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External Evaluation Report

(Conventional-face-to-face programme of study)

- **Higher Education Institution:**
University of Cyprus
- **Town:** Nicosia
- **School/Faculty (if applicable):** Faculty of Engineering
- **Department/ Sector:** Department of Mechanical and Manufacturing Engineering
- **Programme of study- Name (Duration, ECTS, Cycle)**

In Greek:

ΔΙΔΑΚΤΟΡΙΚΟ ΠΡΟΗΓΜΕΝΑ ΥΛΙΚΑ ΚΑΙ
NANOTEΧΝΟΛΟΓΙΑ

In English:

PhD IN ADVANCED MATERIALS AND
NANOTECHNOLOGY

- **Language(s) of instruction:** English
- **Programme's status:** Choose status
- **Concentrations (if any):**
In Greek: Concentrations
In English: Concentrations



The present document has been prepared within the framework of the authority and competencies of the Cyprus Agency of Quality Assurance and Accreditation in Higher Education, according to the provisions of the “Quality Assurance and Accreditation of Higher Education and the Establishment and Operation of an Agency on Related Matters Laws” of 2015 to 2021 [L.136(I)/2015 – L.132(I)/2021].

A. Introduction

This part includes basic information regarding the onsite visit.

The External Evaluation Committee (EEC) had a fruitful conversation and discussions with the academic staff, administrative staff and students.

The EEC met with the Vice Rector of the University of Cyprus (Prof. T.E. Synodinou), who gave us an overview of the University's structure and activities. This was helpful to visualise the environment in which the Programme is delivered and what support is provided for the academics and the students.

An introduction to the School of Engineering (by Prof. M. Neophytou) was followed that covered mission and strategic planning, connection with society, and any development processes and action plan for the future.

This was followed by a presentation from the Head of Department of Mechanical and Manufacturing Engineering, Prof. T. Krasia, covering the study programme and study programme's design and development (ESG 1.1, 1.2, 1.7, 1.8, 1.9), the effective management of the programme of study (EEC Report / Assessment Area 1 - Study programme and study programme's design and development (ESG 1.1, 1.2, 1.7, 1.8, 1.9), the process of teaching and learning and the student-centred teaching methodology, the practical trainings and the student assessment (Assessment Area 2 - Student – centred learning, teaching and assessment -ESG 1.3). Also, an observation of the material and discussion on the methodology i.e. students' assessments and equipment used in teaching and learning i.e. software, hardware, materials, online platforms, teaching material, evaluation methods, projects, samples of written examinations/thesis was presented followed by a discussion on the students' admission processes and criteria, progression, recognition and certification (EEC Report /Assessment Area 4 - Student admission, progression, recognition and certification ESG 1.4) / (EEC Report /Assessment Area 6 (ALL ESG)).

The EEC visited the University of Cyprus Library-Stelios Ioannou Learning Resource Centre, as a strategic infrastructure.

The EEC met with members of the teaching staff on each course for all the years of study (QA session). The discussion involved the presentation of the teaching staff's qualifications and research interests and activity, compliance with Staff ESG, and any other duties in the institution and teaching obligations in other programmes. Also, discussion on the design, structure and content of the course and its implementation criteria used for the development of the program (i.e. methodologies, bibliography, students' workload, compliance with Teaching ESG).

This was followed by a discussion on the learning outcomes, content and assessment regulations of the course and compliance with the level of the programme according to the EQF. A discussion on assessment criteria, samples of final exams or other teaching material and resources was very helpful. (EEC Report /Assessment Area 2 - Student – centred learning, teaching and assessment (ESG 1.3)) / (EEC Report /Assessment Area 3 – Teaching Staff (ESG 1.5)).

The EEC met also with four of the External Stakeholders and discussed ESs' input on the development of the institution's quality assurance policies, ESs' input on the design and development, as well as on the on-going monitoring and review of the Programme of study, ESs'

involvement on the periodic assessments to ensure continuous alignment with market needs, ESs' sought-out input to provide industry trend analysis, employer insights concerning career readiness of graduates, ESs' input on the program's potential employability of its graduates.(EEC Report/Assessment Area 4 - Student admission, progression, recognition and certification ESG 1.4)/ (EEC Report/Assessment Area 1 Study programme and study programme's design and development - ESG 1.1, 1.2, 1.7, 1.8, 1.9).

The EEC met with two of the Administrative Staff. The EEC asked several questions to cover EEC Report /Assessment Area 4 - Student admission, progression, recognition and certification ESG 1.4)/, (EEC Report /Assessment Area 5 - Learning resources and student support (ESG 1.6)).

A meeting with 5 students and 1 doctoral graduate was followed covering questions and answers related to EEC Report /Assessment Area 1 Study programme and study programme's design and development (ESG 1.1, 1.2,1.3 1.7, 1.8, 1.9. 1.10, Assessment Area 2 - Student – centred learning, teaching and assessment - ESG 1.3, EEC Report /Assessment Area 4 - Student admission, progression, recognition and certification ESG 1.4/ (EEC Report /Assessment Area 5 - Learning resources and student support (ESG 1.6))/ (EEC Report /Assessment Area 6 - Additional for doctoral programmes (ALL ESG))1.10, Assessment Area 2 - Student – centred learning, teaching and assessment - ESG 1.3, EEC Report /Assessment Area 4 - Student admission, progression, recognition and certification ESG 1.4, EEC Report /Assessment Area 5 - Learning resources and student support (ESG 1.6).

The EEC visited the new building and was informed on the progress of relocating education and research labs to the new premises guided by the Head of Department.

The evaluation/assessment meeting was concluded by an exit discussion with the Head of the Department and the Programme Coordinator where some of the findings were summarised and recommendations were made.

B. External Evaluation Committee (EEC)

<i>Name</i>	<i>Position</i>	<i>University</i>
Prof Artemis Stamboulis	Chair, Professor of Biomaterials, Impact Lead of the School of Metallurgy and Materials	School of Metallurgy and Materials, University of Birmingham, UK
Prof Chiara Bertarelli	Member, Professor of Materials Science and Technology, Head of the PhD Programme in Materials Engineering	Department of Chemistry, Materials and Chemical Engineering, Politecnico di Milano, Italy
Prof Ibrahim El-Sherbiny (Abdelhalim)	Member, Founding Chairman of Nanoscience Program & Founding Director of Center for Materials Science	Materials Science and Nanotechnology, Zewail City of Science and Technology, Egypt
Mr Marios Stylianou	Student member	Electrical and Mechanical Engineering, Cyprus University of Technology, Cyprus

C. Guidelines on content and structure of the report

- *The external evaluation report follows the structure of assessment areas.*
- *At the beginning of each assessment area there is a box presenting:*
 - (a) sub-areas*
 - (b) standards which are relevant to the European Standards and Guidelines (ESG)*
 - (c) some questions that EEC may find useful.*
- *The questions aim at facilitating the understanding of each assessment area and at illustrating the range of topics covered by the standards.*
- *Under each assessment area, it is important to provide information regarding the compliance with the requirements of each sub-area. In particular, the following must be included:*

Findings

A short description of the situation in the Higher Education Institution (HEI), based on elements from the application for external evaluation and on findings from the onsite visit.

Strengths

A list of strengths, e.g. examples of good practices, achievements, innovative solutions etc.

Areas of improvement and recommendations

A list of problem areas to be dealt with, followed by or linked to the recommendations of how to improve the situation.

- *The EEC should state the compliance for each sub-area (Non-compliant, Partially compliant, Compliant), which must be in agreement with everything stated in the report. It is pointed out that, in the case of standards that cannot be applied due to the status of the HEI and/or of the programme of study, N/A (= Not Applicable) should be noted.*
- *The EEC should state the conclusions and final remarks regarding the programme of study as a whole.*
- **The report may also address other issues which the EEC finds relevant.**

1. Study programme and study programme's design and development (ESG 1.1, 1.2, 1.7, 1.8, 1.9)

Sub-areas

- 1. Policy for quality assurance**
- 2. Design, approval, on-going monitoring and review**
- 3. Public information**
- 4. Information management**

1.1 Policy for quality assurance

Standards

- *Policy for quality assurance of the programme of study:*
 - *is a part of the strategic management of the program.*
 - *focuses on the achievement of special goals related to the quality assurance of the study program.*
 - *has a formal status and is publicly available*
 - *supports the organisation of the quality assurance system through appropriate structures, regulations and processes*
 - *supports teaching, administrative staff and students to take on their responsibilities in quality assurance*
 - *ensures academic integrity and freedom and is vigilant against academic fraud*
 - *guards against intolerance of any kind or discrimination against the students or staff*
 - *supports the involvement of external stakeholders*
 - *is developed with input from industry leaders and other stakeholders (i.e. industry leaders, professional bodies/associations, social partners, NGO's, governmental agencies) to align with professional standards.*
 - *integrates employer surveys to adapt to evolving workplace demands.*
 - *regularly utilizes alumni feedback for long-term effectiveness assessment.*
 - *is published and implemented by all stakeholders.*

1.2. Design, approval, on-going monitoring and review

Standards

- *The programme of study:*
 - *is designed with overall programme objectives that are in line with the institutional strategy and have explicit intended learning outcomes*

- *Aligns course learning outcomes with student assessments using rubrics to ensure objectives are met.*
- *Connects each course's aims and objectives with the programme's overall aims and objectives through mapping, aligning with the institutional strategy.*
- *is designed by involving students and other stakeholders*
- *benefits from external expertise*
- *reflects the four purposes of higher education of the Council of Europe (preparation for sustainable employment, personal development, preparation for life as active citizens in democratic societies, the development and maintenance, through teaching, learning and research, of a broad, advanced knowledge base)*
- *is designed so that it enables smooth student progression*
- *is designed so that the exams' and assignments' content corresponds to the level of the programme and the number of ECTS*
- *defines the expected student workload in ECTS*
- *includes well-structured placement opportunities where appropriate*
- *is subject to a formal institutional approval process*
- *results in a qualification that is clearly specified and communicated, and refers to the correct level of the National Qualifications Framework for Higher Education and, consequently, to the Framework for Qualifications of the European Higher Education Area*
- *is regularly monitored in the light of the latest research in the given discipline, thus ensuring that the programme is up-to-date*
- *is periodically reviewed so that it takes into account the changing needs of society, the students' workload, progression and completion, the effectiveness of procedures for assessment of students, student expectations, needs and satisfaction in relation to the programme*
- *is reviewed and revised regularly involving students and other stakeholders*
 - *collaborates with industry experts for curriculum development.*
 - *conducts joint reviews with external academic specialists to maintain academic rigor.*
 - *performs periodic assessments with external stakeholders to ensure continuous alignment with market needs.*
 - *establishes collaboration with international educational institutions or/& other relevant international bodies for a global perspective.*
 - *conducts regular feedback sessions with local community leaders for societal relevance.*

1.3.Public information

Standards

- *Regarding the programme of study, clear, accurate, up-to date and readily accessible information is published about:*
 - *selection criteria*
 - *intended learning outcomes*

- *qualification awarded*
- *teaching, learning and assessment procedures*
- *pass rates*
- *learning opportunities available to the students*
- *graduate employment information*

In addition, the program has established mechanisms of transparency & communication to ensure that

- Professional bodies validate program descriptions and outcomes.
- Community leaders actively participate in ensuring that the program's public information is relevant and resonates with the local and societal context.
- External auditors review public information for accuracy & consistency vis-à-vis the actual implementation of the program.
- Industry-specific & societal information is regularly updated with expert inputs.
- Alumni testimonials are included for a realistic portrayal of program outcomes.

1.4. Information management

Standards

- *Information for the effective management of the programme of study is collected, monitored and analysed using specific indicators and data i.e:*
 - *key performance indicators*
 - *profile of the student population*
 - *student progression, success and drop-out rates*
 - *students' satisfaction with their programmes*
 - *learning resources and student support available*
 - *career paths of graduates*
 - *industry trend analysis.*
 - *feedback mechanisms from external partners/stakeholders*
 - *data exchanges with professional networks*
 - *employer insights concerning career readiness*
- *Students and staff are involved in providing and analysing information and planning follow-up activities.*

You may also consider the following questions:

- *What is the procedure for quality assurance of the programme and who is involved?*
- *Who is involved in the study programme's design and development (launching, changing, internal evaluation) and what is taken into account (strategies, the needs of society, etc.)?*
- *How/to what extent are students themselves involved in the development of the content of their studies?*

- *Please evaluate a) whether the study programme remains current and consistent with developments in society (labour market, digital technologies, etc.), and b) whether the content and objectives of the study programme are in accordance with each other?*
- *Do the content and the delivery of the programme correspond to the European Qualifications Framework (EQF)?*
- *How is coherence of the study programme ensured, i.e., logical sequence and coherence of courses? How are substantial overlaps between courses avoided? How is it ensured that the teaching staff is aware of the content and outputs of their colleagues' work within the same study programme?*
- *How does the study programme support development of the learners' general competencies (including digital literacy, foreign language skills, entrepreneurship, communication and teamwork skills)?*
- *What are the scope and objectives of the foundation courses in the study programme (where appropriate)? What are the pass rates?*
- *How long does it take a student on average to graduate? Is the graduation rate for the study programme analogous to other European programmes with similar content? What is the pass rate per course/semester?*
- ***How is it ensured that the actual student workload is in accordance with the workload expressed by ECTS?***
- *What are the opportunities for international students to participate in the study programme (courses/modules taught in a foreign language)?*
- *Is information related to the programme of study publicly available?*
- *How is the HEI evaluating the success of its graduates in the labor market? What is the feedback from graduates of the study programme on their employment and/or continuation of studies?*
- *Have the results of student feedback been analysed and taken into account, and how (e.g., when planning in-service training for the teaching staff)?*
- *What are the reasons for dropping out (voluntary withdrawal)? What has been done to reduce the number of such students?*
- *How and to what extent are external stakeholders involved in the quality assurance process of the program?*
- *How is external stakeholder feedback gathered, analyzed and implemented,?*
- *In what ways do external stakeholders assist in making program information publicly available?*
- *How do external stakeholders contribute to evaluating graduate success in the labor market and obtaining feedback on employment outcomes?*

Findings

A short description of the situation in the Higher Education Institution (HEI), based on elements from the application for external evaluation and on findings from the onsite visit.

The EEC made the findings below according to the above standards:

1. Study programme and study programme; design and development

1.1 Policy for quality assurance of the programme of study

The EEC found that the programme is partially compliant with the above standard.

The programme has a formal status and is publicly available, but it lacks an established quality assurance system. The EEC believes that this is not an explicit issue with the AMN Programme, but it is a broader issue with the quality assurance processes of the University of Cyprus. It is evident therefore that the programme cannot have the flexibility or the capacity to develop a robust quality assurance framework without the support of the Institution.

1.2 Design, approval, on-going monitoring and review

The EEC found that the programme is mostly compliant with the above standards. It has clear learning outcomes and enables the progression of students. The programme is regularly updated as the curriculum is informed by research and therefore the programme supports cutting edge advances in materials. The programme is typical of other programmes in other high-quality European Universities. Also, the programme is reviewed regularly and takes into consideration feedback from students.

1.3 Public information

The EEC found that public information is compliant with the above standards. The programme leaders and contributors are engaged in outreach activities and they put significant effort into organising public events that contribute to the public information of advanced materials. The programme information is available to students and recently the programme leaders organised dedicated events to further inform undergraduate students about the programme, its capabilities to impact on their professional development and future with positive outcomes.

1.4 Information management

The EEC found that information management of the programme is partially compliant with the above standards and there are limited opportunities or capabilities to allow significant improvement. It was noted that there is an effort to work closely with industrial stakeholders and obtain useful feedback from them that could be used in the overall improvement of the programme study and information available about the programme.

Strengths

A list of strengths, e.g. examples of good practices, achievements, innovative solutions etc.

The EEC identified a significant number of strengths as following:

1. The curriculum design is well thought and prepared informed by research advances within the teaching team ensuring the programme is continuously updated with key advanced materials developments.
2. The infrastructure is very good including relocation into new premises ensuring a modern and clean environment for the students.
3. The programme design and delivery have great potential to impact on the local scientific community but also on the development of advanced technology industry that now is underdeveloped (or is developing) in Cyprus.
4. The EEC also noted that the students do not drop out of the programme for any other reason except of financial shortcomings, which consists a strength of the programme.

Areas of improvement and recommendations

A list of problem areas to be dealt with, followed by or linked to the recommendations of how to improve the situation.

The EEC identified a number of weaknesses and opportunities for improvement as following:

1. It was noted that the number of the available running elective courses is very small although in the programme of study a much larger number of elective courses are offered. Specifically, in the last three years only one elective course was delivered for reasons that were not clear to the EEC but seem to be related to the teaching staff being involved in other activities including administrative roles. It is therefore important to review the current situation and try to provide all the elective courses offered in the original programme curriculum.
2. The EEC noticed that the interaction with the stakeholders is limited to research arrangements between the stakeholders and the individual academics involved. This is an area of improvement through increasing the involvement of the industrial stakeholders in the curriculum design satisfying the requirement of the industry needs including the local industry and develop feedback opportunities from industry to improve the overall running of the programme and the students learning and professional development experience. The EEC also recommends that it is necessary to create a steering committee dedicated to advise and review the activities of the programme, also involving a larger number of the key stakeholders including: i) international industrial stakeholders, ii) at least one other academic from an external university working in similar area of research and iii) one key professional association that has the capacity to comment on the compliance of the programme with the needs of the local industry.
3. The EEC noted that the programme admits students with diverse background. The design of the curriculum should take this factor into consideration, and it is recommended that an introductory course to Advanced Materials is also included within the context of the programme. This course should be compulsory at least for the students who do not have

background in the field. These students will have to choose one Elective course to balance the obtained credits.

4. The committee noticed that statistics are not used to help with programme reviews and generally quality assurance is not applied to high standards. The UCY administrative staff could undertake this task.
5. The committee also noted that the marketing of the programme is almost non-existent. There is a profound lack of strategy to attract international students. Although there is an effort from the teaching academic staff to promote the programme to the undergraduate students. This is not established and should be done on a regular basis and target undergraduate students from other schools/departments too.
6. Although the programme has achieved the targeted number of students for this year and January 2025 entrance, the number of students is too low to secure the sustainability of the programme, and the EEC recommends that a significant effort should be placed in this particular issue.
7. There is a profound lack of sufficient technical support which has a significant impact on the students' learning experience because of the small available practical and hands-on labs offered in the courses. This will have a significant impact on the sustainability of the programme as well as its quality as it compromises the capability of the programme to reach its targeted potential and objectives.
8. The EEC also noticed that there is not adequate career support for postgraduate students although career support is offered to undergraduate students. It is therefore recommended that appropriate career support is offered to all postgraduate students including the students of this programme.

Please select what is appropriate for each of the following sub-areas:

Sub-area		<i>Non-compliant/ Partially Compliant/Compliant</i>
1.1	Policy for quality assurance	Partially compliant
1.2	Design, approval, on-going monitoring and review	Compliant
1.3	Public information	Compliant
1.4	Information management	Partially compliant

2. Student – centred learning, teaching and assessment (ESG 1.3)

Sub-areas

1.Process of teaching and learning and student-centred teaching methodology

2. Practical training

3. Student assessment

2.1 Process of teaching and learning and student-centred teaching methodology

Standards

- *The process of teaching and learning supports students' individual and social development.*
- *The process of teaching and learning is flexible, considers different modes of delivery, where appropriate, uses a variety of pedagogical methods and facilitates the achievement of planned learning outcomes.*
- *Students are encouraged to take an active role in creating the learning process.*
- *The implementation of student-centered learning and teaching encourages a sense of autonomy in the learner, while ensuring adequate guidance and support from the teacher.*
- *Teaching methods, tools and material used in teaching are modern, effective, support the use of modern educational technologies and are regularly updated.*
- *Mutual respect within the learner-teacher relationship is promoted.*
- *The implementation of student-centred learning and teaching respects and attends to the diversity of students and their needs, enabling flexible learning paths.*
- *Appropriate procedures for dealing with students' complaints regarding the process of teaching and learning are set.*
- *Detailed schedules in course materials are included, explicitly stating the expected hours for lectures, self-study, and group projects, ensuring transparency in time allocation.*
- *A system is integrated where each learning activity is assigned a weight proportional to its importance and time requirement, aiding in balanced curriculum design.*

2.2 Practical training

Standards

- *Practical and theoretical studies are interconnected.*
- *The organisation and the content of practical training, if applicable, support achievement of planned learning outcomes and meet the needs of the stakeholders.*

- *The expected hours for different components of practical training, such as lab work, fieldwork, and internships are clearly documented in the training manuals*
- *A weighting system is applied to various practical training elements, reflecting their significance in the overall learning outcomes and student workload.*

2.3 Student assessment

Standards

- *Assessment is consistent, fairly applied to all students and carried out in accordance with the stated procedures.*
- *Assessment is appropriate, transparent, objective and supports the development of the learner.*
- *The criteria for the method of assessment, as well as criteria for marking, are published in advance.*
- *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.*
- *Assessment, where possible, is carried out by more than one examiner.*
- *A formal procedure for student appeals is in place.*
- *Assessors are familiar with existing testing and examination methods and receive support in developing their own skills in this field.*
- *The regulations for assessment take into account mitigating circumstances.*
 - *The time allocation for each assessment task is explicitly stated in course outlines, ensuring students are aware of the expected workload.*
 - *A balanced assessment weighting strategy is implemented, considering the complexity and learning objectives of each task, to ensure fair evaluation of student performance.*

You may also consider the following questions:

- *How is it monitored that the teaching staff base their teaching and assessment methods on objectives and intended learning outcomes? Provide samples of examination papers (if available).*
- *How are students' different abilities, learning needs and learning opportunities taken into consideration when conducting educational activities?*
- *How is the development of students' general competencies (including digital skills) supported in educational activities?*
- *How is it ensured that innovative teaching methods, learning environments and learning aids that support learning are diverse and used in educational activities?*
- *Is the teaching staff using new technology in order to make the teaching process more effective?*
- *How is it ensured that theory and practice are interconnected in teaching and learning?*

- *How is practical training organised (finding practical training positions, guidelines for practical training, supervision, reporting, feedback, etc.)? What role does practical training have in achieving the objectives of the study programme? What is student feedback on the content and arrangement of practical training?*
- **Are students actively involved in research? How is student involvement in research set up?**
- *How is supervision of student research papers (seminar papers, projects, theses, etc.) organised?*
- **Do students' assessments correspond to the European Qualifications Framework (EQF)?**
- *How are the assessment methods chosen and to what extent do students get supportive feedback on their academic progress during their studies?*
- *How is the objectivity and relevance of student assessment ensured (assessment of the degree of achievement of the intended learning outcomes)?*

Findings

A short description of the situation in the Higher Education Institution (HEI), based on elements from the application for external evaluation and on findings from the onsite visit.

The EEC found that overall, the teaching activity follows the above standards with some exceptions in the assessment methods and the practical training.

Strengths

A list of strengths, e.g. examples of good practices, achievements, innovative solutions etc.

1. Dedicated internationally recognised academic/teaching staff with diverse research background.
2. Research and teaching material are interrelated and therefore the programme is continuously updated with the development of field's State of Art.
3. The students are well supervised which is a strength of the programme.
4. High standards of teaching methodology.
5. The programme provides practical sessions within their coursework.
6. The students are informed about the assessment methods and overall, the structure of each course. They are also given the opportunity to provide feedback for improvements.

Areas of improvement and recommendations

A list of problem areas to be dealt with, followed by or linked to the recommendations of how to improve the situation.

1. Despite the low number of students can be positive for constructive teaching, it is also a limitation in terms of course viability. A manageable number of students would benefit the viability as well as meet the international standards for this type of programmes.
2. A larger number of students is necessary to apply modern teaching technology such as digital tools to improve lecture delivery and the learning experience of the students.
3. It is recommended to increase the practical content within the offered coursework to prepare the students for their future academic or industrial career development and employability.
4. There is space for improvements related to quality assurance of the assessment methods that include the use of rubrics (standardised grading) and introduction of consistent continuous assessment without relying 100% on exam outcomes.

Please select what is appropriate for each of the following sub-areas:

Sub-area		<i>Non-compliant/ Partially Compliant/Compliant</i>
2.1	Process of teaching and learning and student-centred teaching methodology	Compliant
2.2	Practical training	Partially compliant
2.3	Student assessment	Partially compliant

3. Teaching staff (ESG 1.5)

Sub-areas

1. Teaching staff recruitment and development
2. Teaching staff number and status
3. Synergies of teaching and research

3.1. Teaching staff recruitment and development

Standards

- *Institutions ensure the competence of their teaching staff.*
- *Fair, transparent and clear processes for the recruitment and development of the teaching staff are set up.*

- *Teaching staff qualifications are adequate to achieve the objectives and planned learning outcomes of the study programme, and to ensure quality and sustainability of the teaching and learning.*
- *The teaching staff is regularly engaged in professional and teaching-skills training and development.*
- *Promotion of the teaching staff takes into account the quality of their teaching, their research activity, the development of their teaching skills and their mobility.*
- *Innovation in teaching methods and the use of new technologies is encouraged.*
- *Conditions of employment that recognise the importance of teaching are followed.*
- *Recognised visiting teaching staff participates in teaching the study programme.*

3.2 Teaching staff number and status

Standards

- *The number of the teaching staff is adequate to support the programme of study.*
- *The teaching staff status (rank, full/part time) is appropriate to offer a quality programme of study.*
- *Visiting staff number does not exceed the number of the permanent staff.*

3.3. Synergies of teaching and research

Standards

- *The teaching staff collaborate in the fields of teaching and research within the HEI and with partners outside (practitioners in their fields, employers, and staff members at other HEIs in Cyprus or abroad).*
- *Scholarly activity to strengthen the link between education and research is encouraged.*
- *The teaching staff publications are within the discipline.*
- *Teaching staff studies and publications are closely related to the programme's courses.*
- *The allocation of teaching hours compared to the time for research activity is appropriate.*

You may also consider the following questions:

- *How are the members of the teaching staff supported with regard to the development of their teaching skills? How is feedback given to members of the teaching staff regarding their teaching results and teaching skills?*
- *How is the teaching performance assessed? How does their teaching performance affect their remuneration, evaluation and/or selection?*
- *Is teaching connected with research?*
- *Does the HEI involve visiting teaching staff from other HEIs in Cyprus and abroad?*

- *What is the number, workload, qualifications and status of the teaching staff (rank, full/part timers)?*
- *Is student evaluation conducted on the teaching staff? If yes, have the results of student feedback been analysed and taken into account, and how (e.g., when planning in-service training for the teaching staff)?*

Findings

A short description of the situation in the Higher Education Institution (HEI), based on elements from the application for external evaluation and on findings from the onsite visit.

Teaching staff is of high standard, recruiting processes are in place, and the teaching staff have strong scientific background related to the programme and excellent relevant scientific skills. The teaching staff is permanent and are very well suited to the challenges of the programme of study in the present form. It was noted that the number of publications each year seem to decrease over the last 5 years although the number of teaching staff has increased.

Strengths

A list of strengths, e.g. examples of good practices, achievements, innovative solutions etc.

1. The teaching staff number is appropriate, they all have permanent positions, and the majority are at a Professor or Associated Professor rank.
2. The allocation of the teaching load is equally spread among the academic staff ensuring a smooth cooperation and execution of the teaching part of the programme.
3. The teaching staff are also research active and their teaching methodology is mostly research based.

Areas of improvement and recommendations

A list of problem areas to be dealt with, followed by or linked to the recommendations of how to improve the situation.

1. The EEC noted that there are no visiting teaching staff, and it is recommended that visiting teaching staff could be included to ensure diversity of knowledge share from research backgrounds related to Advanced Materials but rich in interdisciplinary activities especially benefiting the elective courses.

2. An effort should be made to retain the numbers of publication to the possible optimum numbers as this reflects on the productivity of the students and the teaching staff in the programme of study.

Please select what is appropriate for each of the following sub-areas:

Sub-area		<i>Non-compliant/ Partially Compliant/Compliant</i>
3.1	Teaching staff recruitment and development	Compliant
3.2	Teaching staff number and status	Compliant
3.3	Synergies of teaching and research	Compliant

4. Student admission, progression, recognition and certification (ESG 1.4)

Sub-areas

1. Student admission, processes and criteria
2. Student progression
3. Student recognition
4. Student certification

4.1 Student admission, processes and criteria

Standards

- *Pre-defined and published regulations regarding student admission are in place.*
- *Access policies, admission processes and criteria are implemented consistently and in a transparent manner.*

4.2 Student progression

Standards

- *Pre-defined and published regulations regarding student progression are in place.*
- *Processes and tools to collect, monitor and act on information on student progression, are in place.*

4.3 Student recognition

Standards

- *Pre-defined and published regulations regarding student recognition are in place.*
- *Fair recognition of higher education qualifications, periods of study and prior learning, including the recognition of non-formal and informal learning, are essential components for ensuring the students' progress in their studies, while promoting mobility.*
- *Appropriate recognition procedures are in place that rely on:*
 - *institutional practice for recognition being in line with the principles of the Lisbon Recognition Convention*
 - *cooperation with other institutions, quality assurance agencies and the national ENIC/NARIC centre with a view to ensuring coherent recognition across the country*

4.4 Student certification

Standards

- *Pre-defined and published regulations regarding student certification are in place.*
- *Students receive certification explaining the qualification gained, including achieved learning outcomes and the context, level, content and status of the studies that were pursued and successfully completed.*

You may also consider the following questions:

- *Are the admission requirements for the study programme appropriate? How is the students' prior preparation/education assessed (including the level of international students, for example)?*
- *How is the procedure of recognition for prior learning and work experience ensured, including recognition of study results acquired at foreign higher education institutions?*
- *Is the certification of the HEI accompanied by a diploma supplement, which is in line with European and international standards?*

Findings

A short description of the situation in the Higher Education Institution (HEI), based on elements from the application for external evaluation and on findings from the onsite visit.

The EEC found that all standards above are satisfied into a large extend.

Strengths

A list of strengths, e.g. examples of good practices, achievements, innovative solutions etc.

1. There are plans for secondments and placements with industrial stakeholders in place and students are given opportunities to participate in conferences and present their work within the University but also in international and national conferences especially if there is financial support from industrial stakeholders.
2. The programme is delivered in English which could facilitate students' exchange.

Areas of improvement and recommendations

A list of problem areas to be dealt with, followed by or linked to the recommendations of how to improve the situation.

1. It is recommended and the EEC encourages the participation in Erasmus student exchange programmes to strengthen the international exposure of the programme and improve the students learning experience from different research environments.
2. The admissions criteria are not clear, for example, the entrance requirements should be made known to the applicants and be presented in an official document uploaded on the website of the programme study.
3. As a requirement for admission to the PhD programme study, a research proposal should be requested from the applicants.

Please select what is appropriate for each of the following sub-areas:

Sub-area		<i>Non-compliant/ Partially Compliant/Compliant</i>
4.1	Student admission, processes and criteria	Compliant
4.2	Student progression	Compliant
4.3	Student recognition	Compliant
4.4	Student certification	Compliant

5. Learning resources and student support (ESG 1.6)

Sub-areas

- 1. Teaching and Learning resources**
- 2. Physical resources**
- 3. Human support resources**
- 4. Student support**

5.1 Teaching and Learning resources

Standards

- *Adequate and readily accessible teaching and learning resources (teaching and learning environments, materials, aids and equipment) are provided to students and support the achievement of objectives in the study programme.*
- *Adequacy of resources is ensured for changing circumstances (change in student numbers, etc.).*
- *All resources are fit for purpose.*
- *Student-centred learning and flexible modes of learning and teaching, are taken into account when allocating, planning and providing the learning resources.*

5.2 Physical resources

Standards

- *Physical resources, i.e. premises, libraries, study facilities, IT infrastructure, are adequate to support the study programme.*
- *Adequacy of resources is ensured for changing circumstances (change in student numbers, etc.).*
- *All resources are fit for purpose and students are informed about the services available to them.*

5.3 Human support resources

Standards

- *Human support resources, i.e. tutors/mentors, counsellors, other advisers, qualified administrative staff, are adequate to support the study programme.*
- *Adequacy of resources is ensured for changing circumstances (change in student numbers, etc.).*

- *All resources are fit for purpose and students are informed about the services available to them.*

5.4 Student support

Standards

- *Student support is provided covering the needs of a diverse student population, such as mature, part-time, employed and international students and students with special needs.*
- *Students are informed about the services available to them.*
- *Student-centred learning and flexible modes of learning and teaching, are taken into account when allocating, planning and providing student support.*
- *Students' mobility within and across higher education systems is encouraged and supported.*
- *Students receive support in research-led teaching through engagement in research projects, mentorship from research-active faculty, and access to resources that enhance their research skills and critical engagement with current studies.*

You may also consider the following questions:

- *Evaluate the supply of teaching materials and equipment (including teaching labs, expendable materials, etc.), the condition of classrooms, adequacy of financial resources to conduct the study programme and achieve its objectives. What needs to be supplemented/ improved?*
- *What is the feedback from the teaching staff on the availability of teaching materials, classrooms, etc.?*
- *Are the resources in accordance with actual (changing) needs and contemporary requirements? How is the effectiveness of using resources ensured?*
- *What are the resource-related trends and future risks (risks arising from changing numbers of students, obsolescence of teaching equipment, etc.)? How are these trends taken into account and how are the risks mitigated?*
- *Evaluate student feedback on support services. Based on student feedback, which support services (including information flow, counselling) need further development?*
- *How is student learning within the standard period of study supported (student counselling, flexibility of the study programme, etc.)?*
- *How students' special needs are considered (different capabilities, different levels of academic preparation, special needs due to physical disabilities, etc.)?*
- *How is student mobility being supported?*

Findings

A short description of the situation in the Higher Education Institution (HEI), based on elements from the application for external evaluation and on findings from the onsite visit.

All about standards are sufficiently satisfied in this programme of study.

Strengths

A list of strengths, e.g. examples of good practices, achievements, innovative solutions etc.

1. Excellent library and infrastructure (educational and research labs) to support the students learning.
2. Administrative staff support students in finding information about their activities related to their education.

Areas of improvement and recommendations

A list of problem areas to be dealt with, followed by or linked to the recommendations of how to improve the situation.

Students could be mentored by external to the programme academics who have extensive experience in mentoring students and postgraduate researchers to support their professional and personal skills development if the system of the University of Cyprus allows.

Please select what is appropriate for each of the following sub-areas:

Sub-area		<i>Non-compliant/ Partially Compliant/Compliant</i>
5.1	Teaching and Learning resources	Compliant
5.2	Physical resources	Compliant
5.3	Human support resources	Compliant
5.4	Student support	Compliant

6. Additional for doctoral programmes (ALL ESG)

Sub-areas

1. Selection criteria and requirements
2. Proposal and dissertation
3. Supervision and committees

6.1. Selection criteria and requirements

Standards

- *Specific criteria that the potential students need to meet for admission in the programme, as well as how the selection procedures are made, are defined.*
- *The following requirements of the doctoral degree programme are analysed and published:*
 - *the stages of completion*
 - *the minimum and maximum time of completing the programme*
 - *the examinations*
 - *the procedures for supporting and accepting the student's proposal*
 - *the criteria for obtaining the Ph.D. degree*

6.2. Proposal and dissertation

Standards

- *Specific and clear guidelines for the writing of the proposal and the dissertation are set regarding:*
 - *the chapters that are contained*
 - *the system used for the presentation of each chapter, sub-chapters and bibliography*
 - *the minimum word limit*
 - *the binding, the cover page and the prologue pages, including the pages supporting the authenticity, originality and importance of the dissertation, as well as the reference to the committee for the final evaluation*
- *There is a plagiarism check system. Information is provided on the detection of plagiarism and the consequences in case of such misconduct.*
- *The process of submitting the dissertation to the university library is set.*

6.3. Supervision and committees

Standards

- *The composition, the procedure and the criteria for the formation of the advisory committee (to whom the doctoral student submits the research proposal) are determined.*
- *The composition, the procedure and the criteria for the formation of the examining committee (to whom the doctoral student defends his/her dissertation), are determined.*
- *The duties of the supervisor-chairperson and the other members of the advisory committee towards the student are determined and include:*
 - *regular meetings*

- *reports per semester and feedback from supervisors*
- *support for writing research papers*
- *participation in conferences*
- *The number of doctoral students that each chairperson supervises at the same time are determined.*

You may also consider the following questions:

- *How is the scientific quality of the PhD thesis ensured?*
- *Is there a link between the doctoral programmes of study and the society? What is the value of the obtained degree outside academia and in the labour market?*
- *Are the criteria reflected in dissertation samples?*

Findings

A short description of the situation in the Higher Education Institution (HEI), based on elements from the application for external evaluation and on findings from the onsite visit.

The programme study satisfies most of the standards above. The setup of the Department as well as the seven academics who hold the responsibility to teach, train and supervise PhD students hold all the required qualifications, and they have both the knowledge and the experience to perform their responsibilities to the highest standards.

Strengths

A list of strengths, e.g. examples of good practices, achievements, innovative solutions etc.

1. The areas of research match closely the expertise of the available academic staff.
2. The academic staff is highly qualified and have significant experience in the supervision of PhD students.
3. The relocation to the new building brings all the necessary infrastructure into one building facilitating interactions among the students and staff facilitating significantly the performance of challenging experiments requiring the contribution of several areas of expertise.
4. There are mostly clear instructions/study rules on the structure of the PhD thesis as well as the requirements that state originality and innovation of the research.

Areas of improvement and recommendations

A list of problem areas to be dealt with, followed by or linked to the recommendations of how to improve the situation.

1. It is recommended that specific information on the requirements for thesis submission and graduation are presented more clearly in the online description of the programme study.
2. On the website of the programme study, the qualification exam (QE) between the 4th and the 6th semester is not officially reported and there is lack of information about what the consequences are if a student fails (for example possibility of retaking the exam within the 7th semester).
3. The transfer from the MSc programme to the PhD programme should be performed through a more standardised assessment and the process should be described to the students for clarity and fairness.
4. It has become evident that in some cases, PhD students need to work as teaching assistants to support their studies and pay their fees. It is recommended that efforts will be made to seek additional funding for PhD students to support their fees and if applicable living expenses.
5. It is recommended that the PhD programme of study is broadly communicated and advertised within Cyprus (state universities and private universities) and internationally via well-established European and non-European online resources, e.g., Euraxess, jobs.ac.uk etc.
6. The EEC felt that there have been not enough efforts to promote the value of a PhD study and its impact on the society and the students' own personal careers and development, and therefore the EEC recommends to actively action upon it.
7. It is recommended that the programme study should be improved by embedding soft skills development within compulsory courses where appropriate
8. With the current development of AI and the need to apply it in advanced material science, the EEC recommends that AI elements e.g., the good use of ChatGPT and other AI tools, should be embedded within the courses (elective or compulsory) wherever appropriate.

Please select what is appropriate for each of the following sub-areas:



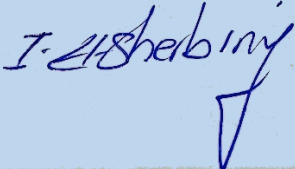

Sub-area		<i>Non-compliant/ Partially Compliant/Compliant</i>
6.1	Selection criteria and requirements	Compliant
6.2	Proposal and dissertation	Compliant
6.3	Supervision and committees	Compliant

D. Conclusions and final remarks

Please provide constructive conclusions and final remarks which may form the basis upon which improvements of the quality of the programme of study under review may be achieved, with emphasis on the correspondence with the EQF.

Overall, the programme of study is of a high quality, and it is delivered by satisfying a good number of standards as described in the different sections in this report. There is no doubt that improvements can be made in several areas including the design of the curriculum, the assessment methods, the expanding in the number of running elective courses, the more effective involvement of stakeholders in the curriculum design improving learning experience and employability of students, the career support of students and the increase of the number of students in the programme by improving the marketing strategy and advertising the programme in both national and international levels. Further improvements could be made by clearly presenting admissions criteria and assessment regulations in the PhD programme study's website. Seeking additional funding to cover fees and living expenses for PhD students may help with increasing the number of students. Embedding AI good practice where appropriate in the courses could add value to the PhD programme study.

E. Signatures of the EEC

Name	Signature
Artemis Stamboulis	
Chiara Bertarelli	
Ibrahim M. El-Sherbiny	
Marios Stylianou	

Date: 09/11/2024