substantially compliant with Principle 3.

Panel Judgement

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

Panel Recommendations

To enhance adherence to Principle 3, the panel recommends the following:

- In addition to courses offered by academic staff, seminars by external partners (e.g., industry and research Institutes) or site visits should be organized on a structured basis.
- The PSP should implement strategies toward increasing students' participation in course evaluations; each instructor should communicate the importance of participation in the evaluation process. It would be beneficial for involved parties to develop a better relationship and communication with MODIP concerning the evaluation of PSP's courses by students.
- Information regarding the complaints and appeals management committee and the role of the academic advisor should be available on PSP's website.
- During the conduction of the 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 would contribute to it.
- Students should be informed and encouraged by the PSP to participate in programs such as Erasmus, COST Actions, etc.

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

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

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

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

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

Documentation

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

Study Programme Compliance

I. Findings

The PSP Study Guide is available and contains information about the aims/objectives of the program and provides a description of the curriculum, including the ECTS points and timetables for the courses. Information related to the application and admission, the assessment methods, progress monitoring, Study and Thesis Advisor, final degree grades and calculation, and supporting infrastructure are available. Students do not evaluate regularly the courses and teaching instructors through anonymous electronic questionnaires at the end of each semester. Therefore, MODIP has a poor record of questionnaires to produce statistical results for each instructor and course, which are used to improve the educational process and plan future courses.

The PSP Diploma Thesis addresses current research topics, leading to scientific publications and collaborations with research institutes to further strengthen this integration.

The PSP has not hosted international students through the Erasmus+ program, and none of the PSP students have participated in the Erasmus+ exchange program at a foreign university.

Current students had no issues with registration but lacked awareness of available scholarships and mobility.

II. Analysis

The PSP regulations provide information on several aspects. There is no mobility by the students. The lack of participation of home students in the ERASMUS+ program is recognized. The information provided to new students as part of their onboarding process is satisfied in its effectiveness.

The learning outcome in the PSP is presented clearly. The PSP provides excellent opportunities for professional development. There are no reports on how faculty can apply for advancement, attend specialized training seminars, engage in research projects, and participate in initiatives that promote mobility and collaboration with other universities locally and internationally.

The teaching workload of the faculty does not limit their research responsibilities. There is a strong integration between teaching and research. Faculty incorporate their research into teaching, providing students with opportunities to engage in research projects. Students must evaluate their instructors for all PSP courses.

III. Conclusions

The Study Guide for the PSP and its Regulations for Studies, Internships, and Project Work are compliant with the requirements set by the HAHE except for the Mobility. The PSP is in full compliance with Principle 4.

Panel Judgement

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

Panel Recommendations

- The PSP is encouraged to promote student mobility by proactively disseminating information about its students' participation in the Erasmus+ program.

- Internships and mobility should be offered by the PSP.

- The PSP is encouraged to have a new student information guide/welcome pack that includes information for available supportive structures.

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 process of recruiting and appointing faculty members is regulated by applicable state laws and regulations (APELLA).
- The professional advancement of teaching staff, including promotion and tenure, is following state laws and is overseen by the schools that support the PSP.
- Additionally, the teaching staff actively engages in research activities, which encompass participation in international collaborations, resulting in a substantial output of research, including peer-reviewed articles in esteemed journals and presentations at conferences and workshops. The trends in both publications and citations are notably positive.
- Furthermore, the administrative staff, comprising a manager and one executive, has been provided with opportunities for ongoing education.

II. Analysis

- The PSP has developed significant connections between its teaching and research activities, allowing students to undertake a diploma thesis that includes research work under the guidance of a faculty member.

- Faculty evaluations in teaching are primarily based on regular assessments conducted by students, which are reviewed by MODIP, OMEA, and the PSP. However, participation in these evaluations is limited, as only a small percentage of students attending lectures engage in the process. Furthermore, the support provided by these units to the teaching staff in this regard is deemed inadequate. This is evidenced by the poorly substantiated MODIP evaluation of the PSP (document M9.1).
- The administrative personnel have reported a positive outlook regarding the policies and the work environment. Nevertheless, should the teaching staff's desire for a significant increase in PSP student enrolment be fulfilled, the administrative support unit would face staffing shortages, leading to an overburdened workforce.

III. Conclusions

- The faculty-to-student ratio within the PSP is appropriately aligned, effectively addressing the educational requirements.
- Faculty members actively oversee the quality of instruction and implement measures to resolve any identified issues.
- However, the restricted financial resources of the PSP hinder various developmental initiatives and student support goals.
- It is essential to enhance the support from OMEA and MODIP, ensuring that their significance is fully recognized by the teaching staff.

Panel Judgement

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

Panel Recommendations

- Considerable efforts must be directed towards identifying opportunities for employment-related summer internships both within Greece and internationally. It is essential to secure funding to support living expenses for participants away from their homes.
- Robust collaborations should be established with other universities. In addition to providing a benchmark for comparative analysis, such partnerships would facilitate student exchanges that leverage the ECTS system, which currently seems to serve a largely ornamental purpose.
- Although the University has nominally effective quality assurance procedures, there are evident weaknesses in their application by the PSP, and the accountability of program coordinators is inadequate. This issue is critical and warrants immediate attention.

PRINICPLE 6: LEARNING RESOURCES AND STUDENT SUPPORT

INSTITUTIONS SHOULD HAVE ADEQUATE FUNDING TO COVER THE TEACHING AND LEARNING NEEDS OF THE POSTGRADUATE STUDY PROGRAMME. THEY SHOULD –ON THE ONE HAND- PROVIDE SATISFACTORY INFRASTRUCTURE AND SERVICES FOR LEARING 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 panel was offered a virtual tour of the institution's facilities including classrooms, lecture halls, libraries, laboratories, and other facilities related to the PSP. The learning resources was discussed in length with the current students and graduates. They include appropriate IT facilities. The panel discussed with the student-facing administrative support; they queried their practices, priorities, and methods of communication. The administration has been described in detail and was found appropriate.

II. Analysis

The institution's facilities including classrooms, lecture halls, libraries, laboratories, and other facilities related to the PSP are appropriate for the multidisciplinary subject of polymers and composite materials of the PSP. The learning resources include a dedicated virtual learning environment that contains all the material of the individual courses as discussed in length with the current

students and graduates. The students are satisfied with these facilities. The laboratory facilities are adequate but they usually lack dedicated technical personnel. The student-facing administrative support are well qualified to deliver a high standard of support. The electronic databases are existent but they do not cover all journals as mentioned in the submitted documentation. There are sufficient provisions for counseling services.

III. Conclusions

Overall, the learning resources and the student support are of good standard but there is room for improvement if more resources are found e.g. to hire dedicated technicians for laboratories and databases to include a wider selection of journals. We note that the resource issue in the Greek context depends on the allocated funding at the national level which is inadequate. To a certain degree, the responsibility lies outside the realm of the faculty and administration of the PSP. The academics use their research resources (acquired by being successful in competitive external funding) to cover the necessary infrastructure (e.g. state-of-the-art instrumentation, and well-equipped laboratories) but they need to be supported further by the allocation of more funding by the Greek state e.g. dedicated technical positions in the specialised laboratories.

Panel Judgement

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

Panel Recommendations

We encourage the PSP to seek more funding both internally and externally to maintain and improve the learning resources and student support.

PRINCIPLE 7: INFORMATION MANAGEMENT

INSTITUTIONS BEAR FULL RESPONISBILITY FOR COLLECTING, ANALYSING AND USING INFORMATION, AIMED AT THE EFFICIENT MANAGEMENT OF POSTGRADUATE STUDY PROGRAMMES AND RELATED ACTIVITIES, IN AN INTEGRATED, EFFECTIVE AND EASLILY 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 program has developed a substantially satisfactory information management system for its current students. Suitable key performance indicators have not been established fully. However, there is an availability of learning resources as well as student support. Student progression, success, and drop-out rates are not monitored fully. The evaluation of the courses is performed at the end of each semester for all courses and faculty but before the final examination. It is noteworthy that the faculty has collaborations with graduate students, including research and educational activities.

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

II. Analysis

There is no adequate information regarding the National Information System for

Quality Assurance in Higher Education (NISQA). Course/instructor student evaluations take place using questionnaires with formulated questions, but the percentage of students evaluating their courses is not satisfactory. The career paths of graduates are not monitored regularly. Initiatives towards improvement should be considered.

III. Conclusions

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

Panel Judgement

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

Panel Recommendations

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

PRINCIPLE 8: PUBLIC INFORMATION CONCERNING THE POSTGRADUATE STUDY PROGRAMMES

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

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

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

Documentation

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

Study Programme Compliance

I. Findings

The public information for the program is readily accessible via the university's website. However, it is accessible only through the Greek version of the website (https://www.upatras.gr/education/graduate-studies/upatras-msc-programs/), whereas when accessing the English version of the website (https://www.upatras.gr/en/education/postgraduate-studies/postgraduate- programs/), there is no reference to the existence of the PSP. Regarding the independent websites of each department participating in the postgraduate program, the following observations were made:

- On the website of the Department of Mechanical Engineering & Aeronautics, there is a reference to the program along with a link redirecting to the Department of Chemical Engineering for further information (https://www.mead.upatras.gr/diatmimatika-diidrimatika-progammata/)

However, both the information and the link are available only on the Greek version of the website. (https://www.mead.upatras.gr/en/#)

- On the website of the Department of Chemistry (https://www.chem.upatras.gr/el/studies-el/metaptyxiaka-programmata- spoudon.html), there is no mention whatsoever of the existence of this program, neither on the Greek nor the English version of the department's website.
- On the website of the Department of Materials Science, there is no information or reference to the program in either the Greek or the English version of the site. (https://www.matersci.upatras.gr/en/studies/m-sc-studies) (https://www.matersci.upatras.gr/el/studies/postgraduate)
- On the website of the Department of Chemical Engineering, which rules as thecoordinating department, a brief reference to the program is available in both the Greek and English versions of the website, along with a link to the postgraduate program's official webpage. However, in both cases, the provided information is only

available in Greek. (https://www.chemeng.upatras.gr/el/node/1272) (https://www.chemeng.upatras.gr/en/node/1272?language=en)

Another source for information on future applicants and stakeholders is the website of the PSP https://polymers-composites.upatras.gr/web/ which is provided only in Greek. It provides general information about the PSP including an overview of its scope, objectives, and structure. There is also information regarding the admission requirements and procedure, courses and teaching staff. All the above-mentioned information is provided only in Greek.

All the above-mentioned observations were made by EEA Panel members on the 27th and 28th of January and this information is taken into consideration. Actions and additions to the websites regarding the PSP after these dates are not considered for this accreditation/evaluation.

II. Analysis

The PSP's website contains useful information for future applicants and current students. However, as it was already reported the information is provided only in Greek which makes it difficult for foreign students to be informed. It was reported to EEA Panel that there were at least two foreign students that participated in the PSP, thus it is important to ensure that all students have access to all information.

The PSP's website provides valuable information, such as information regarding the establishment of the PSP, eligibility criteria of the potential applicants, curriculum description, thesis procedure and regulations, and quality assurance policy. However, there is no availability of an indicative time schedule for the lectures. In addition, there is no adequate information regarding regulations of the academic advisor, regulations of complaint management, current coordinating committee, internal evaluation data or general statistics for the PSP.

Additional material that would be useful to be published through any communication channel to enhance the program's visibility could be material related to research activities linked to the programme, students' participation in conferences or exchange programs, student publications, scholarship opportunities, and any other information that would further contribute to the PSP's dissemination activities.

Finally, it was reported to EEA Panel by the academic staff that funding for maintenance and updating of the websites is close to zero. As it came to the attention of the committee, this fact falls within the competence of the relevant institution (University of Patras) and the lack of funding or personnel exclusively for such purposes complicates the situation and does not contribute to the full compliance of the program with principle 8.

III. Conclusions

There is information about the PSP publicly available; however, it should be further enriched to ensure complete compliance with Principle 8.

Panel Judgement

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

Panel Recommendations

- Information regarding the PSP should be available on the websites of all participating departments.
- The PSP's website should be available in both English and Greek.
- Implementation of a structured plan for maintenance/update of the PSP website,
- Enhancement of the contents of the PSP's website e.g. inclusion of information regarding students' publications & achievements, conference participation, regulations for academic supervisors and complaint management procedures etc.

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 evaluations by OMEA/MODIP have been carried out and the latest one from 2023/2024 was available in the documentation.
Regular student course/instructor evaluations of all courses are undertaken every semester, and some statistical data were submitted to the EEA Panel.
Evaluation data from past graduates of this PSP programme were provided to the EEA Panel.

II. Analysis

Regular evaluations of the PSP constitute a part of a continuous improvement from the students' and staff's perspective. An appointment of an independent, External Advisory Board which would assess and review all aspects of this PSP including teaching content/curriculum revision, infrastructure, research agenda, assessments, and student could support and

monitor if the PSP is up to date.

The PSP collects data which it uses to improve. The evaluation surveys by the students and graduates serve as an indirect assessment method for the PSP. Students, graduates, and other stakeholders do not appear to have been directly involved in the decision-making processes for curriculum improvements.

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

III. Conclusions

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

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

1. A list of recommendations from MODIP evaluations that have been actioned should be published on the PSP website.
2. The PSP must develop satisfaction surveys for its external stakeholders involved with the programme.
3. The PSP must assist in increasing the participation of its students and graduates in the satisfaction surveys.
4. The PSP may consider developing an External Advisory Board consisting of external stakeholders, graduates, and students in collaboration with the existing Faculty to assist in the improvement 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 panel has been informed that an external evaluation of the PSP took place in July 2011. However, the corresponding report has not been provided to the panel. Since the PSP's accreditation in 2018, the HQAA has not conducted any further external evaluations.
- The panel has engaged in meaningful discussions with industrial and social stakeholders, who have expressed their willingness to provide practical training opportunities for PSP students as part of the curriculum. They have also indicated that they are looking forward to more proactive outreach from the PSP's executive board. Numerous stakeholders are prepared to offer employment opportunities to graduates of the PSP.

II. Analysis

- The internal evaluation committee of the PSP (OMEA) appears to be engaging in a somewhat informal collaboration with the quality-assurance committee (MODIP). A limited number of teaching staff members, averaging between 5 to 7 out of a total of 18, have participated in the review processes, despite acknowledging the significance of the accreditation review.

III. Conclusions

- An “Advisory committee” of stakeholders, employers, and social partners should be created with the aim to discuss the educational programs and possibly trigger contractual exchanges.

Panel Judgement

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

Panel Recommendations

- The evaluation and accreditation processes must be conducted regularly and follow international standards.
- The PSP should update its quality assurance policy based on the current recommendations from the Panel.
- A strategic plan spanning five years at the time of accreditation could foster innovative approaches to enhance the quality of the PSP.
- Establishing a committee to assess the PSP's long-term goals for the next 5 to 10 years is essential. This strategic planning should be incorporated into the documentation submitted for any future evaluations of the PSP.
- We recommend the formation of an advisory committee that includes stakeholders, employers, and social partners.

PART C: CONCLUSIONS

I. Features of Good Practice

- The faculty members possess the necessary qualifications to effectively contribute to the educational objectives of the PSP, and the research output of the faculty is considered excellent. The administrative staff are also competent and dedicated to the smooth operation of the PSP. Additionally, the University's resources, including computing laboratories and library facilities, are of high quality.
- The PSP has shown a dedication to maintaining the quality of its academic programme. The focus of the PSP on composite materials with polymeric matrices is appropriate and unique at the national level
- The PSP is of comparable quality and efficacy of similar programs in the EU and it complies with accepted standards and practices at other institutions. The diversity and thematic relevance of the offered areas of specialization apparent in the program are effective and appropriate to fill the needs of students for continuing in doctoral programs and/or apply their knowledge and skills to Industry. The graduates and stakeholders were supportive of the program with ideas for promoting its efficacy and willingness to be further integrated in its future success.
- The faculty-to-student ratio within the PSP is appropriate, effectively addressing the educational requirements.
- Faculty members actively oversee the quality of instruction and implement measures to resolve any identified issues. The teaching staff takes into consideration the diverse backgrounds of the students and adapts their teaching accordingly.
- There have been regular internal evaluations by the Institution's MODIP consistent with regular monitoring, review, and revision of the PSP aiming and maintaining a high level of educational provision through a supportive and effective learning environment.

II. Areas of Weakness

- There is a need for specific measures to enhance the monitoring of activities through key performance indicators (KPIs) and to foster a collaborative spirit among the teaching staff which is currently found to be lacking.
- The students' participation in course evaluations is limited; each instructor should communicate the importance of participation in the evaluation process. Furthermore, the evaluation questionnaires are not discussed adequately among the staff and no feedback is given back to the students. Therefore, the quality assurance loop is not fully closed and consequently, opportunities for developing further and adopting good practices among the different courses are not taken or at least are not considered among the staff at a satisfactory level.
- Although the University has nominally effective quality assurance procedures, there are evident weaknesses in their application by the PSP, and the accountability of

program coordinators is inadequate.

- There is no adequate information regarding the complaints and appeals management committee and the role of the academic advisor on PSP's website. Generally, the online information regarding the PSP is not satisfactory.
- There are no formal mechanisms for effective communication among all stakeholders keeping records and communicating with alumni.
- The duration of the thesis work (experimental work and writing process) takes usually longer than indicated officially; 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.
- Students are not informed, encouraged, and supported adequately by the PSP to participate in programs such as Erasmus, COST Actions, etc.
- The restricted financial resources of the PSP hinder various developmental initiatives and student support goals.

III. Recommendations for Follow-up Actions

- It is recommended that faculty members convene formally every three months to discuss, evaluate, and make decisions regarding the effective implementation of teaching activities.
- In addition to courses offered by academic staff, seminars by external partners (e.g., industry, research Institutes) or site visits should be organized on a structured basis.
- Considerable efforts must be directed towards identifying opportunities for employment-related summer internships both within Greece and internationally. It is essential to secure funding to support living expenses for participants away from their homes.
- Robust and ongoing collaborations should be established with other universities. In addition to providing a benchmark for comparative analysis, such partnerships would facilitate student exchanges that leverage the ECTS system.
- The process of evaluating the study program and the quality of teaching by students requires enhancement. This can be achieved by soliciting their feedback to create a more effective questionnaire and by implementing strategies to boost student engagement in the evaluation process.
- We encourage the PSP to seek more funding both internally and externally to maintain and improve the learning resources and student support.
- The student course/instructor evaluations need further attention. Students must become aware of the importance of the evaluation process so that they can appreciate its significance for improving the programme delivery, thus motivating increased survey participation.
- The career paths of graduates are not monitored systematically. A dedicated alumni portal may be developed to promote post-graduation interactions that can facilitate important networking interactions among graduates and further collaborations with the Department and the programme. The formation of a formal External Advisory

Board is expected to help in this direction.

- Information regarding the PSP should be available on the websites of all participating departments.
- The PSP's website should be available in both English and Greek.
- Implementation of a structured plan for maintenance/update of the PSP website.
- Enhancement of the contents of the PSP's website e.g. inclusion of information regarding students' publications & achievements, conference participation, regulations for academic supervisors and complaint management procedures etc.
- During the conduction of the 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.
- The external evaluation and accreditation processes must be conducted regularly and follow international standards.
- The PSP should update its quality assurance policy based on the current recommendations from the Panel.
- A strategic plan spanning five years at the time of accreditation could foster innovative approaches to enhance the quality of the PSP.
- Establishing a committee to assess the PSP's long-term goals for the next 5 to 10 years is essential. This strategic planning should be incorporated into the documentation submitted for any future evaluations of the PSP.
- The formation of an advisory committee that includes stakeholders, employers, and social partners is recommended.
- It is essential to enhance the support from OMEA and MODIP, ensuring that their significance is fully recognized by the teaching staff.

IV. Summary & Overall Assessment

The Principles where full compliance has been achieved are:

2, 4, 5, 9

The Principles where substantial compliance has been achieved are:

1, 3, 6, 7

The Principles where partial compliance has been achieved are:

8, 10

The Principles where failure of compliance was identified are:

N/A

Overall Judgement	
Fully compliant	
Substantially compliant	**X**
Partially compliant	
Non-compliant	

The members of the External Evaluation & Accreditation Panel

Name and Surname	Signature
KOUTSOS VASILEIOS	Signed by KOUTSOS VASILEIOS
ARGYROPOULOS DIMITRIOS	Signed by ARGYROPOULOS DIMITRIOS
KOUTSOGIANNI ZOI-LINA	Signed by KOUTSOGIANNI ZOI-LINA
PONTIKIS VASSILIS	Signed by PONTIKIS VASSILIS
VAROTSIS CONSTANTINOS	Signed by VAROTSIS CONSTANTINOS