



ΕΛΛΗΝΙΚΗ ΔΗΜΟΚΡΑΤΙΑ
HELLENIC REPUBLIC



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Ανώτατης Εκπαίδευσης**
Hellenic Authority
for Higher Education

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

Electrical and Computer Engineering

Institution: Hellenic Mediterranean University

Date: 22 October 2022



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



Report of the Panel appointed by the HAHE to undertake the review of the New Undergraduate Study Programme in operation (Integrated Master) of ***Electrical and Computer Engineering*** of the ***Hellenic Mediterranean University*** for the purposes of granting accreditation

TABLE OF CONTENTS

Part A: Background and Context of the Review	4
I. The External Evaluation & Accreditation Panel.....	4
II. Review Procedure and Documentation	5
III. New Undergraduate Study Program in operation Profile	10
Part B: Compliance with the Principles	12
Principle 1: Strategic Planning, Feasibility and Sustainability of the Academic Unit.....	12
Principle 2: Quality Assurance Policy of the Institution and the Academic Unit.....	19
Principle 3: Design, Approval and Monitoring of the Quality of the New Undergraduate Programmes	21
Principle 4: Student-centred Approach in Learning, Teaching and Assessment of Students.....	24
Principle 5: Student Admission, Progression, Recognition of Academic Qualifications and Award of Degrees and Certificates of Competence of the New Study Programmes.....	26
Principle 6: Ensuring the Competence and High Quality of the Teaching Staff of the New Undergraduate Study Programmes	29
Principle 7: Learning Resources and Student Support of the New Undergraduate Programmes...	31
Principle 8: Collection, Analysis and Use of Information for the Organisation and Operation of New Undergraduate Programmes	33
Principle 9: Public Information Concerning the New Undergraduate Programmes	35
Principle 10: Periodic Internal Review of the New Study Programmes.....	37
Principle 11: Regular External Evaluation and Accreditation of the New Undergraduate Programmes.....	39
Principle 12: Monitoring the Transition from Previous Undergraduate Study Programmes to the New Ones.....	40
Part C: Conclusions	42
I. Features of Good Practice	42
II. Areas of Weakness	42
III. Recommendations for Follow-up Actions	43
IV. Summary & Overall Assessment	45

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 *Electrical and Computer Engineering* of the *Hellenic Mediterranean University* comprised the following five (5) members, drawn from the HAHE Register, in accordance with Laws 4009/2011 & 4653/2020:

- 1. Prof. Kiki Ikossi (Chair)**
George Mason University, United States of America

- 2. Prof. Emeritus Nicholas Kyriakopoulos**
The George Washington University, United States of America

- 3. Prof. Christos Politis**
Kingston University, London, UK

- 4. Mr. Sotirios Michalopoulos**
Technical Chamber of Greece Representative, Greece

- 5. Mr. Efthymios Kechagias**
Student of the Department of Mechanical Engineering, University of Western Macedonia, Greece

II. Review Procedure and Documentation

The Hellenic Authority for Higher Education (HAHE) formed an independent External Evaluation & Accreditation Panel (EEAP/Panel) to conduct an assessment of the compliance of the Undergraduate Study Program in Electrical and Computer Engineering (ECE) at the Hellenic Mediterranean University (HMU) in accordance with HAHE's established Standards for Quality Accreditation of New Undergraduate Programs in Operation.

On September 12, an informational online meeting was conducted by HAHE director Dr Besta on the Standards for Quality Accreditation of New Undergraduate Programs in Operation. The Power Point Presentation titled "Certification of New Programs in operation" was made available to the EEAP panel.

The panel members received documentation from HAHE and the HMU ECE department.

HAHE documentation

1. Quality Indicators for the 2018-2019, 2019-2020, 2020-2021 academic years for the Electrical Engineering and the Computer Engineering Programs.
2. European Qualifications Framework
3. ODIGOS PISTOPOIISIS
4. P1B Standards New UGP in operation
5. P12a_Guidelines for the EEA Panel
6. P13B_MAPPING GRID & ASSESSMENT GUIDE
7. P14B_INTEG_Template for the New Undergraduate Study Program in operation Accreditation Report

HMU-ECE documentation

- B1. Proposal for academic accreditation of the undergraduate program of studies of the Department of Electrical and Computer Engineering.
- B2. Introductory report from MODIP
- B3. Certified strategic plan of the institution
- B4. Study of the purpose and viability for the founding and operation of the new academic unit HMU ECE.
- B5. 4-year study plan for the ECE academic unit.
- B6. Revised Quality policy for the institution.
- B7. Quality policy for the ECE department.
- B8. Quality objectives of the institution
- B9. Quality objectives of the ECE department.
- B10. Senate decision for the founding of the Undergraduate program of Studies.

- B11. Study Guide
- B12. Course description.
- B13. List of courses for digital knowledge
- B14. Faculty list
- B15. Results of the internal evaluation of the Undergraduate Study Program by MODIP
- B16. Example of course evaluation student questionnaire.
- ✓ B16. 1 Student evaluation questionnaire for a theoretical course
- ✓ B16.2 Student evaluation questionnaire for a lab course
- B17. Mechanism and rules of operation for dealing with student complains and appeals.
- B18. Rules of operation of the academic advisor.
- B19. Internal operation rules of the new program of studies.
- ✓ B20.1 Rules for performing Theses studies for the diploma
- ✓ B20.2 Rules for internships -work studies for the diploma
- B21. Example of diploma supplement in Greek and English.
- B22. Certification of the president of the ECE department
- B23. Summary report of the performance of the teaching faculty in scientific research and educational accomplishments.
- B24. Report of OPESP (ΟΠΕΣΠ) for the institution, department, and program of studies for all prior academic years.
- B25. Progress report for the results from the internal evaluation and recommendations of the external evaluation of the institution and the accreditation report of ESDP (ΕΣΔΠ)
- B26. Remaining documents (Λοιπό Υλικό Τεκμηρίωσης)
- B27. Πρόσθετοι όροι (αφορά ΠΠΣ που απονέμουν ενιαίο και αδιάσπαστο τίτλο σπουδών μεταπτυχιακού επιπέδου σύμφωνα με το άρθρο 46 του Ν.4485/2017).
- B28. Study rules
- ✓ B28.0 Study rules for TEI, Crete
- ✓ B28.1.1 Study program of the pre-existing Program in Electrical Engineering.
- ✓ B28.1.2 Study program of the pre-existing Undergraduate Program in Electrical Engineering.
- ✓ B28.2.1 Study program of the pre-existing Program in Computer Engineering.
- ✓ B28.2.2 Rules of the pre-existing Program in Computer Engineering
- ✓ B28.2.3 Summary list of courses of the pre-existing undergraduate program of studies in computer engineering.
- B29. Example of Degree

- ✓ B29.1 Example of Degree in Electrical Engineering
- ✓ B29.2 Example of Degree in Computer Engineering
- B30. Example of a Degree Supplement
- ✓ B30.1 Example of a Degree Supplement for the pre-existing undergraduate study program.
- ✓ B30.2 Example of a Degree Supplement for the pre-existing undergraduate study program.
- B31. Names of the teaching faculty in the department of Electrical Engineering and Computer Engineering.
- B32. Report of MODIP for the path of the reform and degree of completeness of the pre-existing undergraduate program of studies.

The panel members studied the provided materials before the review and meet briefly on Zoom on October 3rd to discuss the documentation provided, draft preliminary clarification questions and allocate tasks for the review.

The review was conducted on Monday October 3rd and Tuesday October 4th. The panel visit was conducted part on site at the ECE department of the HMU in Heraklion, Crete and by remote participation. The Chair, Prof. Ikossi and one panel member Prof. Politis were present in person while the rest of the panel, (Prof. N. Kyriakopoulos, Mr. Sotirios Michalopoulos and Mr. Efthymios Kechagias) participated remotely via a Zoom link. The method used for the assessment was based on sampling of the Institutions activities. The evaluation of the program is based on the information obtained during the on-site visit and the following material made available to the panel by the Department.

- a. Power Point Presentation by the Department head Prof. F. Mavromatakis
- b. Power Point Presentation by OMEA “Process of Certification of Undergraduate Program of Studies” By Professors D. Akoumianakis, M. Kimakis, M. Tsiknakis - presented by prof. Tsiknakis, and supplemental Power Point slides on the same subject.
- c. Information on the course credit hour calculation system <https://education.ec.europa.eu/el/education-levels/higher-education/inclusive-and-connected-higher-education/european-credit-transfer-and-accumulation-system>
- d. Process of student examination by a faculty tribunal after failing the exam (1_*.pdf)
- e. Decision of Faculty Assembly for course descriptions (2_*.pdf)
- f. Decision of Faculty Assembly for student discipline (3_*.pdf)
- g. Announcement for pre-required classes (4_*.pdf)
- h. Reports from 2 courses (5_1*.pdf & 5_2*.pdf)
- i. Diploma Supplement in Greek and English (6_*GR.pdf & 6_*EN.pdf)
- j. Evaluation of two courses, 7_*.pdf)
- k. Internal Evaluation Report 2020-2021 (8_*.pdf)

- I. Email correspondence and documents in reference to course pre-requirements. October 8-12.

https://www.dropbox.com/s/jlypttcocto2xhh/ACCREDITATION_COMMITTEE.rar?dl=0

On October 3rd the visit started with a meeting with Prof. Emmanuel Drakakis, Vice-Rector of Academic and Student Affairs, and President of MODIP and the Head of the ECE Department Prof. F. Mavromatakis. Prof. Mavromatakis gave the panel an excellent introduction of the department and its status and strategy for development.

This meeting was followed by a meeting with OMEA & MODIP representatives.

For OMEA Prof. D. Akoumianakis, Prof. E. Kymakis, and Prof. E. Tsiknakis were present as well as Prof. Emmanuel Drakakis, Vice Rector – President, Andreas Anastasakis, Lect. and Mrs. Kalliopi Divini, MODIP Staff. A detailed presentation was given by Prof. E. Tsiknakis followed by questions for clarifications and extensive discussions with the panel.

The panel had a brief meeting at the end of the day to reflect on the information provided.

Tuesday October 4th was the 2nd day of the visit. It started with Meeting with teaching staff members.

The following faculty members were present: From Division A: Prof. E. Karapidakis, Assoc. Prof. K. Siderakis, Assis. Prof. A. Tsikalakis, Assis. Prof. D. Vernardou. From Division B: Prof. E. Koudoumas, Prof. K. Marias, Assoc. Prof. M. Sfakiotakis. From Division C: Prof. A. Malamos, Assoc. Prof. D. Stratakis, and Assoc. Prof. N. Vidakis.

The discussion centered on the role of the faculty in the development of the new department, including, available avenues for professional development opportunities, mobility, workload, links between teaching and research, teaching staff's involvement in applied research, projects and research activities directly related to the program. Successes as well as possible areas of improvement were discussed. The faculty was indicated strong commitment to research and teaching and was strongly engaged in promoting the advancement of the new department. The time allotted for this meeting was not sufficient to cover all possible areas.

The next meeting was with the EEAP, administrative staff members & teaching staff members. The following were present: Mrs G. Zervaki, Administrative staff, Mrs K. Konstantaki, Administrative staff. Assis. Prof. A. Tsikalakis, Assoc. Prof. M. Sfakiotakis, Dr. Evangelos Markakis, EDIP, Mr. Stelios Drakoulakis, ETEP, Mr. Christos Syngenidis, ETEP. The administrative staff and technical staff were very forthcoming to express their satisfaction with the department and the tools available to them to fulfil their job requirements. It was evident however that considering the large number of laboratories required by an engineering department the number of technical staff for teaching and supervision of the laboratories was insufficient.

A meeting with the students was conducted next; Nine (9) undergraduate Students were present ranging from 4th to 2nd year of studies, one of the students was connected via a zoom link, the rest of the students were present in person. The students indicated that their views and comments were taken into consideration and positive changes were made to improve the

program, like adding labs. They were also grateful for adding extra remediating classes to help them catch up in mathematics and information theory. In general, there was a healthy rapport between students and faculty aimed in learning and advancing the students capabilities. The students helped the committee understand some of the university processes, like conduct of examinations and handling of complaints. All of the students were pleased with their studies although some indicated they had a heavy workload. They also expressed concern with the uncertainty of the extent of recognition of their new Engineering Degree.

An onsite tour was contacted by the members with Dr. Ikossi and Dr. Politis participating in person. The remote panel members watched the On-line tour: <https://ece.hmu.gr/to-tmima/syntomh-perigraphh-paroysiash/>

The facilities were impressive. Sparkling clean and the equipment in excellent condition and most advanced. The committee had the opportunity to see the state-of-the-art research laboratories in photovoltaics, circuit design and laser patterning. In addition, teaching laboratories for high power and power generation were visited. Examples of remote laboratory capabilities that were built during the pandemic and continue to be in use by the students were demonstrated. The field-testing facilities for experimental solar cells and photovoltaic panels were visited where the students have the opportunity to see the practical use of their research including the first solar charger of electric cars in Greece. The impressions left were excellent for the teaching laboratories and research facilities. HMU ECE department has indeed the calibre of a premier European University

The next meeting was with local employers, social partners of the University. Present were: Mr. Nikiforakis Emmanouil, Dytikos SA, Mr. Mastorakis George, Ergosystems Ltd, Mr. Vardoulakis Pavlos, HEDNO SA, Mr. Assariotakis Zacharias, Freelancer engineer, Mr. Aspirtakis Ioannis, Head of the Quality Assurance, Plastika Kritis SA and Mr. Pitarokoilis Manolis, Technical Manager, European Dynamics who participated through a zoom link. The industry partners stated that they were very pleased with the graduates of the University and over the years have been hiring them as employees and for internships (Πρακτική Άσκηση). They indicated that the evolution from Technological Engineering Institute (TEI) to a University was gradual and that they were in constant contact with the University throughout the process advising and communicating the industry needs. The industry representatives expressed some concern by the fact that at this transition time the University is issuing simultaneously a TEI and a University degree.

A brief private meeting of the panel was contacted to summarize the findings and see what additional information is needed.

The final meetings were with OMEA & MODIP representatives Prof. D. Akoumianakis, Prof. E. Kymakis, Prof. E. Tsiknakis. QAU/MODIP Prof. Emmanuel Drakakis, Vice Rector – President Andreas Anastasakis, Lect. and MODIP staff: Mrs. Kalliopi Divini. In this meeting the committee requested additional material that was needed to complete its assessment. For the Closure meeting the Head of the Department Prof. F. Mavromatakis joint the meeting. The debriefing was short. The Chair thanked the faculty and administration for their hard work in getting all the materials together for the External Evaluation & Accreditation panel. The Chair also related the strong positive feelings the students and industry had for the department indicating that the department is in a good path.

III. New Undergraduate Study Program in operation Profile

The new undergraduate study program in Electrical and Computer Engineering (ECE) at the Hellenic Mediterranean University (HMU) was founded in May of 2019. It began operation in the 2019-2020 academic year. It is a five-year Integrated Master program that offers majors in three distinct areas: a) Electric Power Systems, b) Electronic Systems and Computers and c) Telecommunications and Information Technology.

The academic program consists of 10 semesters. For the first six semesters the students follow the core courses curriculum. During the next 3 semesters the students take specialization courses. During the last year, a minimum of one semester is dedicated to performing research and writing the graduation thesis. The typical graduate will have 35 core courses and 21 specialization courses for a total of 270 credit hours (ECTS) to that the final thesis that carries 30 ECTS is added for a total of 300 ECTS for graduation. The core courses are thoughtfully designed to build the necessary body of knowledge to pursue the desirable engineering specialization.

At the time of the accreditation visit the HMU ECE department had been in operation for 3 years and reported enrolment of 517 Undergraduate students, 254 Graduate Students, 34 Ph.D. candidates and 10 Post-Doctoral Students. There were also 5 students with academic scholarships.

At the same time the pre-existing TEI students are being accommodated with classes and examinations in order to complete their degrees. In the TEI system there are 1025 students registered in Electrical Engineering and 1581 students in Information Technology. In the prior TEI, the Department offering the Undergraduate Program in electrical engineering was founded in 1983; the Information Technology Department was established in 1999. In 2001 the TEI became University. In 2013 the names of the departments were changed to their current names. In 2019 the current ECE Department was formed by merging the two TEI departments. In 2021 the first cycle of graduate studies in the new department was completed.

The students are actively involved in research with faculty members for the thesis and pursue graduate degrees. The Department of Electrical and Computer Engineering has been offering Master's Programs in Engineering subjects since 2012. To this date the HMU ECE department has 120 Master's Graduates. There are 7 active research laboratories with substantial external research funding. The graduate program at HMU ECE is well connected with Greek and International Universities. It is a member of ATHENA, a consortium of European research Universities with notable productive research collaborations and participates in the student exchange program ERASMUS. In addition, there is a dual degree program with the University of Burgundy in France and active research with many Greek research institutions and Universities.

The students are well prepared for their engineering careers. They receive superb hands-on experience due to the strong laboratory curriculum. In addition, soft skills like effective technical writing and team building skills are taught along the engineering classes. Available information indicates that the past TEI graduates were valued for their skills and sought out by the industry for employment.

The HMU ECE department, as of September 2022, has 32 faculty members actively engaged in Teaching and Research (TRS), 2 Laboratory Teaching Staff members (LTS), 4 Special Technical Laboratory Personnel members (STLP) and 4 members of the administration.

The faculty and staff have advanced degrees and are fully qualified to teach and perform research in areas of Energy, Automatic Control, Electronics, Telecommunications and Computers. The faculty is particularly active in research and has received international recognition and many awards.

The HMU campus that contains the ECE department lies on the hills near the city of Heraklion Crete. It is a beautiful, clean, comfortable and functional environment with teaching, laboratory and student housing buildings that serve multiple departments, including the ECE department. The state recognizes the need for supporting the growth of the new department and there are plans for a new building to house the new department, the laboratories and research facilities. It is recommended that when designing the new building, accommodations for persons with compromised mobility/ disabilities are made.

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 placed 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

a)

The HMU Strategic plan is well written and contains critical information particular to the institution and department. The profile and mission of the University and the ECE department are clearly articulated. The mission of the ECE department and the areas of scientific activity are well defined offering a unique and in high demand educational opportunity to the students.

The ECE program at the HMU evolved from a strong technical TEI program with a tradition of ground-breaking research in collaboration with the local industry and research institutes.

b)

The strategy of the department is based on its strong points. Specifically, exploiting the long tradition in electrical and computer engineering education inherited from the pre-existing TEI, the strong active faculty component, the strong research activity with significant international research funding, the strong research collaboration with Greek and foreign universities and 6 local research institutes. The research component offers the students opportunities for their research thesis and avenues of collaboration with local industries through student practical training and common research and development projects.

The provided documentation provided evidence that the SWOT analysis of the existing data is taken into account in developing the strategic plan. The SWOT analysis contained in the 2021-2025 strategic plan of the University (B3) is comprehensive and realistic. It identifies the strengths and weaknesses of the University and discusses the opportunities and challenges for further development. The reasoning for pursuing the specific Electrical and Computer Engineering discipline is clearly presented, and well justified. It takes into account the current scientific developments and is responsive to the needs of Greek industry and society.

c)

The feasibility of the operation of the department and the study programme is described in the documents provided and elaborated during the meetings with the Chair of the Department and MODIP representatives. The statements made were supported by the interviews with the faculty, technical and administrative personnel as well as the students and stakeholders.

The hiring statistics and open positions that remain unfilled throughout Greece illustrate the need of the Greek National Economy for Electrical and Computer Engineers. Similar need was indicated during the meetings with the local industry stakeholders. The department offers a unique developmental opportunity as it specializes in an area where there is no overlap with any other institution in Crete. The HMU ECE faculty has a strong tradition of research well recognized by the international scientific community that adds to the high status of the University. The ECE department has significant external funding for its research including research collaborations with Greek and foreign institutions which is expected to grow with the establishment of the new University program.

The provided documentation (B8) shows that there are quality key indicators and data gathered to track the progress of the University.

The new ECE program of study at the HMU is included in the internationally established scientific fields of higher education and in agreement with UNESCO (ISCED 2013) (071,061) categories of scientific fields in education.

The department has been in operation for only 3 years. Nevertheless the 2020-2021 MODIP progress report is completed and was made available to the panel.

d)

The education and research facilities are adequate and appropriate for a new department. There are plans for a new building that will house the entire department. When this happens, it will be beneficial for the future growth of the department.

The current faculty is very energetic, active and has all the necessary scientific expertise to perform the educational duties of the ECE department. However, there is a critical need for additional technical personnel to support the teaching laboratories.

The department is exceptionally active in research with notable publications. It is of particular importance that all the ECE faculty are actively pursuing research and publish despite their teaching and administrative workload. The transition period from TEI to University places additional demands on the faculty who bear an increased workload by the two concurrently running programs.

The administrative staff although small in numbers appears to be doing an exceptionally good job in keeping the department running and the students pleased. During the interviews with the administrative staff commented that new processes for managing the department are swiftly implemented.

e)

The 5-year program of the Department is divided into 10 semesters with a nominal load of 30 credit hours (ECTS) per semester. Each course and laboratory is assigned the allotted ECTS based on the number of teaching hours and an estimate of the study time needed to complete the course. The structure of the studies in the ECE department is in alignment with the European Credit Transfer System (ECTS). For the first 6 semesters core classes are offered and the last 4 semesters are devoted to classes and activities that lead to 3 areas of specialization. (Telecommunications, Electrical and Computers) A Research Thesis is required for graduation. Practical training (internship with industry) is also encouraged. The university is committed to a student-centered approach that is evident by the student enthusiasm and satisfaction with their studies. The students commented that their professors have an open-door policy that encourages dialog and personal interaction. The student comments are taken into account and changes are made to help the students advance through their program. For example, laboratories and remedial classes were added to help the freshmen in mathematics and programming. Evaluation of the classes and teaching personnel is taking place for every course. The students are evaluated according to the course material taught and are treated fairly. The department also provided documentation beyond the HAHE requirements demonstrating that solid processes are in place to address the student needs. The department also developed electronic classes, through e-class, and remote laboratories that were proven particularly useful during the pandemic.

It is too early to evaluate the learning outcomes of the new ECE department with regards to the knowledge, skills and competences acquired by the graduates of the program as the department has been in operation for only 3 years and there are no graduates at this time. However, based on the descriptions of the course material provided and the past success of the pre-existing institution there is strong evidence that the new UGP outcome will be exceptionally good.

f)

The number of admitted students is prescribed by the government. It is noted that for the first 2 years of the 3 years of operation of the new ECE department, the number of students admitted were significantly larger than the number of students requested by the department. If the admission of the number of students greater than what the facilities and personnel can handle is continued without commensurate increase in the number of faculty, supporting technical personnel and new facilities, it can negatively impact the quality of education the department offers.

There is a process in place for transfer students recognizing equivalent courses from other institutions. Evidence of this is that already 4 students are progressing in the ECE department after being credited for classes completed in other institutions.

g)

The HMU ECE department inherited a strong tradition of an outstanding graduate studies program that has already graduated 120 students. The department is part of ATHENA collaborating with European Universities in research and teaching. It has a dual degree program with the University of Burgundy and actively participates in the ERASMUS program. The HMU ECE faculty collaborate with universities and research institutions throughout Greece and Europe and have one of the most impressive publication records. The research conducted at HMU is state of the art and the research faculty and students received multiple international awards and recognitions for their contributions to the advancement of science and technology. Of notice is the fact that some of the advanced research performed at HMU (like the alternative energy and solar cell research) is readily implemented benefiting the community.

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	X
Substantially compliant	
Partially compliant	
Non-compliant	
b. The strategy of the Institution for its academic development	
Fully compliant	X
Substantially compliant	
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	X
Substantially compliant	
Partially compliant	
Non-compliant	
e. The structure of studies	
Fully compliant	X
Substantially compliant	
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	X
Substantially compliant	
Partially compliant	
Non-compliant	

Panel Recommendations

- The HMU ECE department is an active and vibrant place with strong indications that when given the appropriate support, and additional facilities for the study program and graduate research, it will distinguish as a major European research institution.
- It is critical that the plans for a new building and laboratory facilities to materialize soon, in order to gain from the momentum, the new program generates.
- The HMU ECE department should ensure that the practical training or internship tradition continues which is what sets them apart and above any other ECE program. Allowing the students to participate in internships over the summer breaks, for multiple times, for longer time periods and earlier in the study program would help.

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

Following scrutiny of the study program and the extensive discussions with both students and staff, it is the judgment of the EEAP that the Department's curriculum is suitable in terms of its academic content and is comparable to national and international standards.

The Internal Evaluation Committee (OMEA) is responsible, in collaboration with the University's Quality Assurance Unit (MODIP), for overseeing the quality assurance processes of the Department and for evaluating the effectiveness of the entire academic provision. The Department's general assembly maintains overall responsibility for reviewing the study program and ensuring its adherence to the institutional Quality Assurance standards. Although

this is a newly designed UG program, which has been running for 3 years, the annual review process undertaken by the general assembly, guarantees the thorough and continuous improvement of the academic provision, and supports, at least part of the research output of the Department, to be directly driven by the students themselves. The Department has published a list of Key Performance Indicators (KPIs) which are being monitored and updated regularly in line with HAHE's guidelines.

The program of study receives student scrutiny at the end of each semester in the form of student evaluation questionnaires for each course. The questionnaires are administered electronically. A small percentage of students elect to fill in the forms providing the hope to the department that an ever-increasing number of students will engage with what is seen as one of the pillars of Quality Assurance. During the meeting with the students, it became apparent that the Department actively promotes their involvement in the evaluation process of the teaching, and proactively discusses the feedback collected and the resultant actions.

Finally, staff are research active and seek to incorporate their research into their teaching, to the extent of publishing papers with students and involving them in running lab sessions. This is seen as further evidence of supporting the students in their pursuit to acquire as many relevant skills as possible which would enable them to secure good graduate employment positions. In this respect, the EEAP was presented with evidence which suggests that there is a strong demand for the Department's graduates, despite the economic crisis affecting the entire country, as observed during the meeting with the stakeholders.

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

Ensure that all relevant policy documents pertaining to the Department are always available, easily accessible and provided in English too.

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

The program of studies is described in detail in the Student Guide which is accessible through the website of the Department of Electrical and Computer Engineering. With the exception of the difficulty in accessing the Student Guide, and the incomplete English version, the organization and the contents meet the requirements of Principle 3. The Guide provides a detailed description of the program, including objectives, sequence of courses, detailed description of each course including learning objectives and prerequisites. It also lists the faculty including their area of expertise within the program.

The design of the new program is in accordance with international educational standards. The records of the senate decisions and adoption of the new curriculum were provided by the department. The contents and sequence of courses conforms to international accepted standards.

The availability of internships and mobility opportunities are advertised. It appears that not a lot of students or faculty or support personnel take advantage of these. It may be a side effect of the pandemic, but it will be good to further pursue these routes of diverse experience for students and the University community.

The teaching staff and faculty are exceptionally qualified to perform their duties. The breadth and depth of the research performed, and the publications produced is quite impressive for such a small size University.

Evidence was provided that internal evaluation of the courses takes place. However, it was not clear if a systematic mechanism for analysing and acting upon the results of the evaluation, like revising and improving course content is in place. Although there is no evidence of procedures in place for the periodic evaluation of the program, it should be kept in mind that the program is new and has not yet produced any graduates.

The Department affirmed that in developing the program, consultation with identified stakeholders has taken place. This was confirmed during the meeting with the stakeholders of local industry and government employers. The panel is impressed by the comradery and involvement of the community in developing the new program. It is characteristic of healthy environment that all come together to achieve the creation of a new program. The stakeholders characteristically mentioned that they all meet at the little lion square (liontarakia) and discuss things, propose solutions, and work together towards improving the future of the University and the community. The results show this process works as judged by the creation of the University and the funding of a new building for the ECE Department. The panel applauds the community involvement with the University activities. The only suggestion is that some type of minutes or records of the meetings are kept so that documentation is available when requesting timely action by the authorities for future developments.

In conclusion, the new program is developed according to international standards. It has a strong curriculum and laboratories. It has a clear strategy and quality assurance policy. It is recommended to expand the Student Guide to mirror the Greek version in English and formulate and document procedures for the periodic review of the program.

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 Framework (Integrated Master)	YES	NO*
	X	

Panel Recommendations

- Make the Student Guide accessible through all the University and School portals.
- Make all the sections of the Student Guide available in English.
- Formulate and document procedures for the periodic review of the program.

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-centered 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

In terms of the program of study, the students have the flexibility to choose from a variety of courses after their third year of study (semester 7). The combination of compulsory and elective courses forms the basis for the three specialization areas (divisions or “τομείς”); students are given the option to specialize in one of these divisions (A: Electrical Energy Systems, B: Electronics, Systems and Computers and C: Telecommunications and Computer Technology). The students have also to attend mandatory laboratory sessions related to certain courses. Staff and students felt that the laboratories and their equipment is one of the strong points of the department that distinguishes them from other similar departments in Greece.

Depending on the nature of the course, assessments are administered in different ways and are presented in different formats, including written exams, take home assignments of a theoretical nature, and practical laboratory assignments. The (e-class) is the universal virtual learning environment endorsed by all students which provides access to all learning materials, including assessments. Additionally, it offers flexible communication channels between teaching staff and students by supporting messaging channels. Finally, the system supports general information dissemination such as the publicizing of announcements.

Teaching staff receive student feedback via student questionnaires. Despite the relatively low participation, concerted efforts are being made to increase it. The meeting with the students confirmed to the AP that the students are generally happy with the program of study, as it meets their expectations well.

Additionally, the students appeared to be well-informed about their rights and obligations. Further discussions with faculty reinforced the same message of close collaboration and mutual trust between students and staff. The department had one issue of potential disciplinary action against a student which was handled in accordance with the policies of the University and the department.

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

Additional ways should be sought to increase the number of students who complete the student feedback questionnaires.

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

Based on the information provided by Department, an orientation day for all new students takes place each year. This includes presentations with information on the program courses and practical information for the students. The department's web contains information useful to new students including a complete Student Care web page and a short welcome video.

The student Academic Advisor monitors and advises the students through their studies. The Student progress is recorded by the department's secretariat, in consultation with the Department's administration.

Student mobility is encouraged by the participation in the Erasmus initiative and the cooperation with the State Scholarships Foundation (IKY). The university department has established a wide range of cooperation with other universities worldwide. Professors and administrative staff expressed particular interest in participating in the skill enhancement mobility programs and collaborating with foreign universities.

A positive aspect is the participation of the HMU ECE in the ATHENA program that facilitates the collaboration of students and researchers within the European Union.

The Undergraduate Studies Program of the department is based on the European system of transfer and accumulation of academic credits (ECTS) (as well as on the corresponding Greek legislation (FEK was provided)). There is a minimum of 55 courses to be completed in 5 years. Typical is to have 34 courses from the core curriculum and 21 specialty courses. Each course carries a number of ECTS. The student needs to complete a total of 300 ECTS to graduate. The thesis is to be completed in the last semester and carries 30 ECTS.

Based on the information provided by Department, a Diploma Supplement will be issued without request for all graduates in Greek and in English. This supplement will contain detailed information for the qualification, the marks received, credits for the corresponding courses and the ECTS-based rating system. Although the new program has been in operation for only 3 years, and no one has as yet graduated, an example of a diploma supplement was provided to the panel.

The Diploma Thesis is assigned 30 ECTS. The entire 10th semester of the program is dedicated to the completion of this thesis. Practical training (Internships) has an additional value of 15 ECTS grades. The Department takes advantage of the good relationships it has established during past years (since it was founded by the merger of 2 ATEI departments) with a wide network of companies and industries that can offer internships to students. Each internship will be supervised by a faculty member designated by the Department.

With regards to the credit hours required for eligibility for the practical training or Internships, there appears to be a discrepancy between the required ECTS between the documents submitted (180 ECTS) and the presented information (240 ECTS). It is recommended to clarify this for the students and ensure that the practical training remains a valued offer to the ECE students that can engage with upon completion of 180 ECTS i.e., at a minimum after the 6th semester.

The panel understands that this is a new program and changes for improvement are constantly considered. However, the prerequired courses need to be clarified and consistently documented in the Student Guide and the course descriptions available on the department

web. For example, the Artificial Intelligence (AI) prerequired course that was communicated to the students was not showing in the course description.

It is recommended that all appropriate measures are taken so that the degree offered by HMU ECE has the due recognition by the state. The students and stakeholders expressed their concerns on the extent of the recognition the new University degree will have.

At the meeting with the local companies and industries the panel ascertained the good relations that exist between the stakeholders and the department. Practical training is a valuable part of the program, in terms of developing job-specific or broader skills. Unfortunately, it appears that no record of the communications between the department and the industry and potential employers is kept.

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

- Required credit hours for internships and prerequired courses. needs to be clarified and stated consistently throughout the Student Guide, course descriptions and department web.
- It will be useful if a statistical analysis is systematically performed of the data collected for student progress as well as the data collected from student, faculty, and staff surveys to identify the trends and take actions.
- A formal periodic communication needs to be established between the department and the companies that would like to participate in the student internship and employment program.

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

The Department, as of September of 2022, has 32 full time faculty members drawn from a wide range of ECE fields of specialization. The faculty members are busy with teaching, supervising diploma theses, research as well as other academic and administrative tasks (e.g., participating in committees). In addition, there are 5 staff members who facilitate the teaching and laboratory activities of the Department. The new Undergraduate Program covers a wide range of scientific and research subjects.

At present, the staff workload is high due to the large number of admitted students and the fact that both the old TEI and the new program are running simultaneously. It is expected that when the v+2 time frame for the TEI students' graduation is reached the faculty workload may revert to normal. Faculty members have a high research activity, as indicated by the Scopus results.

The Department implements clear, fair, and equitable procedures ensuring high quality staff. There is continuous improvement of the quality of the educational staff, by enforcing all

existing legislation and the University's regulations for the recruitment and evaluation of its staff.

Students evaluate the lecturers anonymously and on a voluntary basis at the end of each semester, through MODIP's electronic system. The responses are processed by MODIP, and the results are available to the assessed, the Head of the Department, OMEA and MODIP members. Opportunities for professional development are provided through the department. Activities such as travel to conferences, participation in the Erasmus program and collaborations for research through the ATHENA program are available to faculty and students. Research is conducted by the students and faculty in the Department laboratories. The Department participates in a number of research programs, giving several opportunities in students to engage in research during their studies. Research and teaching are readily integrated. Prime example are the activities observed by the panel during the laboratory tour. Research in photovoltaics with hands on experience for the students in the evaluation of the efficiency and reliability and stability of the cells. Remote access to laboratory experiments. In addition, the students' final thesis involves the conduct of original research.

The panel is impressed with the excellent laboratory facilities, the number of courses that include laboratories, and the strong research component of the program. The number of technical support staff for laboratories (ΕΔΙΠ and ΕΤΕΠ) is disproportionally small to the expectations for high quality teaching laboratories and research.

Panel Judgement

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

Panel Recommendations

It is recommended recruiting additional staff members (ΕΔΙΠ and ΕΤΕΠ) to support the teaching and laboratory activities.

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

On the basis of both the on-site and visual tours, the distribution of the laboratory space seems to be sufficient to support the program of study.

The facilities of the department and in particular the laboratories, the equipment and the research laboratories are of high calibre and many cases (Electrical Engineering laboratories) higher than equivalent departments in Europe.

It is highly commendable that remote access to laboratory experiments was developed by the faculty and the students had the opportunity to use these during the pandemic and continue to use in remote learning. As noted earlier the number of technical staff for laboratory support needs to be increased to be proportional to the number of teaching laboratories and research activities.

The range of available student support services including the number of associated technical and administrative staff appear to be on the low side as it was discussed in the meetings with OMEA and MODIP.

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

- Develop and maintain an inventory of equipment (laboratory, information processing) including their operational status.
- Make and publish a Student Guide to the support services.

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

On the basis of the information provided by Department, the information system is adequate for the collection and analysis of the data necessary for the efficient management of the program.

There are no explicitly articulated procedures for the collection and analysis of the data. The panel could not locate documentation of written procedures for the collection of data and analysis regarding the student body, student body, teaching methods, student progression, employability, and career paths of graduates. In follow up communication with the department the panel was informed that some of these functions, like student internships and employment, are taking place at the University level in designated offices and the department takes advantage of these University services. In addition, the information provided in the accreditation report indicates that evaluation of the data does take place and the Department continuously evaluates the need for resources and takes action to acquire them.

Although explicit description of the information management system supporting the program, could not be identified in the documentation, the quantity and quality of the information provided to the panel leads to the conclusion that the information system supporting the program is adequate.

Panel Judgement

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

Panel Recommendations

Codify and publish the procedures used for the collection and management of the data used in the periodic assessment of the program to ensure consistent evaluation over time.

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

The departmental website provides the main channel of communication for both students and staff of the Department, as well as the outside world. The website is well structured and is offered both in Greek and English languages. The information presented is accurate and consistent in the Greek section. However, some of the information presented in the English section is not updated or fully completed and needs urgent attention.

The content of the website is broken down into a number of sections which cover educational, administrative, and social matters, with all key information being present. The navigation between the different parts of the site is easy; basic web usability principles are adhered to. The content appears to be updated regularly. It is understood during the interviews with the students that the teaching material is available on the signed-in part of MUoC's website, which hosts the e-class virtual learning tool.

Panel Judgement

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

Panel Recommendations

The panel strongly recommends completing the Department's website's English version.

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

The new Undergraduate Study program of the Department has a duration of 5 years.

The department identified some of the weak points and set a comprehensive plan with a 4-year target for improvement.

Based on the information provided by the department, the results of the self-assessments are considered, but there is no formal procedure for conducting this evaluation. The feedback process of the electronic evaluation questionnaire responses, which are filled in by students anonymously, is not clearly defined.

During the panel's visit, the Department informed that part of the results of the student evaluation concerning each separate course, is shared with the appropriate professor or teaching staff. In addition, students shared with our committee that in some cases, student comments caused notable positive changes (e.g., the establishment of a laboratory class.)

Given the low completion rate of student class evaluation questionnaires, corrective measures need to be taken to ensure higher participation. The department seems aware of the issue and is looking into ways to improve the completion rate.

Panel Judgement

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

Panel Recommendations

- The External Evaluation & Accreditation Panel strongly recommends that suitable processes be put in place to make the evaluation results useful for the classes and the curriculum.
- Corrective measures need to be taken to ensure higher participation of students in class evaluations.

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

The new HMU ECE program at this time is in full compliance with the principle of regular external evaluations. The program was founded in 2019 and at this time, in October of 2022, it is the first new program to undergo external evaluation. The department also provided the records of the external evaluation of the pre-existing TEI department and the MODIP progress report. Being proactive is good sign that the regular external evaluations will continue.

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

Continue being proactive with regards to conducting regular external evaluations and accreditations.

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

The Department has prepared a detailed plan for the transition period from the former Technological Educational Institution (TEI) to the new Undergraduate Program (UGP). In particular, it specifies how long the TEI program will be supported, the timeframe students have to fulfil their obligations for graduating, the type of educational support student have available to them, as well as how they can enrol to the new UGP, if they so wish. In addition, there is a course list matching the courses of the TEI program to the new one, so that students know the workload required before enrolling to the new UGP.

Teaching classes of the TEI program was supported by the Department until 2021-2022. From autumn 2022 and until the end of the transition period, the students can take equivalent courses if needed and the department will conduct the courses examinations.

Internships with industry, which was mandatory under the TEI system, is still supported, as it remains part of the new UGP, as an option. There is a committee supervising closely the TEI student internship obligations.

The transition period has been organized and implemented exceptionally well by the Department and is expected to end by autumn 2024.

Panel Judgement

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

Panel Recommendations

Continue monitoring the transition to the new study program and ensure the students of the previous TEI and the new undergraduate program graduate in time.

PART C: CONCLUSIONS

I. Features of Good Practice

- The HMU ECE department inherited a strong tradition of an outstanding graduate studies.
- The Department has prepared a detailed plan for the transition period from the former Technological Educational Institution (TEI) to the new Hellenic Mediterranean University (HMU) Electrical and Computer Engineering (ECE) Undergraduate Program (UGP).
- The university is committed to a student-centered approach that is evident by the student enthusiasm and satisfaction with their studies.
- The students commented that their professors have an open-door policy that encourages dialog and personal interaction. The student comments are taken into account and changes are made to help the students' progress.
- The Department's curriculum is suitable in terms of its academic content and is comparable to national and international standards.
- The HMU ECE department has excellent laboratory facilities, with valuable laboratory hands on training for the students in conjunction with theoretical courses and a strong research component for the program.
- Faculty and staff have excellent qualifications. They are very active in research and seek to incorporate their research into their teaching, to the extent of publishing papers with students and involving them in running lab sessions.
- The HMU ECE department's research activities with many MS and Ph.D. candidates, with participation in the ATHENA program and collaboration with Greek and International Universities and research institutions, strengthens the undergraduate integrated Master's program.
- The HMU ECE department has strong liaisons with the community, as well as Greek and European Universities, Industry, and stakeholders. It is characteristic of healthy environment that all come together to achieve a successful new program.

II. Areas of Weakness

- The HMU website was hard to navigate and find the relevant program study information. Translation in English needs to be completed for some sections.
- Publicity of the great work that takes place at the HMU ECE department needs to be further pursued.
- There is a strong need for additional personnel for teaching, research, technical and administrative support.
- It was particularly challenging for the panel to distinguish the information specific to the new ECE department from the pre-existing TEI information and that pertaining to

the overall HMU. It was not easy to decipher the required information from the format of the documents provided.

- Documentation of the processes and meetings needs to be further pursued to track progress.

III. Recommendations for Follow-up Actions

- The HMU ECE department is an active and vibrant place with strong indications that when given the appropriate support, and additional facilities for the study program and graduate research, it will distinguish as a major European research institution.
- It is critical that the plans for a new building and laboratory facilities to materialize soon, in order to gain from the momentum, the new program generates.
- The HMU ECE department should ensure that the practical training or internship tradition continues which is what sets them apart and above any other ECE program. Allowing the students to participate in internships over the summer breaks, for multiple times, for longer time periods and earlier in the study program would help.
- Ensure that all relevant policy documents pertaining to the Department are always available and easily accessible.
- Make the Student Guide accessible through all the University and School portals.
- Make all the sections of the Student Guide available in English.
- Formulate and document procedures for the periodic review of the program.
- Additional ways should be sought to increase the number of students who complete the student feedback questionnaires.
- It will be useful if a statistical analysis is systematically performed of the data collected for student progress as well as the data collected from student, faculty, and staff surveys to identify the trends and take actions.
- A formal periodic communication needs to be established between the department and the companies that would like to participate in the student internship and future employment program.
- It is recommended recruiting additional staff members (ΕΔΙΠ and ΕΤΕΠ) to support the teaching and laboratory activities.
- Develop and maintain an inventory of equipment (laboratory, information processing) including their operational status.
- Required credit hours for internships and prerequired courses. need to be clarified and stated consistently throughout the Student Guide, course descriptions and department web.
- Make and publish a Student Guide to the support services.
- Codify and publish the procedures used for the collection and management of the data used in the periodic assessment of the program to ensure consistent evaluation over time.

- The External Evaluation & Accreditation (EEA) panel strongly recommends completing the entire Department's website's English version.
- The EEA Panel strongly recommends that suitable processes be put in place to make the evaluation results useful for the classes and the curriculum.
- Corrective measures need to be taken to ensure higher participation of students in class evaluations.
- It is recommended that all appropriate measures are taken so that the degree offered by HMU ECE has the due recognition by the state.
- Continue being proactive with regards to conducting regular external evaluations and accreditations.
- Continue monitoring the transition to the new study program and ensure the students of the previous TEI and the new undergraduate program graduate in time.

IV. Summary & Overall Assessment

The Principles where full compliance has been achieved are: **1, 2, 4, 5, 6, 7, 9, 10, 11, and 12.**

The Principles where substantial compliance has been achieved are: **3 and 8.**

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

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

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

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

The members of the External Evaluation & Accreditation Panel

Name and Surname

Signature

- 1. Prof. Kiki Ikossi (Chair)**
George Mason University, United States of America

- 2. Prof. Emeritus Nicholas Kyriakopoulos**
The George Washington University, United States of America

- 3. Prof. Christos Politis,**
Kingston University, London, UK

- 4. Mr. Sotirios Michalopoulos,**
Technical Chamber of Greece Representative, Greece

- 5. Mr. Efthymios Kechagias,**
Student of the Department of Mechanical Engineering, University of Western Macedonia, Greece