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HELLENIC REPUBLIC

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Accreditation Report for the New Undergraduate Study Programme in operation (Integrated Master) of:

Biomedical Engineering

Institution: University of West Attica
Date: 8 May 2023

Ευρωπαϊκή Ένωση
Ευρωπαϊκό Κοινωνικό Ταμείο

Επιχειρησιακό Πρόγραμμα
Ανάπτυξη Ανθρώπινου Δυναμικού,
Εκπαίδευση και Διά Βίου Μάθηση
Με τη συγχρηματοδότηση της Ελλάδας και της Ευρωπαϊκής Ένωσης

ΕΣΠΑ 2014-2020

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Report of the Panel appointed by the HAHE to undertake the review of the New Undergraduate Study Programme in operation (Integrated Master) of **Biomedical Engineering** of the **University of West Attica** for the purposes of granting accreditation.

TABLE OF CONTENTS

PART A: BACKGROUND AND CONTEXT OF THE REVIEW

I. The External Evaluation & Accreditation Panel

The Panel responsible for the Accreditation Review of the new undergraduate study programme in operation (Integrated Master) of **Biomedical Engineering** of the **University of West Attica** comprised the following five (5) members, drawn from the HAHE Register, in accordance with Laws 4009/2011 & 4653/2020:

1. **Prof. Emeritus Spiros Agathos** (Chair)
   Université Catholique de Louvain, Louvain-la-Neuve, Belgium

2. **Prof. George Aggidis**
   Lancaster University, Lancaster, UK (remote participation)

3. **Assoc. Prof. Georgios Kontaxakis**
   Universidad Politécnica de Madrid (UPM), Madrid, Spain

4. **Mr. Panagiotis Kiskiras**
   Mechanical Engineer, Member of the Technical Chamber of Greece, Athens, Greece (remote participation)

5. **Mr. Michail Voskakis**
   Student, Department of Electrical and Computer Engineering, Hellenic Mediterranean University, Rethymno, Crete, Greece

II. Review Procedure and Documentation

The Hellenic Authority for Higher Education (HAHE) formed an external and independent panel of experts to assess the compliance of the Undergraduate Study Programme/ Integrated Master (UGP/IM) of Biomedical Engineering (BME) of the University of West Attica (UNIWA), offered by the Department of the same name, in accordance with the HAHE Quality Assurance (QA) requirements (laws 4009/2011 & 4653/2020). The assessment was conducted through document reviews plus onsite and online interviews. The method used was an evidence-based process centred on sampling the Department's activities. It was aimed at evaluating the fulfilment of the HAHE requirements of the relevant Quality Standard of the UGP/IM and commenting on its compliance, effectiveness and applicability for the scope of the requirements. The information provided by the Department was assumed to be factually correct.

The evaluation and accreditation exercise included a site visit of the Department and University campus in Egaleo, except for Professor George Aggidis and Mr. Panagiotis Kiskiras, who participated remotely using the Zoom platform.

On April 20, 2023, the External Evaluation and Accreditation Panel (EEAP) received from HAHE the Accreditation support material from the HAHE Cloud link: https://docs.ethaae.gr/s/K43MayKeGnzcnyc, which contained the following:

1. **UGP Biomedical Engineering UNIWA**, consisting of the documents in PDF:
    - B0. Table of Contents Biomedical Engineering
    - B01. Proposal of Academic Accreditation of UGP Biomedical Engineering
    - B02. Introductory Report of the Quality Assurance Unit on the Proposal of Academic Accreditation
    - B03. Strategic Plan UNIWA SWOT
    - B04. Feasibility Study for Biomedical Engineering
    - B05. Four-Year Business Plan for Biomedical Engineering
    - B06. Quality Policy of UNIWA
    - B07. Quality Policy of Biomedical Engineering at UNIWA
    - B08. Quality Targeting of UNIWA
    - B09. Quality Targeting of Academic Unit
    - B10. Decision of Senate
    - B11. Study Guide Biomedical Engineering
    - B12. Course Outlines Biomedical Engineering
    - B13. List of Courses for the Acquisition of Digital Skills
    - B14. List of Teaching Staff Members
    - B15. Minutes of Quality Assurance Unit Meeting
    - B16. Model Questionnaire to Students for Course Evaluation
    - B17. Handling of Complaints
    - B18. Regulations on Academic Advisor and Advisor on Students with Special Needs
    - B19. Internal Regulations
    - B20_1. Regulations on BME Studies

- B20_2. Regulations on Diploma Thesis BME
- B20_3. Regulations on Mobility BME
- B20_4_1. Regulations on Internship (Practical Training) BME
- B20_4_2. Regulations on Internship through the Corporate Development Framework Agreement (ESPA) Programme
- B21_1. Diploma Supplement BME UNIWA (Greek)
- B21_2. Diploma Supplement BME UNIWA (English)
- B22. Attestation of Academic Unit President on Diploma Supplement
- B23. Performance of Academic Staff BME
- B24_1. IQAS Institution UNIWA 2017-2018
- B24_2. IQAS Institution UNIWA 2018-2019
- B24_3. IQAS Institution UNIWA 2019-2020
- B24_4. IQAS Department BME 2017-2018
- B24_5. IQAS Department BME 2018-2019
- B24_6. IQAS Department BME 2019-2020
- B24_7. IQAS UGP BME 2019-2020
- B24_8. IQAS UGP BME 2018-2019
- B25. Progress Report
- B27. Additional Terms BME
- B28. Regulations on TEI Studies
- B29. Model of TEI Diploma
- B30_1. Model of Diploma Supplement (Greek)
- B30_2. Model of Diploma Supplement (English)
- B31. List of Teaching Staff Members of Pre-existing UGP
- B32_1. Report on BME Transition
- B32_2. Communication of Opinion of the Legal Council of the State
- B32_3. Acceptance of Opinion of the Legal Council of the State on TEI Students BME
- B32_4. Determination of Correspondence of TEI Courses BME
- B32_5. Registry of TEI Students BME
- B32_2. Communication of Opinion of the Legal Council of the State
- Informative Note of HAHE to EEAP

2. **HAHE Material,** containing the documents**:**
    - European Qualifications Framework
    - Accreditation Guide (EN)
    - P1B. Standards New UGP in Operation (EN)
    - P12a. Guidelines for the EEA Panel P13a (Word)
    - P12a. Guidelines for the EEA Panel P13a (pdf)
    - P13B. Mapping Grid & Assessment Guide

- P14B. INTEG Template for the New UGP in Operation Accreditation Report
- UNIWA 2019 Quality Indicators UGP BME Tech. (TEI Athens) 2017-18
- UNIWA 2019 Quality Indicators Dept. BME 2017-18
- UNIWA 2020 Quality Indicators UGP BME Tech. (TEI Athens) 2018-19
- UNIWA 2020 Quality Indicators Dept. BME 2018-19
- UNIWA 2021 Quality Indicators UGP BME Tech. (TEI Athens) 2019-20
- UNIWA 2021 Quality Indicators Dept. BME 2019-20
- UNIWA 2022 Quality Indicators UGP BME Tech. (TEI Athens) 2020-21
- UNIWA 2022 Quality Indicators Dept. BME 2020-21

Additional material was provided during the accreditation visit, including the Department's presentations, samples of final exams, diploma theses, descriptions of practical training and samples of student evaluations, and a video presentation of the Department.

On Tuesday, May 2, 2023, the members of the EEAP reviewing the BME UGP of UNIWA had a first private meeting at the hotel (and concurrently via Zoom for the two members participating remotely) in the morning. Afterwards, they were transported from the hotel in Central Athens to the Egaleo campus of UNIWA.

Later on, the same day, the members of the EEAP formally started their site visit at 14:30. In the first part of the meeting, UNIWA Vice-rector and head of MODIP Professor E. Papageorgiou familiarised the panel with the UNIWA facts and figures, together with Professor G. Ioannidis, Dean of the School of Engineering and a brief welcome by Professor P. Kaldis, UNIWA Rector. The Head of the BME Department, Professor I. Kalatzis, gave an overview of the Department's and UGP's origins and evolution, including the transition from TEI to University status in 2018-19 and current status. The different aspects of compliance with the accreditation principles (B1-B12) were presented by OMEA members Professor I. Valais (Head of OMEA), Assistant Professor Ch. Michail, Professor P. Asvestas, Associate Professor N. Kalyvas, Professor D. Glotsos and Professor I. Kalatzis, followed by a discussion between them and EEAP members.

The following day, Wednesday, May 3, 2023, starting at 11:00, the EEAP met with selected faculty members of the Department that included four Professors (A. Dounis, M. Kallergi, E. Patsavoudi, E. Ventouras), three Associate Professors (S. Kostopoulos, P. Liaparinos, P. Moustanis), two Assistant Professors (E. David, M. Matsoukas) and an Adjunct Lecturer (I. Kakkos).

The next meeting was between the EEAP and eight students of the Department: two from the 2nd semester, one from the 4th semester, three from the 8th semester and one from the 12th semester (completing his studies). The students shared their experiences and expectations.

Subsequently, the EEAP visited classrooms, lecture halls, the library and other facilities (computer laboratories, sports hall) accompanied by teaching staff (Vice-Rector E. Papageorgiou, Assistant Professors E. Athanassiadis, E. David and Ch. Michail, Laboratory Teaching Personnel member P. Korkidis, Adjunct Lecturers A. Gkolfinopoulou and E.

Pantatosaki) and administrative staff (Head of Secretariat K. Theiakou, Members of Secretariat C. Kontou, A. Kissa and G. Sgouraki).

Following lunch at the university restaurant, the EEAP met with employers and social partners: Ch. Kantorou (Human Resources Manager, Papapostoloy S.A.), E. Kounadi (Scientific Manager of Medical Physics Department, General Hospital of Athens Korgialeneio - Benakeio Hellenic Red Cross, E. Tavianatou (Hospital Manager, General Hospital of Athens Korgialeneio - Benakeio Hellenic Red Cross), E. Melissi (Senior Business Development Specialist, Boston Scientific), M. Piskintzis (Aerial Service Manager, GE Healthcare), G. Saatsakis (Head of Biomedical Engineering Department, Aretaieio University Hospital, University of Athens), S. Tsatsouli (Project Manager & Business Development, Cloudpharm), N. Tsiotas (Sales Manager Neurosurgery & Transformative Solutions, Medtronic Hellas), N. Vourdounis (Senior Service Manager, Abbott). These invited stakeholders from the public and public sectors discussed their experiences concerning the BME programme and its graduates.

After a short debriefing meeting involving the EEAP members only, the panel had a final meeting with OMEA and MODIP representatives for an informal oral presentation of the EEAP key findings. With this, the on-site visit of the BME Department ended.

During these two days, the EEAP experienced a positive climate and a cooperative spirit of the Department and University with a commitment to quality standards in compliance with HAHE regulations. Furthermore, the EEAP appreciated the Department's efficient delivery of all requested additional information and documentation. Hence, the panel would like to thank the Department and University Administration and all faculty members for their cooperation and fruitful discussions.

During the following days (4 to 8 May 2023), the EEAP members had several remote meetings to complete the draft Accreditation Report.

III. New Undergraduate Study Programme in operation Profile

The Department of Biomedical Engineering (BME) was founded in 2018 with the establishment of the University of Western Attica (UNIWA) and is the evolution of the former Department of Medical Device Technology, which was founded in 1985 at the Technological Educational Institution (TEI) of Athens and renamed as Department of Biomedical Technology Engineering (Technological Applications) in 2013. Since 2019, the BME Department of UNIWA has offered the current 5-year comprehensive undergraduate study program (UGP). From 2020, the Department awards a Single and Indivisible Graduate Degree (Integrated Master) at level 7 of the National and European Qualifications Framework.

The BME Department of UNIWA is the only one in Greece that offers comprehensive undergraduate, postgraduate and doctoral studies in biomedical engineering and technology. The Department's study programmes are designed based on established standards and practices from international Universities. It follows the current developments in the rapidly evolving field of Biomedical Engineering, in which it also pursues relevant research activity. The Department's UGP includes courses in biomedical instrumentation, medical physics and biomedical informatics, engineering infrastructure courses such as mechanical engineering, electrical engineering, electronics and programming, and courses in medicine, biology, chemistry, physics, mathematics, business administration and economics. The UGP offers 77 courses, in addition to the Diploma Thesis and an option for external internships (practical exercise), over ten semesters for 300 ECTS. Students must complete 61 courses to graduate, or 63 if they do not opt for an internship. During the academic year 2020-2021, the Department had 1095 students, of which 123 were first-year students.

The Department organises the Postgraduate Degree Programme in BME entitled "Advanced Systems and Methods in Biomedical Technology" at UNIWA, worth 90 ECTS. An international Postgraduate Programme in English entitled "MSc in Biomedical Engineering & Technology", also of 90 ECTS, started in 2022-2023. Faculty members from the Department also participate in other postgraduate programmes of Greek Universities (such as the "Medical Physics" programme at the University of Patras and the interdepartmental programme "Applications of Biology in Medicine" of the Department of Biology, University of Athens (UoA) in collaboration with the UoA Medical School). Finally, the BME Department at UNIWA operates a Doctoral Programme of studies and offers Postdoctoral research opportunities in the field.

PART B: COMPLIANCE WITH THE PRINCIPLES

Principle 1: Strategic Planning, Feasibility and Sustainability of the Academic Unit

Institutions must have developed an appropriate strategy for the establishment and operation of new academic units and the provision of new undergraduate study programmes. This strategy should be documented by specific feasibility and sustainability studies.

By decision of the institutional Senate, the Institutions should address in their strategy issues related to their academic structure in academic units and study programmes, which support the profile, the vision, the mission, and the strategic goal setting of the Institution, within a specific time frame. The strategy of the Institution should articulate the potential benefits, weaknesses, opportunities or risks from the operation of new academic units and study programmes, and plan all the necessary actions towards the achievement of their goals.

The strategy of their academic structure should be documented by specific feasibility and sustainability studies, especially for new academic units and new study programmes.

More specifically, the feasibility study of the new undergraduate study programmes should be accompanied by a four-year business plan to meet specific needs in infrastructure, services, human resources, procedures, financial resources, and management systems.

During the evaluation of the Institutions and their individual academic units in terms of meeting the criteria for the organisation of undergraduate study programmes, particular attention must be place upon:

a. The academic profile and the mission of the academic unit
The profile and mission of the department should be specified. The scientific field of the department should be included in the internationally established scientific fields of Higher Education, as they are designated by the international categorisation of scientific fields in education, by UNESCO (ISCED 2013).

b. The strategy of the Institution for its academic development
The academic development strategy for the operation of the department and the new study programme should be set out. This strategy should result from the investigation of the factors that influence the studies and the research in the scientific field, the investigation of the institutional, economic, developmental, and social parameters that apply in the external environment of the Institution, as well as the possibilities and capabilities that exist within the internal environment (as reflected in a SWOT Analysis: strengths, weaknesses, opportunities, and threats). This specific analysis should demonstrate the reason for selecting the scientific field of the new department.

c. The documentation of the feasibility of the operation of the department and the study programme
The feasibility of the operation of the new department should be justified based on:

- *the needs of the national and regional economy (economic sectors, employment, supply-demand, expected academic and professional qualifications)*

- *comparison with other national and international study programmes of the same scientific field*
- *the state-of-the-art developments*
- *the existing academic map; the differentiation of the proposed department from the already existing ones needs to be analysed, in addition to the implications of the current image of the academic map in the specific scientific field.*

d. The documentation of the sustainability of the new department

Mention must be made to the infrastructure, human resources, funding perspective, services, and all other available resources in terms of:

- *educational and research facilities (buildings, rooms, laboratories, equipment, etc.)*
- *staff (existing and new, by category, specialty, rank and laboratory). A distinct five-year plan is required, documenting the commitment of the School and of the Institution for filling in the necessary faculty positions to cover at least the entire pre-defined core curriculum*
- *funding (funding possibility from public or non-public sources)*
- *services (central, departmental / student support, digital, administrative, etc.)*

e. The structure of studies

The structure of the studies should be briefly presented, namely:

- ***The organisation of studies:*** *The courses and the categories to which they belong; the distribution of the courses into semesters; the alignment of the courses with the European Credit Transfer System (ECTS).*
- ***Learning process:*** *Documentation must be provided as to how the student-centered approach is ensured (modes of teaching and evaluation of students beyond the traditional methods).*
- ***Learning outcomes:*** *Knowledge, skills and competences acquired by graduates, as well as the professional rights awarded must be mentioned.*

f. The number of admitted students

- *The proposed number of admitted students over a five-year period should be specified.*
- *Any similar departments in other HEIs with the possibility of student transfers from / to the proposed department should be mentioned.*

g. Postgraduate studies and research

- *It is necessary to indicate research priorities in the scientific field, the opportunities for interdisciplinary research, the challenges towards new knowledge, possible research collaborations, etc.*
- *In addition, the postgraduate and doctoral programmes offered by the academic unit, the research projects performed, and the research performance of the faculty members should be mentioned.*

Relevant documentation

- *Introductory Report by the Quality Assurance Unit (QAU) addressing the above points with the necessary documentation*
- *Updated Strategic Plan of the Institution that will include its proposed academic reconstruction, in view of the planned operation of new department(s) (incl. updated SWOT analysis at institutional level)*

- *Feasibility and sustainability studies for the establishment and operation of the new academic unit and the new study programme*
- *Four-year business plan*

Study Programme Compliance

I. Findings

The Department of Biomedical Engineering (BME) of the University of West Attica (UNIWA) was formally presented to the EEAP by the President of its Internal Evaluation Group (IEG / OMEA). The SWOT analysis of the Department, its strategic plan, and its objectives for the next four years were discussed in detail. The relevance of the undergraduate study programme (UGP) in BME to other national study programmes in the same scientific field and a comparison with other national and international study programmes have also been presented. Moreover, a related feasibility and sustainability study for establishing the UGP in BME has been recently elaborated, and the Department has also recently worked out a 4-year business plan for the programme. Both documents date to December 2022.

The Department's profile (values), vision and mission have been adequately specified. The scientific field of the Department corresponds to code 0788 of the international categorisation of scientific fields in education (UNESCO, ISCED 2013): "Inter-disciplinary programmes and qualifications involving engineering, manufacturing and construction". The structure of studies has also been comprehensively presented, including the organisation of studies, and the learning process, emphasising the assurance of a student-centred approach and the corresponding learning outcomes. Beyond the UGP, the Department offers two postgraduate study programs in BME, both of 90 ECTS, one in Greek and another in English. Plans of the Department include establishing two new postgraduate programmes, one in Neuroengineering and another in Artificial Intelligence and Data Science. Finally, a doctoral research programme is in place at the Department, with currently 31 graduate researchers pursuing their doctoral degrees.

All required documentation was made available to the EEAP and was of high quality, well-structured and well-supported by all necessary data and information.

II. Analysis of Judgement

The relevant documents provided and presented by the University and the Department left a very positive impression on the EEAP. The considerable effort put forth, especially on top of their usual duties, deserves praise. As per the Hellenic Authority for Higher Education (HAHE) requirements, all Principle 1 points are addressed in the documentation provided as well as in the presentations made in the onsite meetings and the subsequent discussions with the academic and scientific staff, students, administrative personnel and industry representatives.

Regarding the academic profile and the mission of the academic unit (dimension *a*), it should be noted that UNIWA considers BME as one of its most vital Departments, both academically and scientifically. This is mainly because, despite the institutional transformations in the past years, the core of BME has been conserved intact since the initial foundation of the

Department in 1985 as part of the Technological Education Institute (TEI) of Athens. The Department, therefore, has a long history and a solid background in biomedical instrumentation and engineering. This fact has significantly contributed to a stable and precise definition of its values and mission. Considering that, the EEAP found that the vision of the Department, as it has been presented as a continuation of the current good practices in research and education, is not ambitious enough and encourages the Department to establish and believe in a more challenging vision for its future objectives. This becomes even more significant, considering the uniqueness of the UGP in Biomedical Engineering offered by the UNIWA at the national level.

Regarding the strategy of the Institution for its academic development (dimension *b*), it is still bound to past best practices and experiences of the staff members that compose the Department of BME. However, with the transition from the Technological Education Institution to University, the Institution´s strategy should opt for a more ambitious and broad scope, offering a variety of educational options to its students, stronger interaction with stakeholders and the fuller exploitation of its currently unique opportunity as the sole Institution currently offering such a modern and highly demanded degree at the level of Integrated Master.

The above is strongly linked with the sustainability of the Department (dimension *d*) in a rapidly evolving and developing field. It is imperative for example that the Department expands and updates its educational and research facilities (i.e., laboratories and equipment) beyond those employed in its past as part of the TEI of Athens. Moreover, the five-year plan of the Department is rather limited to cover a basic pre-defined core curriculum, without considering specialisation itineraries. Funding possibilities from public or non-public sources should be further explored to achieve the above goals.

Consequently, the above elements directly affect the structure of studies (dimension *e*), which needs to be reconsidered in the medium-long term. There is no doubt that the Department counts with experienced and well-prepared staff, as it is evident from its current offering of other postgraduate study programmes and its plans to further expand this offering with additional ones. Such expertise and labour can straightforwardly constitute the means to expand, update and modernise the academic options of the Integrated Master´s programme in BME.

Regarding the number of admitted students (dimension *f*), the Department formally requests 70 incoming students yearly. However, it declares it finally receives about 120, reaching a population of about 1000 active students in the whole UGP. This results in a student-to-permanent staff ratio of about 55, which is high and needs to be improved. The Department, however, does not seem to consider this fact as a considerable handicap and appears to be still comfortable with this, even if the perspectives of growth do not go beyond the expectations of adding one new staff member per year for the coming four years.

III. Conclusion

The EEAP finds that the Institution and the Department are fully compliant in dimensions *c*, *f*, and *g* of Principle 1 and substantially compliant with dimensions *a*, *b*, *d*, and *e* of Principle 1.

Panel Judgement

Principle 1: Strategic planning, feasibility and sustainability of the academic unit	
a. The academic profile and the mission of the academic unit	
Fully compliant	
Substantially compliant	**X**
Partially compliant	
Non-compliant	
b. The strategy of the Institution for its academic development	
Fully compliant	
Substantially compliant	**X**
Partially compliant	
Non-compliant	
c. The documentation of the feasibility of the operation of the department and the study programme	
Fully compliant	**X**
Substantially compliant	
Partially compliant	
Non-compliant	
d. The documentation of the sustainability of the new department	
Fully compliant	
Substantially compliant	**X**
Partially compliant	
Non-compliant	
e. The structure of studies	
Fully compliant	
Substantially compliant	**X**
Partially compliant	
Non-compliant	
f. The number of admitted students	
Fully compliant	**X**
Substantially compliant	
Partially compliant	
Non-compliant	
g. Postgraduate studies	
Fully compliant	**X**
Substantially compliant	
Partially compliant	
Non-compliant	

Principle 1: Strategic planning, feasibility and sustainability of the academic unit (overall)	
Fully compliant	
Substantially compliant	**X**
Partially compliant	
Non-compliant	

Panel Recommendations

R1.1 The Department sets an ambitious vision for its future development, becoming conscious of its unique situation within the map of undergraduate study programmes at national level, as it is currently the only Institution in Greece that graduates biomedical engineers at Master´s level in the country.

R1.2 The strategy of the Department is further oriented to one that corresponds to a University Department in a leading and rapidly evolving academic and scientific field and should be freed from past perceptions and older visions.

R1.3 The educational offer of the Department in this Integrated Master's programme should be enhanced with the introduction of specialised itineraries, combining its current expertise in other postgraduate programmes.

R1.4 The State respects the Department´s recommendation for the optimal number of admitted students, which must be aligned with the Department´s capacities in teaching staff and educational infrastructures.

R1.5 The Department should actively seek further funding opportunities, in order to equip its laboratories with state-of-the-art equipment and increase the number of available posts for individual or group work in its academic laboratories.

R1.6 The Department´s strategy should further re-enforce the scientific and research skills and competencies of its staff. Despite the fact the impact of the research produced by the Department´s staff is considerable, there is still room for improvement. For example, the mobility of the Department´s staff should be encouraged through sabbaticals, Erasmus+ or European-funded Staff Exchange initiatives.

Principle 2: Quality Assurance Policy of the Institution and the Academic Unit

The Institution should have in place an accredited Internal Quality Assurance System, and should formulate and apply a Quality Assurance Policy, which is part of its strategy, specialises in the operation of the new academic units and the new study programmes, and is accompanied by annual quality assurance goals for the continuous development and improvement of the academic units and the study programmes.

The quality assurance policy of the Institution must be formulated in the form of a published statement, which is implemented by all stakeholders. It focuses on the achievement of special annual quality goals related to the quality assurance of the new study programme offered by the academic unit. In order to implement this policy, the Institution, among others, commits itself to put into practice quality procedures that will demonstrate: the adequacy and quality of the academic unit's resources; the suitability of the structure and organisation of the curriculum; the appropriateness of the qualifications of the teaching staff; the quality of support services of the academic unit and its staffing with appropriate administrative personnel. The Institution also commits itself to conduct an annual internal evaluation of the new undergraduate programme (UGP), realised by the Internal Evaluation Group (IEG) in collaboration with the Quality Assurance Unit (QAU) of the Institution.

The quality assurance policy of the academic unit includes its commitment to implement quality procedures that will demonstrate: a) the adequacy of the structure and organisation of the curriculum, b) the pursuit of learning outcomes and qualifications in accordance with the European and National Qualifications Framework for Higher Education, c) the promotion of the quality and effectiveness of the teaching work, d) the adequacy of the qualifications of the teaching staff, e) the promotion of the quality and quantity of the research work of the members of the academic unit, f) the ways of linking teaching with research, g) the level of demand for graduates' qualifications in the labour market, h) the quality of support services, such as administration, libraries and student care, i) the implementation of an annual review and audit of the quality assurance system of the UGP through the cooperation of the Internal Evaluation Group (IEG) with the Quality Assurance Unit (QAU) of the Institution.

Relevant documentation

- *Revised Quality Assurance Policy of the Institution*
- *Quality Assurance Policy of the academic unit*
- *Quality target setting of the Institution and the academic unit (utilising the S.M.A.R.T. methodology)*

Study Programme Compliance

I. Findings

UNIWA, through its Quality Assurance Unit (QAU / MODIP), has adequately established a Quality Assurance System (QAS) to oversee its operations and document all processes related to improving its educational and research activities, as well as enhancing the efficiency of its services. This system adheres to global best practices and conforms to the international quality

standards that govern higher education institutions. The Institution counts with the necessary accreditations both at the institutional as well as at departmental levels.

The Department of BME at UNIWA has established an Internal Evaluation Group (IEG / OMEA), which is aligned with the policies based on the QAU and helps the Department to implement its own quality assurance policy. This policy is a brief 3-page document posted on the Department´s website (in its Greek version only). Specific parts of this policy refer to the quality of the academic content of the undergraduate programme (UGP). The Department has convincingly demonstrated that it takes appropriate actions toward the continuous improvement of the quality of its UGP. These actions are discussed and approved by the General Assembly of the Department.

II. Analysis of Judgment

The Department satisfies all the requirements established by the Hellenic Authority for Higher Education (HAHE) of quality assurance of the UGP:

- The curriculum of the programme, its structure and organisation, and the learning outcomes and qualifications are appropriately defined and in line with the European and National Qualifications Framework for Higher Education.
- The adequacy of the qualifications of the teaching staff has been well demonstrated from the documentation provided as well as from the interviews performed by the EEAP.
- The quality of support services, such as administration, libraries, sports installations, student restaurant and access facilities have been visited by the EEAP and are very good.
- There is sufficient evidence that the UGP successfully includes methodologies of linking teaching with research.
- The Department puts significant effort in the promotion of the quality and quantity of the research work of its academic staff.
- Importantly the graduates' qualifications in the labour market have been particularly appreciated by employers and other stakeholders.

The Department's quality assurance policy is transparent and is applied to all its members, including faculty, other researchers and teaching staff, administrative employees, and students, to foster a culture of accountability for quality assurance. Moreover, all necessary processes and systems are established, functional, and thoroughly documented. Interested parties are well informed about these processes; mainly, incoming students are re-introduced to the Department's and University's quality policies during a special reception event at the beginning of their studies.

The Department's objectives for its UGP are specific, measurable, achievable, relevant and time-bound and address teaching methods and student satisfaction. Particularly regarding student satisfaction, there is an effective and well-established procedure for collecting data from students' assessments, which are then thoroughly analysed by the Department (IEG, OMEA) and seriously considered. Students have confirmed that their comments and suggestions for improvement have been implemented in subsequent academic years.

On the other hand, discussions and interviews with the QAU (MODIP), especially with the Vice Rector and BME members, have revealed that commitment and evaluation of quality within is a top priority for both the Institution and the Department throughout the academic hierarchy. Furthermore, the EEAP found that the collegiality and support among the faculty members and interaction with students are outstanding, and this contributes to the overall quality and a very healthy academic environment, despite the challenges and issues that are inevitably present, especially given the fact the Institution has only recently been upgraded to a University.

III. Conclusion

The EEAP finds that the Institution and the Department are fully compliant with the requirements of Principle 2. All the HAHE-required measures, metrics and procedures are in place, and the quality assurance policy of the Institution and the Department is fully aligned with the current norms and legislation.

Panel Judgement

Principle 2: Quality assurance policy of the Institution and the academic unit	
Fully compliant	**X**
Substantially compliant	
Partially compliant	
Non-compliant	

Panel Recommendations

R2.1 The Department implements a more effective tracking and monitoring system for its alumni. Former students and currently successful and high-performing professionals in the rapidly evolving field of BME constitute the best ambassadors of the Department and its academic programmes, not only from the point of view of its quality performance indicators but also as means to improve the reputation of the academic unit and its capacities to attract highly prepared and motivated incoming students in the future. Furthermore, a more intense interaction between alumni and students has been an expressed wish of the students interviewed by the EEAP and should be further pursued and implemented.

R2.2 The Institution increases its engagement with employers (industry and hospitals), as well as other social partners to discuss updates to the curriculum. The EEAP met stakeholder groups from both private companies and public hospitals and received a very positive feedback about the programme. Moreover, the stakeholders demonstrated a keen interest in providing support to the University and the Department to improve their academic offer and the skills of the students.

Principle 3: Design, Approval and Monitoring of the Quality of the New Undergraduate Programmes

Institutions should design the new undergraduate programmes following a defined written process, which will involve the participants, information sources and the approval committees for the programme. The objectives, the expected learning outcomes, the intended professional qualifications and the ways to achieve them are set out in the programme design. The above details, as well as information on the programme's structure, are published in the Student Guide.

The Institutions develop their new undergraduate study programmes, following a well-defined procedure. The academic profile, the identity and orientation of the programme, the objectives, the subject areas, the structure and organisation, the expected learning outcomes and the intended professional qualifications according to the European and National Qualifications Framework for Higher Education are described at this stage. An important new element in the structure of the programmes is the introduction of courses for the acquisition of digital skills. The above components should be taken into consideration and constitute the subject of the programme design, which, among other things, should include: elements of the Institution's strategy, labour market data and employment prospects of graduates, smooth progression of students throughout the stages of the programme, the anticipated student workload according to the European Credit Transfer and Accumulation System (ECTS), the option of providing work experience to the students, the linking of teaching and research, the international experience in study programmes of similar disciplines, the relevant regulatory framework, and the official procedure for the approval of the programme 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 Quality Assurance Unit (QAU).

Relevant documentation

- *Senate decision for the establishment of the UGP*
- *Curriculum structure: courses, course categories (including courses for the acquisition of digital skills), ECTS awarded, expected learning outcomes according to the EQF, internship, mobility opportunities.*
- *Labour market data regarding the employment of graduates, international experience in a related scientific field.*
- *Student Guide*
- *Course outlines*
- *Teaching staff (list of areas of specialisation, its relation to the courses taught, employment relationship)*
- *QAU minutes for the internal evaluation of the new study programme and its compliance with the Standards*

Study Programme Compliance

I. Findings

The Department of BME was established in 2018 with the foundation of UNIWA and is the evolution of the Department of Medical Instrumentation Technology, which was founded in 1985 at the Technological Educational Institute of Athens and was renamed to Department of Biomedical Engineering Technology in 2013. The Department designed a 5-year study program in Biomedical Engineering in 2018-19 and implemented it starting in the academic year 2019-20. BME is the only Department in Greece that offers an Integrated Master's program in this field.

This UGP has been designed based on internationally established standards, processes and best practices from international Universities. It follows the current developments in the scientific and related research fields. Further documentation available was the study guides and course outlines for the entire UGP, the CVs of the teaching staff, as well as internal evaluation reports of the new study programme.

The UGP offers 77 courses, in addition to the Diploma Thesis and an option for external internships (practical exercise), over ten semesters for a total of 300 ECTS. Students must complete 61 courses to graduate, or 63 if they do not opt for an internship.

II. Analysis of Judgement

There is sufficient evidence that all the elements of the UGP follow the European and National Qualifications Framework for Higher Education.

The programme adequately foresees courses for the acquisition of digital skills in areas related to BME. The option of providing work experience to the students has also been implemented correctly in the form of elective Internships.

Moreover, students can acquire international experience through Erasmus+ mobility, and some students (19 in the past three years) have profited from such actions. This experience has also allowed these students to know different study environments in their field of study and critically compare the quality of the educational and academic services offered to them in both places (local and foreign). Notably, these students openly provide feedback to the Department on their experiences abroad and suggestions on how to improve the quality of the UGP. There have also reportedly been 14 incoming international students to the UGP in the past three years. However, their interaction with the local students was limited since their courses were taught in English, in separate groups created explicitly for them.

On the other hand, an undergraduate programme at the level of Integrated Master, in a markedly multidisciplinary and rapidly developing field such as BME, optimally contains different specialisation itineraries instead of offering a rather unidirectional route towards graduation. Such an approach is adopted in almost all Master´s level programmes in the field,

and can provide students with a range of benefits, including enhanced learning opportunities, flexibility, improved career prospects, and interdisciplinary learning.

III. Conclusion

The EEAP finds that the Institution is substantially compliant with the requirements of Principle 3.

Panel Judgement

Principle 3: Design, approval and monitoring of the quality of the new undergraduate programmes	
Fully compliant	
Substantially compliant	**X**
Partially compliant	
Non-compliant	

The External Evaluation & Accreditation Panel agrees that this Programme leads to a Level 7 Qualification according to the National & European Qualifications Network (Integrated Master)	**YES**	**NO***
	X	

Panel Recommendations

R3.1 It is highly recommended that the programme follows the international best practices in Master level higher education in BME to broaden its academic offer with state-of-the-art specialised practical courses, update its infrastructure for laboratories and offer different elective itineraries for its students.

R3.2 It is recommended to establish an External Advisory Board (EAB) comprising representatives from different stakeholders, with the primary goal of offering valuable advice on teaching, research, and other significant undertakings and advocating for and promoting the School externally. The EAB should convene at least once a year. During the review process, the panel consulted with several enthusiastic stakeholders about this suggestion. There is documented evidence that such an EAB, but with reduced membership as it is composed of only four experts, none in the area of biomedical engineering, has been very recently constituted (a couple of weeks before the visit of the EEAP at BME in May 2023). However, there is still no clear evidence that the experts

appointed have accepted their appointments, and there should be a clear definition of what is expected from them.

R3.3 The external practical training (internships) is of shorter duration than before (3 months instead of 6) and, importantly, is not mandatory, which limits its impact. The EEAP highly recommends that the programme explores novel approaches to increase the impact and added value of such internships, which both students and employers highly value.

R3.4 The Department ought to strive for increased involvement from the industry in its academic pursuits. This could include collaborating on Diploma Theses, inviting industry experts to give lectures or seminars, providing mentorship to students and allowing them to visit their premises, or, in general, closing the gap between a public, academic environment and industry or the clinical practice in hospitals.

R3.5 A more active and direct involvement in the continuous evaluation and improvement of the curriculum by critical stakeholders, including alumni, employers, and social partners, is crucial. This involvement must be carried out formally, systematically, and transparently, with well-defined objectives and rigorous feedback. It is worth noting that all stakeholder representatives that the panel met and interviewed expressed great support and eagerness to further their engagement with the Department.

R3.6 The EEAP would like to make some specific suggestions regarding the UGP:

R3.6.1 Consider introducing a course with learning outcomes related to economics and business skills and knowledge of methodologies, such as project management and development, quality and knowledge management, or intellectual and industrial property management.

R3.6.2 Introduce courses or other relevant educational and practical activities in transversal (“soft”) skills, such as leadership, communication and negotiation, conflict resolution, etc.

R3.6.3 Re-introduce the course in English Terminology, as also suggested by the students.

R3.6.4 Consider the transformation into mandatory for all undergraduate students of the course in Bioethics (currently elective).

R3.7 The University should consider providing flexibility to its undergraduate programmes to share courses so that students of one UGP can register for classes from another UGP. This approach can increase the educational offer of a specific UGP and help the Institution optimize its teaching resources.

Principle 4: Student-centred Approach in Learning, Teaching and Assessment of Students

The academic unit should ensure that the new undergraduate programmes are delivered in a way that encourages students to take an active role in creating the learning process. The assessment methods should reflect this approach.

In the implementation of student-centred learning and teaching, the academic unit:

- ✓ *respects and attends to the diversity of students and their needs, enabling 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 application of pedagogical methods aiming at improvement*
- ✓ *regularly evaluates the quality and effectiveness of teaching, as documented especially through student surveys*
- ✓ *reinforces 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 students' complaints*

Relevant documentation

- *Questionnaires for assessment by the students*
- *Regulation for dealing with students' complaints and appeals*
- *Regulation for the function of the academic advisor*
- *Reference to the planned teaching modes and assessment methods*

Study Programme Compliance

I. Findings

The Department of BME is located in the main building of the University Campus 1 Alsos in Egaleo. It is the only department nationwide with the above specialty in the whole national Academic map. It has three classrooms and eleven laboratory spaces of exclusive use housed in the University Campus of Egaleo.

The Department is currently staffed with 18 faculty members (including one elected and pending appointment). The Secretariat of the Department is staffed by four administrators. The existing faculty members can satisfactorily cover the subjects that the Department currently treats, with the help in laboratory and practical exercises of contract staff.

The Department provides many important ancillary services to its students (but most of them also to its entire staff), with the ultimate goal of satisfying the needs that will arise during their studies. The usual ancillary services to students are:

- Electronic Secretariat Services.
- Networks, Application Portals, Software, Technical Support – NOC.
- Library - Study Areas - Use of Computers.

- Textbook Distribution.
- Catering.
- Sports installations.
- Academic (Student) Identity.
- Medical Services.

Teaching involves one or more of the following forms:

- Theoretical or face-to-face teaching.
- Seminars.
- Classroom, practical and laboratory exercises.
- Assignment of individual or group work.
- Educational visits and excursions.

Electronic platforms for asynchronous teaching, with the main ones being e-class and Moodle, constitute a basic tool for every course for communication between teachers and students, the separation of students into groups, the distribution of information, additional educational material, etc. The timetable of courses and classrooms is always posted on the Department's website at the beginning of each semester.

The internal evaluation (self-evaluation) of the educational process and the curriculum is an important factor in quality improvement and consists in the systematic assessment and recording of the teaching, research or other work by the Department itself in relation to its character, objective and mission. Internal evaluation is a periodically recurring process involving members of the teaching/research and other academic staff and students, mainly through responses to electronic questionnaires, and may include interviews, group discussions and any other appropriate source of information, which is concluded with the preparation of the Department's internal evaluation report. In the context of the electronic evaluation of the teaching work of each semester through the Information System (IS) of the MODIP, the evaluation period lasts from the 8th to the 11th week of the semester in question for all taught courses. The Department's OMEA ensures the organisation of the online assessment process for each course in order to maximise student participation.

The Department respects diversity and ensures the equal participation of students in the educational process. In particular, the Department's has an elevator which provides accessibility to the facilities (classrooms and administration buildings) for wheelchairs for disabled students. For the examination of students with disabilities, appropriate adaptations are made according to the student's capabilities, such as oral examination of courses that are assessed in writing. Finally, teacher advisors are appointed to facilitate the attendance of students with disabilities.

The Department ensures the enhancement of student autonomy, guidance and support through the appointment of an Academic Advisor. The Academic Advisor follows students from the beginning to the end of their studies and discusses with them any issue of academic life that concerns them, e.g. problems with courses, laboratories, issues related to the study

regulations, course selection, and even personal difficulties (family problems, health issues) that may affect their studies.

The Department's regulations concern the process of handling complaints or objections that active students of all levels of the UGP may submit regarding the services provided. The purpose of the process is to provide a systematic and consistent framework which promotes the fair and timely resolution of any complaints or objections raised by students.

The Department's pursuit of this approach promotes accountability while helping:

- remedy problematic services, if required,
- avoiding the recurrence of identified problems and
- in the continuous improvement of the quality of the curriculum and learning experience.

II. Analysis of Judgement

There were constructive in-person conversations with faculty, students and other staff of the Department and local officials over the 2-day local visit.

Since the BME field is broad and interdisciplinary, 18 faculty members are rather insufficient to cover 77 courses in combination with research activities. It is desirable to implement more elective courses in major disciplines, so it is considered that the number of about 25-30 faculty members would be close to the optimal number, according to the Department.

The first contact with the incoming students is important, as the Department provides dialogue and exploration of the university with the help of the Academic Advisor and an event on behalf of the Department. The Academic Advisor is there for personal empowerment of students and follow up with them for any problem they face during their studies. All faculty members should take up an equal number of students. However, the EEAP has been informed by students that there is an immediate response from the faculty for any questions or other prompts using Microsoft Teams by video call or email. A number of incoming first-year students entered the university with several deficiencies, especially in mathematics. This was due to problems in remote instruction at high-school level during the pandemic and, more seriously, due to the fact that some of the incoming students originated from the section of Health Sciences who were not examined in Mathematics during the National Entrance Exams. Therefore, all first semester lecturers focused their first semester lectures to make up for the learning deficiencies.

The University has skilled and experienced teachers who can use student-centred learning in their classrooms to increase student motivation, help students take ownership of their learning and build strong relationships.

The Department fully operated the course evaluation system during the pandemic as evidenced by the participation rate of about 95% in the current season (unfortunately last year it was 61%). However, as per the strategic plan the Department will implement electronic student evaluation at the end of the semester within the auditorium using a mobile phone to attract a higher percentage.

Feedback from student evaluations is considered by the Department to address problem areas and enhance learning outcomes.

III. Conclusion

The UGP of BME (Integrated Master) of UNIWA ensures its undergraduate programme is delivered in a way that encourages students to take an active role in creating the learning process therefore, with regard to Principle 4, the programme is Fully Compliant.

Panel Judgement

Principle 4: Student-centred approach in learning, teaching and assessment of students	
Fully compliant	**X**
Substantially compliant	
Partially compliant	
Non-compliant	

Panel Recommendations

R4.1 Expose students to the benefits of self-learning (e.g. encourage the implementation of innovative learning tools like “flipped classroom”, etc.)

R4.2 The tasks of the Academic Advisor should be more balanced (e.g., distributed among more than one person).

Principle 5: Student Admission, Progression, Recognition of Academic Qualifications and Award of Degrees and Certificates of Competence of the New Study Programmes

Academic units should develop and apply published regulations addressing all aspects and phases of studies of the programme (admission, progression, recognition and degree award).

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

- ✓ *the registration procedure of the admitted students and the necessary documents - according to the law - and the support of the newly admitted students*
- ✓ *student rights and obligations, and monitoring of student progression*
- ✓ *internship issues, granting of scholarships*
- ✓ *the procedures and terms for writing the thesis (diploma or degree)*
- ✓ *the procedure of award and recognition of degrees, the duration of studies, the conditions for progression and assurance of the progress of students in their studies*

as well as

- ✓ *the terms and conditions for enhancing student mobility*

Appropriate recognition procedures rely on relevant academic practice for recognition of credits among various European academic departments and Institutions in line with the principles of the Lisbon Convention on the Recognition of Qualifications concerning Higher Education in the European Region. Graduation represents the culmination of the students' study period. Students need to receive documentation explaining the qualification gained, including achieved learning outcomes, and the context, level, content and status of the studies that were pursued and successfully completed (Diploma Supplement).

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

Relevant documentation

- *Internal regulation for the operation of the new study programme*
- *Regulation of studies, internship, mobility and student assignments*
- *Printed Diploma Supplement*

Certificate from the President of the academic unit that the diploma supplement is awarded to all graduates without exception together with the degree or the certificate of completion of studies

Study Programme Compliance

I. Findings

Based on the information provided by the Department, a welcome meeting within the BME premises is taking place each year on a fixed date announced by the Department Chair. An

added value for the students is the recording of the meeting, allowing students to watch or review the desired information at any time.

Student progress is recorded by the student register, a central university information system used by the Department, giving registration of the score, extracting indicators and data for targeted statistical analysis and further processing by the Internal Evaluation Group (OMEA), as well as the Department's General Assembly.

Student mobility is encouraged by the participation in the Erasmus+ programme, as at the beginning of the academic winter and spring semesters there is complete information from the academic advisor. Additional related information is given through a special link for the Erasmus+ program that is available on the website of the department and on the website of the University's ERASMUS office. During the meeting professors and administrative staff expressed particular interest in participating in the skill enhancement mobility programs.

The UGP uses the ECTS system and the final degree is awarded within 10 semesters (5 years) upon completion of a total of 300 ECTS including a mandatory Diploma Thesis (30 ECTS).

The Diploma Supplement in both Greek and English is issued for all graduates.

The entire 10th semester of the UGP is dedicated to the completion of the Diploma Thesis and the Thesis Regulations Handbook is available online.

Practical training (Internship) is optional (4 ECTS). The Department takes advantage of a wide network of companies and clinical settings, with a student participation rate in 2021-22 of 50.4%. The information provided to the EEAP by the employers and social partners showed the good relation with the Department's students and its academic staff.

II. Analysis of Judgement

There was a constructive 2-day conversation with faculty, students and other staff of the Department as well as with local officials.

The newly established Department of BME provide from the first day of student admission full information about the functioning of the Institution. In addition, there is the possibility of supporting students with disabilities or students who have difficulties in successfully completing their studies.

Student mobility abroad is relatively low. The course on English Terminology was recently abolished.

On the other hand, internships in Greek companies and clinical settings are better, in contrast to the opportunity and incentives that the Department gives to students to work abroad (Erasmus+).

III. Conclusions

The Department of BME of UNIWA has developed and is applying published regulations addressing all aspects and phases of studies of the UGP (admission, progression, recognition and degree award), thus Principle 5 is Fully Compliant.

Panel Judgement

Principle 5: Student admission, progression, recognition of academic qualifications, and award of degrees and certificates of competence of the new study programmes	
Fully compliant	**X**
Substantially compliant	
Partially compliant	
Non-compliant	

Panel Recommendations

R5.1 Transitioning to university-style learning can be a big change for some students. The university should consider offering further online academic support and services, including videos and slides of lectures available for asynchronous viewing.

R5.2 It is recommended to enhance the role of the IEG with the goal of improving the quality of educational and research work. In addition, to emphasize the quality of the institution's processes and services primarily to students, but also to staff, creating a high-quality academic community.

R5.3 The EEAP strongly recommends improved mobility for students and faculty members.

R5.4 The EEAP recommends to improve the flexibility in the evaluation criteria currently employed for student feedback, following a dialogue with the students.

R5.5 The EEAP recommends more opportunities for students' practical training both in the Department and externally and, more importantly, that the internship become mandatory.

Principle 6: Ensuring the Competence and High Quality of the Teaching Staff of the New Undergraduate Study Programmes

Institutions should assure themselves of the competence, the level of knowledge and skills of the teaching staff of the academic units, 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, the appropriate staff-student ratio, the suitable categories of staff, the appropriate subject areas and specialisations, 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 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 members (with respect to attendance requirements, performance, self-assessment, training, etc.); develop policies to attract highly qualified academic staff.

Relevant documentation

- *Procedures and criteria for teaching staff recruitment*
- *Regulations or employment contracts, and obligations of the teaching staff*
- *Policy for staff recruitment, support and development*
- *Performance of the teaching staff in scientific-research and teaching work, also based on internationally recognised systems of scientific evaluation (e.g., Google Scholar, Scopus, etc.)*

Study Programme Compliance

I. Findings

The undergraduate programme is dispensed by a dedicated teaching staff (18 faculty plus 1 in the process of appointment, 1 special teaching staff member and 1 technical staff member currently on leave) assisted by a varying number of other academics on short-term contracts, including Academic Scholars.

The BME Department follows merit-based and transparent procedures for the selection and recruitment of new faculty members in accordance to the current legal framework using the APELLA platform (whose expert members are regularly renewed).

Research activities are monitored through openly accessible tools (Google Scholar, Scopus etc.) and the possibility is afforded to faculty members to use the Alexandria platform for uniform and objective reporting of their research output. The capability of teaching staff

members to attract external funding is also registered as a measure of their scientific performance. Their teaching performance is assessed by means of regular student evaluations whose results are taken into account and used both for informal guidance of faculty members as well as in their career progression within the institution.

Teaching load is high, but future appointments are expected to contribute to alleviate this problem and allow faculty members more time for research. Some members of the teaching staff are using Erasmus+ and similar programmes based on memoranda of understanding (MOUs) signed between the BME Department and collaborating organisations, including international departments. However, no sabbatical leaves had been taken by academic staff members in the last several years despite the explicit provision by the applicable law for faculty.

The teaching staff's online evaluation by student surveys is carried out systematically during each course and semester. The EEAP notes the absence of specific training in teaching innovation but is hopeful that the newly instituted office of teaching and learning will contribute to an even better teaching performance by faculty members.

II. Analysis of Judgement

The panel was pleased to note that the academic staff's teaching competence, responsible guidance of their students and high accessibility are very much appreciated by current and former students.

Although recruitment is oriented at covering teaching needs, the EEAP was assured that more strategic considerations such as novel research directions and fields reflecting the evolving nature of the BME field are taken into account in defining the knowledge area of new hires in their discussion within the Department's General Assembly.

Overall, research productivity and teaching quality are found to be adequate and are improving (assessed by metrics such as number of refereed publications and citations) as the Department's profile is transiting from a Technological unit to an Engineering one.

Regarding research activity, further improvements are needed, especially in the areas of research productivity, impact and attraction of competitive research grants by a larger number of faculty members.

Hiring promising early-career and exceptional mid-career faculty members will further enhance the international profile of the Department and secure additional highly competitive grants.

The mobility of the teaching staff is adequate but could be improved, while the lack of sabbatical leaves is a missed opportunity for skill renewal and enhanced openness.

There are some links between teaching and research in several courses and, especially, at the Diploma Thesis stage even though not all Faculty are equally active in research. The EEAP was

assured by the Department that some highly dynamic trends in BME are recognised through their inclusion in teaching modules, research activities and, hopefully, in future hires.

The student surveys used every semester for the evaluation of each instructor (together with the corresponding course) should be praised because of the very high student participation.

The EEAP notes the absence of specific training in teaching innovation but is hopeful that the newly instituted office of teaching and learning will contribute to an even better teaching performance by faculty members.

III. Conclusion

The EEAP finds that the Institution is substantially compliant with the requirements of Principle 6.

Panel Judgement

Principle 6: Ensuring the competence and high quality of the teaching staff of the new undergraduate study programmes	
Fully compliant	
Substantially compliant	**X**
Partially compliant	
Non-compliant	

Panel Recommendations

R6.1 Ensure the future hire of highly competitive academics using as a criterion the introduction of cutting-edge research areas to be identified with the help of an informal advisory group.

R6.2 The hiring of permanent highly qualified technical personnel is a must.

R6.3 Invite academics, researchers and practitioners external to the Department in order to cover, at least in part, the content of several courses including optional ones.

R6.4 Annual Faculty workloads (percentage of effort in teaching, research and service) need to be explicitly articulated. Academics that are excelling in teaching should be recognized and continue to be supported in this role. Similarly, exceptionally strong research performers should be rewarded and their other assignments alleviated.

R6.5 There is a need to establish a Faculty mentoring process for junior members and for those who are deemed to fall short of the expected standard of performance.

R6.6 The University research office (ELKE) should provide greater and systematic support to Faculty members in their pursuit of competitive external research funding, especially as regards European projects which are all but absent among the current departmental funds.

R6.7 Foster professional development opportunities, mobility and extroversion for Faculty members, including sabbatical leaves and shorter training (and retraining) opportunities, within academic, clinical and industrial settings.

R6.8 The Department should introduce training sessions in modern science pedagogy approaches and evolving best practices.

R6.9 The EEAP suggests joint Faculty appointments, with Universities within Greece and abroad to bring an outside perspective, improve teaching practices and help generate joint research and funding opportunities.

R6.10 To alleviate Faculty teaching load, researchers from National Research Centres and Companies should deliver lectures or seminars that would enhance current teaching and research plus generate new funding opportunities. Current practices in this area, including the activities of students in hospitals and company settings, should be further encouraged and rewarded.

Principle 7: Learning Resources and Student Support of the New Undergraduate Programmes

Institutions should have adequate funding to meet the needs for the operation of the academic unit and the new study programme as well as the means to cover all their teaching and learning needs. They should -on the one hand- provide satisfactory infrastructure and services for learning and student support and -on the other hand- facilitate direct access to them by establishing internal rules to this end (e.g., lecture rooms, laboratories, libraries, networks, boarding, career and social policy services, etc.).

Institutions and their academic units must have sufficient resources, on a planned and long-term basis, to support learning and academic activity in general, in order to offer students the best possible level of studies. The above means include facilities such as, the necessary general and specific libraries and possibilities for access to electronic databases, study rooms, educational and scientific equipment, information 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. Students should be informed about 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.

Relevant documentation

- *Detailed description of the infrastructure and services made available by the Institution to the academic unit to support learning and academic activity (human resources, infrastructure, services, etc.) and the corresponding specific commitment of the Institution to financially cover these infrastructure-services from state or other resources*
- *Administrative support staff of the new undergraduate programme (job descriptions, qualifications and responsibilities)*
- *Informative / promotional material given to students with reference to the available services*

Study Programme Compliance

I. Findings

BME/UNIWA receives its funding and means for undergraduate teaching from the Greek State to support learning and academic activity in general to offer students the best possible level of studies. The above means include facilities like the library, study rooms, educational and scientific equipment, information and communications services, student support and counselling services.

The allocation of the available resources adequately considers the needs of all undergraduate students and the shift towards student-centred learning, and the adoption of flexible learning and teaching models. IQAS ensures that all resources are appropriate, adequate, and accessible and that students are informed about their available services.

The role of support and administrative staff is crucial in delivering support services, and therefore, they need to be qualified and have opportunities to develop their competencies. BME/UNIWA has the necessary facilities (classrooms, laboratories, IT infrastructure) to ensure an appropriate teaching and learning environment.

II. Analysis of Judgement

Classrooms and furnishings are adequate for the current requirements. Laboratory equipment for the class sizes is not sufficient. Thus, there is a requirement for repeating the same Lab work several times with smaller classes and sometimes reducing the time available for each Lab work while maintaining the number of Labs offered to the students. Laboratory equipment requires some updating. In addition, there is always a requirement to modernize some of the existing laboratory equipment that is very old and be replaced with state-of-the-art equipment. A further link with relevant industries and hospitals can provide students with additional experience with state-of-the-art laboratory equipment.

There is a rational distribution of the existing facilities. Of course, if there is additional student intake following the current needs of private industry and public hospitals, there will be a requirement for extra space and facility-related resources, including appropriate teaching resources.

There is an adequate range of support services available to the students. The students are informed about the available services, which are functional and accessed by the students. However, there is always room for further and continuous improvement.

EEAP also noted that the input from external stakeholders could be improved to increase the effectiveness of the practical training and assist the students with their career development and aspirations.

There is sufficient and competent administrative staff to ensure the smooth operation of the student support services. However, with potentially increased student numbers, additional staff may be required.

III. Conclusion

The EEAP finds that the Institution is fully compliant with the requirements of Principle 7, although some of the laboratory equipment are old and require updating and replacing with new state of the art equipment.

Panel Judgement

Principle 7: Learning resources and student support of the new undergraduate programmes	
Fully compliant	**X**
Substantially compliant	
Partially compliant	
Non-compliant	

Panel Recommendations

R7.1 Update and replace old laboratory equipment with new state-of-the-art ones.

R7.2 With potentially increasing number of students, being the only UGP of its kind in the country, and the requirement to increase the number of its graduates in the work place, the Department should pay more attention to improve the student-to-staff ratio with new faculty and staff, as well as teaching resources.

R7.3 It is strongly recommended to enhance further the EAB as soon as possible, to include all stakeholders such as external academics, representatives of public and private sectors, research institutes and alumni, with meetings scheduled each semester initially, followed by the most appropriate frequency approved by the advisory board thereafter, to review and advise BME/UNIWA on its current operation and its next steps.

Principle 8: Collection, Analysis and Use of Information for the Organisation and Operation of New Undergraduate Programmes

The Institutions and their academic units bear full responsibility for collecting, analysing and using information, aimed at the efficient management of undergraduate programmes of study and related activities, in an integrated, effective and easily accessible way.

Effective procedures for collecting and analysing information on the operation of Institutions, academic units and study programmes feed data into the internal quality assurance system. The following data is of interest: key performance indicators for the student body profile, student progression, success and drop-out rates, student satisfaction with the programme, availability of learning resources and student support. The completion of the fields of National Information System for Quality Assurance in Higher Education (NISQA) should be correct and complete with the exception of the fields that concern graduates in which a null value is registered.

Relevant documentation

- *Report from the National Information System for Quality Assurance in Higher Education (NISQA) at the level of the Institution, the department and the new UGP*
- *Operation of an information management system for the collection of administrative data for the implementation of the programme (Students' Record)*
- *Other tools and procedures designed to collect data on the academic and administrative functions of the academic unit and the study programme*

Study Programme Compliance

I. Findings

BME/UNIWA established and operates an information system for the management and monitoring of data concerning students, academic staff, module structure and organisation, teaching and provision of services to students as well as to the academic community.

There is reliability of data that is essential for accurate information and decision making, as well as for identifying areas of smooth operation and areas for improvement as it is evident by the information provided.

II. Analysis of Judgement

There are procedures for collecting and analysing information on study programmes and other activities, feeding data into the internal system of QA, as evidenced by information that was also provided, including aspects like key performance indicators, student population profile, student progression, success and drop-out rates, student satisfaction with their programme(s), availability of learning resources and student support and career paths of graduates. Some are working well, and some require improvements, for example, tracking the career paths of graduates that require further development at the departmental level.

Several methods are used for collecting information, and further effort is required to ensure that both students and staff are involved in providing and analysing information and planning the follow-up activities.

Online information systems and other feedback forms are used to collect data. The student and staff satisfaction surveys are conducted annually.

The information obtained from the satisfaction surveys is systematically analysed, as evidenced by the information provided and appropriately communicated to be used towards further improvement.

The data provided were properly presented in graphs, demonstrating trends and allowing direct interpretation and comparisons.

III. Conclusion

The EEAP finds that the Institution is fully compliant with the requirements of Principle 8, although a process of continuous improvement is desirable.

Panel Judgement

	Principle 8: Collection, analysis and use of information for the organisation and operation of new undergraduate programmes	
	Fully compliant	**X**
	Substantially compliant	
	Partially compliant	
	Non-compliant	

Panel Recommendations

R8.1. Improve tracking of alumni to benefit further the Department and students.

Principle 9: Public Information Concerning the New Undergraduate Programmes

Institutions and academic units should publish information about their teaching and academic activities in a direct and readily accessible way. The relevant information should be up-to-date, clear and objective.

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 new undergraduate programmes they offer, the intended learning outcomes, the degrees awarded, the teaching, learning and assessment procedures used, the pass rates and the learning opportunities available to their students. Information is also provided, to the extent possible, on graduate employment perspectives.

Relevant documentation

- *Dedicated segment on the website of the department for the promotion of the new study programme*
- *Bilingual version of the website of the academic unit with complete, clear and objective information*
- *Provision for website maintenance and updating*

Study Programme Compliance

I. Findings

BME/UNIWA has developed a rather comprehensive, clear, easy-to-follow and well-structured website.

Some discrepancies are noted between the Greek and English version of the website regarding the information displayed. The website includes information on BME/UNIWA's: (i) Home, (ii) Department, (iii) Faculty and Staff, (iv) Research, (v) Announcements, (vi) Services (vii) Contact, (viii) E-Class, (ix) Student Administrative services, (x) Webmail. All modules are well presented in a distinct section of the website.

II. Analysis of Judgement

The website could develop further to also include up-to-date and easily accessible news and announcements on scholarly, cultural, and physical activities like social clubs and activities, awards, distinctions, publications, and noteworthy accomplishments of the Department.

It should be highlighted that, BME/UNIWA website provides a brief description and indicative information regarding the internal studies policy organization and the policy of QA. These sections are included only in the Greek language version of the website.

III. Conclusion

The EEAP finds that the Institution is fully compliant with the requirements of Principle 9, although additional work is required to ensure that the Greek and English versions of the website are completed in full, to include all parts in both versions and not just in the Greek

version. The BME/UNIWA website could expand further to include social clubs and activities, scholarly, cultural, and physical activities as well as up-to-date news and announcements.

Panel Judgement

	Principle 9: Public information concerning the new undergraduate programmes	
	Fully compliant	**X**
	Substantially compliant	
	Partially compliant	
	Non-compliant	

Panel Recommendations

R9.1 Establish coherence between the Greek and English versions of the website.

R9.2 BME/UNIWA website to develop English versions of the brief description and indicative information regarding the internal studies policy organisation and the policy of QA.

R9.3 Develop further the BME/UNIWA website to include social clubs and activities, scholarly, cultural, and physical activities as well as up-to-date news and announcements.

Principle 10: Periodic Internal Review of the New Study Programmes

Institutions and academic units should have in place an internal quality assurance system, for the audit and annual internal review of their new programmes, so as to achieve the objectives set for them, through monitoring and amendments, with a view to continuous improvement. Any actions taken in the above context, should be communicated to all parties concerned.

Regular monitoring, review and revision of the new 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: the content of the programme in the light of the latest research in the given discipline, thus ensuring that the programme is up to date; the changing needs of society; the students' workload, progression and completion; the effectiveness of the procedures for the assessment of students; the students' expectations, needs and satisfaction in relation to the programme; the learning environment, support services, and their fitness for purpose for the programme. 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.

Relevant documentation

- *Procedure for the re-evaluation, redefinition and updating of the curriculum*
- *Procedure for mitigating weaknesses and upgrading the structure of the UGP and the learning process*
- *Feedback processes on strategy implementation and quality targeting of the new UGP and relevant decision-making processes (students, external stakeholders)*
- *Results of the annual internal evaluation of the study programme by the QAU and the relevant minutes*

Study Programme Compliance

I. Findings

The clearly articulated quality policy of the Department, in conjunction with the quality assurance regulations and the implemented system, ensures internal reviews of study programmes. This is achieved by clear description of the relevant procedures for continuous evaluation and revision of the undergraduate curriculum as well as for identifying threats and weaknesses and developing associated mitigation action plans.

Changes to courses and the programmes are proposed and evaluated through a formal process and is approved through the Committee for Undergraduate Studies. Faculty can propose new courses and curricular changes and eliminate or combine courses through this mechanism. Student workload is monitored primarily through course surveys. Student assessment in courses is well structured.

II. Analysis of Judgement

Logged student responses to course surveys stand to be improved; this is a challenge for evaluating faculty and providing feedback on courses. Formal surveys are offered only at the end of the course, which is too late to improve a course.

It is recommended that the reports of the annual internal evaluations are publicly available on the Departmental websites. This promotes transparency and reflects the Department's commitment to continuous improvement.

Student expectations, needs, and workload are collected through surveys for each course. One fact is the high response rate for course surveys. Students are aware of these end-of-course surveys and fill them out towards the end of the semester.

III. Conclusion

Based on the above, the EEAP finds that the UGP is fully compliant for Principle 10.

Panel Judgement

Principle 10: Periodic internal review of the new study programmes	
Fully compliant	**X**
Substantially compliant	
Partially compliant	
Non-compliant	

Panel Recommendations

R10.1 The EEAP recommends that the reports of the annual internal evaluations are publicly available on the Departmental websites to promote transparency and reflect the Department's commitment to continuous improvement.

R10.2 It is recommended that BME/UNIWA consider convening an informal industrial advisory board to offer more regular/structured feedback on the programme as several of the industrial partners expressed interest in further engagement of this type.

R10.3 The EEAP recommends to focus on the development of some soft skills for the students throughout the courses, as it is a disadvantage observed by the industrial partners.

Principle 11: Regular External Evaluation and Accreditation of the New Undergraduate Programmes

The new undergraduate study programmes should regularly undergo evaluation by panels of external experts set by HAHE, aiming at accreditation. The results of the external evaluation and accreditation are used for the continuous improvement of the Institutions, academic units and study programmes. The term of validity of the accreditation is determined by HAHE.

HAHE is responsible for administrating the programme accreditation process which is realised as an external evaluation procedure and implemented by a panel of independent experts. HAHE grants accreditation of programmes, based on the Reports submitted by the panels, with a specific term of validity, following to which revision is required. The accreditation of the quality of the programmes acts as a means of verification of the compliance of the programme with 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.

Relevant documentation

- *Progress report on the results from the utilisation of the recommendations of the external evaluation of the Institution and of the IQAS Accreditation Report.*

Study Programme Compliance

I. Findings

Last time that the previous TEI departments went through external evaluation was in 2009-10. The findings of the evaluation committee at that time led to the programme restructure of the previous TEI departments and then in the newly established BME/UNIWA which took place the academic year 2019/2020. BME/UNIWA has provided evidence of what has happened since then, which, overall demonstrates a progress.

II. Analysis of Judgement

Faculty, support staff and administrative personnel are aware of the importance of the external evaluation and have done their best to comply with the whole process. All involved parties seemed willing to contribute to the evaluation.

There is some evidence that there is a newly established advisory board but there is no formal interaction to make this correspondence more efficient.

III. Conclusion

The EEAP concludes that the UGP is fully compliant for Principle 11.

Panel Judgement

Principle 11: Regular external evaluation and accreditation of the new undergraduate programmes	
Fully compliant	**X**
Substantially compliant	
Partially compliant	
Non-compliant	

Panel Recommendations

R11.1 The EEAP recommends that the external evaluation process must be a regularly recurring event with a strict requirement to address and start implementing recommendations within one year.

Principle 12: Monitoring the Transition from Previous Undergraduate Study Programmes to the New Ones

Institutions and academic units apply procedures for the transition from previously existing undergraduate study programmes to new ones, in order to ensure compliance with the requirements of the Standards.

Applies in cases where the department implements, in addition to the new UGPs, any pre-existing UGPs from departments of former Technological Educational Institutions (TEI) or from departments that were merged / renamed / abolished.

Institutions should implement procedures for the transition from former UGPs to new ones, in order to ensure their compliance with the requirements of the Standards. More specifically, the institution and the academic unit must have a) the necessary learning resources, b) appropriate teaching staff, c) structured curriculum (courses, ECTS, learning outcomes), d) study regulations, award of diploma and diploma supplement, and e) system of data collection and use, with particular reference to the data of the graduates of the pre-existing UGP. In this context, the Institutions and the academic units prepare a plan for the foreseen transition period of the existing UGP until its completion, the costs caused to the Institution by its operation as well as possible measures and proposals for its smooth delivery and termination. This planning includes data on the transition and subsequent progression of students in the respective new UGP of the academic unit, as well as the specific graduation forecast for students enrolled under the previous status.

Relevant documentation

- *The planning of the Institution for the foreseen transition period, the operating costs and the specific measures or proposals for the smooth implementation and completion of the programme*
- *The study regulations, template for the degree and the diploma supplement*
- *Name list of teaching staff, status, subject and the course they teach / examine*
- *Report of Quality Assurance Unit (QAU) on the progress of the transition and the degree of completion of the programme. In the case of UGP of a former Technological Educational Institution (TEI), the report must include a specific reference to how the internship was implemented*

Study Programme Compliance

I. Findings

The Department has established a committee to match courses from the old UGP to the new one. The remaining TEI UGP courses are still supported as long as active students attend them and until the 2024-2025 academic year. Although many students are enrolled in a TEI UGP, 290 of these students are active and expected by the Department to successfully complete their studies in the time mentioned above.

The mandatory six-month internship of the TEI UGP has been transformed into an optional one in the new UGP, and its duration is reduced to three months.

II. Analysis of Judgement

The industrial partners pointed out the significance of the mandatory six-month internship, as with the new format they don't have enough time to train the students adequately.

The most serious issue with the transformation from a TEI UGP to an engineering UGP is that there is no sufficient indication of various changes introduced in the curriculum to one that provides more engineering knowledge. Moreover, there is a lack of structure in the last years of study that makes it difficult to compare the UGP to the ones of other polytechnic schools.

III. Conclusion

The EEAP concludes that the UGP is substantially compliant for Principle 12.

Panel Judgement

Principle 12: Monitoring the transition from previous undergraduate study programmes to the new ones	
Fully compliant	
Substantially compliant	**X**
Partially compliant	
Non-compliant	

Panel Recommendations

R12.1 The Department be further oriented to one that corresponds to a University Engineering UGP in a leading and rapidly evolving academic and scientific field and should be harmonised with similar international UGPs.

R12.2 The educational offer of the Department in this Integrated Master's programme should be enhanced with the introduction of specialisations, combining its current expertise in other postgraduate programmes.

PART C: CONCLUSIONS

I. Features of Good Practice

GP1 BME/UNIWA is recognised nationally as the single programme entirely focused on producing trained Biomedical Engineers.

GP2 Clear evidence that the relationship between students and instructors is based on mutual respect and appreciation.

GP3 BME faculty members and administrative personnel are enthusiastic and strongly committed to ensure high quality of student support services.

GP4 UNIWA has well-established procedures ensuring the completion of higher education degrees (e.g. duration of studies, rules ensuring student progression, terms and conditions for student mobility).

GP5 The recruitment procedures for new faculty and staff are fair, meritocratic and transparent.

GP6 There is a very strong employability potential of the graduating students.

GP7 There is demonstrated willingness by the Department to comply with evaluation procedures.

GP8 The teaching staff is dedicated, enthusiastic, dealing with all teaching and guidance duties and progressively involving research activities in instruction.

GP9 The library is functional, especially for students with special needs, and well equipped.

GP10 Stakeholders showed great interest in pursuing further existing academic and industrial partnerships with the Department.

GP11 The sport facilities available to the UNIWA community are excellent.

II. Areas of Weakness

W1 The Department´s strategy and vision need to become closer oriented to one that corresponds to a University Department.

W2 An External Advisory Board (EAB) comprising representatives from different stakeholders, to offer valuable advice on teaching, research, and other significant undertakings and advocate for and promote the Department externally, has not been yet actively engaged.

W3 As in most Greek Universities, formal mentoring of new faculty members has not been appropriately considered.

W4 Academic mobility, including sabbatical leaves, for the Department´s faculty has not been yet adequately implemented.

W5 The Integrated Master´s programme in BME lacks specialized itineraries offered currently to its students.

W6 The current infrastructure and equipment at the course laboratories are not fully aligned with the state-of-the-art.

W7 The Department's tracking and monitoring system for its alumni has not been adequately developed.

W8 The Academic Advisor tasks are currently not balanced (e.g., distributed among more than one academic).

W9 The participation of students in international mobility initiatives is still low.

W10 A structured communication strategy towards society, demonstrating the deserved visibility of this crucial field for the nation's health care system, has not been properly established.

W11 There is lack of correspondence in the information available between the Greek and English versions of the Department's website.

III. Recommendations for Follow-up Actions

R1 Develop an ambitious vision for the Department's future development, freeing it from past perceptions and older visions, recognizing its unique status as it is presently the sole Institution in Greece offering a Master's level program in Biomedical Engineering.

R2 Re-enforce the scientific and research skills of the Department´s faculty and staff, and encourage them by all means to broaden their expertise and competencies through mobility initiatives, such as sabbatical leaves, Erasmus+ or European-funded Staff Exchange programmes.

R3 Offer strong incentives and skilful guidance (ELKE) to faculty members to seek external competitive research funding

R4 Consider the establishment of a mentoring scheme for faculty and introduce a continuous education scheme, possibly at Institution level, in teaching skills and innovative education methodologies, teaching best practices and modern pedagogy approaches.

R5 Update and improve teaching methodologies with innovative approaches, such as self-learning or flipped-classrooms approaches, use of digital media for asynchronous teaching and access to class material.

R6 Establish an EAB with representatives from different stakeholders to offer advice and advocate for the School externally. EAB should meet at least once a year. A recently constituted EAB with four experts, none in biomedical engineering, has unclear evidence of appointment acceptance and expectations.

R7 Increase engagement with employers from both industry and other clinical establishments, and strive for increased involvement from and interaction with the industry in the Department's academic pursuits. It is essential that alumni, employers, and social partners, play a more active and direct role in continuously evaluating and enhancing the curriculum of the undergraduate study programme. This participation

should be formal, systematic, and transparent, with specific objectives and thorough feedback.

R8 Improve alumni tracking and monitoring for better reputation and student recruitment. Successful alumni are valuable ambassadors of the Department and should have more interaction with current students.

R9 Align the Integrated Master's programme with current international standards and create specialized paths that combine the current expertise of the Department in other postgraduate programs, thus enhancing its educational offerings in this programme.

R10 Expand internship opportunities to serve the largest number of students possible. Internships should, ideally, get more weight within the undergraduate study programme.

R11 The role of the Academic Advisor should be more balanced and distributed among the faculty members.

R12 Encourage students to take advantage of the opportunities offered to them for international mobility through Erasmus+ and increase the number of both incoming and outgoing students. Efforts should be taken to integrate incoming international students to the academic environment of the Department within the undergraduate study programme.

R13 Update of the undergraduate study programme with the introduction of a course in economics and business skills, including methodologies like project management and development, quality and knowledge management, and intellectual and industrial property management, as well as other courses or practical activities in soft skills, such as leadership, communication, negotiation, and conflict resolution. Moreover, the course in English Terminology should be reintroduced in the programme and the course in Bioethics should be made mandatory for all undergraduate students.

R14 Make all necessary efforts to enforce the admission of an optimal number of students aligned with the Department's capacities, and actively seek further funding opportunities to equip its laboratories with state-of-the-art equipment.

R15 Re-enforce the Department’s human resources with highly competitive academics and highly qualified technical personnel, and balance the teaching workload of the Department’s staff according to their scientific results and research productivity.

R16 Update the Department´s website, particularly its English version, and synchronize the material in both versions (Greek and English) to increase the visibility of the Department and its educational offer at national and international levels.

R17 Enhance and update the internal evaluation procedures and promote the transparency of the Internal Quality Assessment System with the publication of the results of the annual evaluations.

IV. Summary & Overall Assessment

The Principles where full compliance has been achieved are: **2, 4, 5, 7, 8, 9, 10, and 11.**

The Principles where substantial compliance has been achieved are: **1, 3, 6, and 12.**

The Principles where partial compliance has been achieved are: **None.**

The Principles where failure of compliance was identified are: **None.**

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

The External Evaluation & Accreditation Panel agrees that this Programme leads to a Level 7 Qualification according to the National & European Qualifications Network (Integrated Master)	**YES**	**NO**
	X	

The members of the External Evaluation & Accreditation Panel

Name and Surname **Signature**

1. **Prof. Emeritus Spiros Agathos** (Chair)
   Université Catholique de Louvain, Louvain-la-Neuve, Belgium

2. **Prof. George Aggidis**
   Lancaster University, Lancaster, UK (remote participation)

3. **Assoc. Prof. Georgios Kontaxakis**
   Universidad Politécnica de Madrid (UPM), Madrid, Spain

4. **Mr. Panagiotis Kiskiras**
   Mechanical Engineer, Member of the Technical Chamber of Greece, Athens, Greece (remote participation)

5. **Mr. Michail Voskakis**
   Student, Department of Electrical and Computer Engineering, Hellenic Mediterranean University, Rethymno, Crete, Greece