ΕΛΛΗΝΙΚΗ ΔΗΜΟΚΡΑΤΙΑ
HELLENIC REPUBLIC

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Accreditation Report
for the New Physics Undergraduate Study Programme in operation of:

Physics

Institution: International Hellenic University
Date: 12 November 2022

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 of **Physics** of the **International Hellenic University** for the purposes of granting accreditation

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PART A: BACKGROUND AND CONTEXT OF THE REVIEW

I. The Accreditation Panel

The Panel responsible for the Accreditation Review of the Undergraduate Study Program of **Physics** of the **International Hellenic University** comprised the following four (4) members, drawn from the HAHE Register, in accordance with Laws 4009/2011 & 4653/2020:

1. **Professor Emeritus Harry Mavromatis (Chair)**
   American University of Beirut

2. **Professor Emeritus Emmanuel Paschos**
   Technische Universität Dortmund

3. **Professor Haralambos Panagopoulos**
   University of Cyprus

4. **Mr. Dimitris Paizis Radojkovic**
   University of Crete

II. Review Procedure and Documentation

Following several communications by e-mail, the four-member Panel met for the first time the morning of Monday November 6, 2022 at the hotel Egnatia in Kavala. At this two-hour meeting the tasks of each member of the Panel were carefully reviewed. The Panel concentrated on the twelve Principles that are to be addressed in the Panel's final report. A few days prior to this first Panel meeting the tasks of every member of the Panel had already been agreed on, so each member had had a few days before his arrival in Kavala to hone in especially on the Principles he had been assigned.

The Panel members were then transported to the University where they communicated remotely with Prof. K. Makridou, the Vice-Rector and Head of MODIP who was in Thessaloniki, and in person with Associate Prof. N. Vordos, Head of the Physics Department. This informative meeting lasted half an hour, during which the Panel was given a presentation on the history and academic profile of the Department by Associate Professor Vordos. The Department's current status, strengths as well as possible areas of concern were touched upon in this candid presentation.

This was followed by a meeting with the OMEA & MODIP representatives at which Assoc. Prof. Michael Hanias gave a detailed presentation in which he provided specifics of each of the Department's 12 faculty and their respective qualifications and areas of expertise and rationalised the curriculum the Department prepared at its inception three years ago. At this meeting the degree of compliance of the Undergraduate Programme to the Standards for Quality Accreditation was discussed. The presentation was comprehensive, and the Panel was briefed in detail on how three years ago the department came into being and how its present curriculum was decided upon.

Skipping its lunch break, the Panel next met with members of the teaching staff where the competence and adequacy of the teaching staff to ensure the requisite learning outcomes was the dominant subject that was discussed, and it was pointed out to the Panel that the department is seriously understaffed. This is true both as concerns the academic and technical staff. The Panel was made aware that a transition period is in place for former TEI electrical engineering students who have not yet graduated, to complete their studies and obtain a university degree. They have a 3-year grace period to make up their deficiencies. Otherwise, they will be dropped from the university. The Physics Department is responsible for these students as well as its departmental majors.

On the following day (Tuesday November 8, 2022) the first meeting of the Panel was with students of the Department. The meeting was attended by 10 students representing all four years of the undergraduate program. The students were told that their opinions would be confidential, and that they could speak freely to the Panel. The discussion that took place

involved the students' satisfaction from their study experience and Department facilities, and priority issues concerning student life and welfare. This meeting lasted longer than expected because the students had a lot to say, and one member of the Panel (Mr. Paizis Radojkovic) stayed on for further discussions with the students while the other three Panel members went on an hour-long tour of the labs, classrooms, lecture halls, the library, and computer rooms. The purpose of this tour was to evaluate the facilities and learning resources available to ascertain whether the learning materials, equipment and facilities are adequate to ensure a successful functioning of the programme. The tour included a visit to the multi-million-euro state of the art research facilities.

Upon their return from the tour, after being joined by Mr. Paizis Radojkovic, the full Panel met with half a dozen social partners and possible employers. They were all positive in their comments about the Department and emphasised that the region of Eastern Macedonia and Thrace need graduates with the specific qualifications of the Department's degree holders.

The Panel then met privately and agreed on a document outlining some of its key findings. After a further meeting with OMEA & MODIP representatives who answered a few final Panel enquiries, the Panel read some of its informal findings to the group that was joined by Professor N. Vordos, the Departmental Head, and remotely by Vice Rector K. Makridou. The text of the Key findings of the Panel is as follows:

"Key findings of the Panel include the conclusion that the Department's faculty are a determined and dedicated group of academics. However, they are in a stressful transition situation partly because in addition to monitoring their new three-year old physics department program and course offerings, a group of students from the previous TEI Electrical Engineering program have not yet graduated, and still have a three-year window during which they can fulfil their electrical engineering graduation requirements, or else be dropped from that program. Additionally, the Department is seriously understaffed both on the academic side and as concerns technicians. At the moment, they have only two technicians to run all the labs, and maintenance of the supporting buildings is not up to standard. New positions are needed.

Another key finding is that there are millions of euros of state-of-the art research equipment available in its labs, that was obtained from European Union funds through ESPA. The Panel feels the Department should make the most of the above equipment and its availability should influence the areas of specialization the fledging Department decides to excel in. In this context the Panel feels the Department should not be overambitious, given the current small size of its faculty. Rather than overstretching itself and allowing for many specializations, it should concentrate on a few fields of excellence. In this way small faculty groups can be formed within the department in each of the fields of specialization that they decide on. Advertising of new academic positions should be constructed in such a way as to optimize the quality of the new academic staff."

The meeting then adjourned.

The Panel met on the following three days at their disposal (Wednesday, Thursday, Friday), and had numerous lengthy discussions about the final report. In the process, several drafts were reviewed before a final version that had the approval of all four Panel members was agreed on, signed, and will be sent off to HAHE on the morning of Saturday November 12, 2022. The Panel is grateful for the sustained help provided by the Department Head, Associate Professor N. Vordos, and for the continued guidance and administrative support of HAHE, in particular Dr. Bompota. The faculty and students of the Physics Department were helpful, and we appreciated their forthrightness and willingness to point out both the strengths and weaknesses of their program. The Panel found their input very helpful.

An original version of the documentation the Panel used was sent by HAHE on October 18th. It did not contain all the input, which the Department had submitted in a timely manner. The complete version of this documentation was made available to the Panel on November 8th.

III. New Undergraduate Study Programme in operation Profile

The Physics Department is one of the three departments in the school of science of the International Hellenic University, located in Kavala. It dates to 2019 when the TEI electrical engineering department in Kavala was discontinued and a four-year undergraduate level university level physics department emerged in its place, drawing on the faculty who had previously taught at the TEI electrical engineering department. Graduates of this program are granted the equivalent of a B.Sc. (Πτυχίο). The other two science departments that share the Kavala campus are Chemistry and Computer Science. This campus is located on a hilltop with a majestic view of the town below and the Mediterranean in the distance.

The Department uses the campus' facilities, including the library that is within walking distance from the Department. It has 7 classrooms, an amphitheatre, 9 labs, and 2 rooms with computer terminals. As mentioned above, the Department offers a four-year undergraduate program and, this year being its fourth year of operation, it will produce its first graduates. There are presently 270 students enrolled in the Department and about 70% are females. The Department has a permanent staff of 12 faculty but draws on visiting instructors who come and give courses that are outside the specialisation of the Department's faculty. Graduates of this program are expected to be in high demand by the industries in the Eastern Macedonia and Thrace.

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

a) ***The academic profile and the mission of the academic unit***

The program of the university is to establish a Physics department with a curriculum which fulfils international established standards. The program of studies has been completely revised and documented. The standard courses that the Department offers comprise 240 ECTS units and are on a par with the international scientific fields of education. For the elective courses, there is a wider spectrum which could be further condensed by the Department.

b) ***The strategy of the Institution for its academic development***

The Department plans to develop a complete, full – fledged program harmonized with the strong scientific substructure (electronics, X – ray scanning) and the economic development of the region (electronics, energy, climate change, etc.). Another topic is the training of high school educators trained in modern didactic methods. A danger is the Department's covering many fields, running the risk of not covering the subjects in sufficient depth. Our recommendation is to concentrate on a few fields of strength and excellence. Such a decision would provide relevant topics for undergraduate theses.

c) ***The documentation of the feasibility of the operation of the department and the study programme***

The north-eastern section of Greece needs a strong industrial and economic infrastructure. The present international situation, as of November 2022, demands developments in energy, information technology (IT), biomedical applications, and materials science and would bring radical changes and opportunities to which the Physics Department could provide its services. These developments will attract more people and especially physicists who will work in companies which require employees with high professional qualifications (semiconductor technology, AI, etc.). This will be competitive on an international level.

The availability of advanced equipment at the Department can be used for various investigations and the training of scientists who will apply their knowledge to advanced technological topics. The equipment includes apparatus in solid state Physics, high-performance computing infrastructure connected to the GRID structure of CERN. This equipment places the Department at a relative advantage compared to other Physics departments at the national level in this specific field. The rapid development in digital applications additionally puts the Department in a favourable situation. In comparison to other departments, this is in an optimal position to maintain and further develop existing links with local industry.

The Kavala Department is the only Physics department in north-eastern Greece. It has the capability to supply knowledge and solutions on topics of cutting – edge research in the region of East Macedonia and Thrace.

d) ***The documentation of the sustainability of the new department***

In the Department, there is a large amount of advanced - level scientific equipment. Human resources and the faculty are limited and must be increased to reach a critical mass. Special attention must be placed on the hiring of high-quality new faculty; the announcements of new positions must carefully specify the qualifications of potential candidates who will integrate into the future development of the Department.

At the time of TEI, there was generous funding. The Physics Department should strive to maintain this tradition and aim to attract funds at the regional, national, and international level.

Digital equipment is sufficient and is used in innovative ways, combining computer competence with applications which are important for future developments. Experts in IT are in great demand in numerous positions in our society. The graduates of this field are promised good employment opportunities.

e) ***The structure of studies***

The program includes a 4 – year schedule of courses whose structure and level coincides with those offered in accredited universities. The program aligns well with courses in the European Credit Transfer System (ECTS). There is an extensive curriculum of elective topics which should be reduced without sacrificing quality.

The large number of courses involving computers provides the students with the skills required to apply computer methods for the solution of physical and other problems.

There is a series of education courses that many of the students take; these courses lead to a certification which enables them to teach Physics at the secondary education level. This, combined with computer proficiency, is attractive and highly desirable.

f) ***The number of admitted students***

The admissions in the year 2021 were 27 new students. In 2022, the number increased to approximately 50 and the Department is optimistic with the positive slope. The Department states that the optimal number of new students for the normal functioning of the Department is 120 students, and expects this to gradually reach 150.

The Department's accreditation proposal explicitly mentions the lack of possibilities for student transfer to and from other institutions. In particular, the only possibility of transfer at the moment is with the Physics Department of Lamia.

g) ***Postgraduate studies and research***

The Department has a graduate program and already supervises approximately 15 graduate students. The program involves advanced level equipment (X – ray investigation of biological and other molecular substances, astronomy etc.). The presence of graduate students and topics serves as an inspiration to undergraduate students.

The proposal makes an extensive description of research activities in the Department, including recent publications and collaborations.

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	
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	**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	
Substantially compliant	**X**
Partially compliant	
Non-compliant	

Panel Judgement

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

Panel Recommendations

The Department should regularly monitor the strategy it has developed and modify it if needed.

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

Two familiar assurance units are present at IHU. At the institutional level MODIP and for the Department OMEA. The latter collects performance data and gives feedback every year. Every four years it performs a more extensive assessment. It identifies problems and makes recommendations which in due time are solved or corrected. The Physics Department welcomes continuous monitoring and improvements.

For each course there is the final examination prepared, supervised, and graded by the professor who gives the course. There is a consistent and continuous process of assessment of the teaching performance evaluation of the staff in the form of an electronic questionnaire whose content is extensive. The questionnaires are completed and submitted anonymously by

the students and are analysed by the OMEA. Results in the form of graphs were presented to us for the complete survey. A fraction of the students who attend lectures submit these evaluations. There is a need for improvement with a greater participation of students, resulting in a higher reliability of this evaluation method.

For the research programs and projects there is a partial list of publications by the faculty members that can be found on the departmental webpage. The Department reports, in document B9 of the accreditation proposal, ambitious goals that are specific, measurable, and relevant. These are compared to the actual performance of its faculty and the Department recommends improvements. We expect some of these aspects will be improved with the hiring of new faculty members.

Panel Judgement

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

Panel Recommendations

The publication of the aggregate results of the surveys should be communicated to the academic community of the campus, in a manner compatible with issues of privacy.

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 Department has a four-year curriculum of required and elective courses. The latter are designed to provide breadth to the curriculum, compatible with the specialties of the faculty.

The program includes only a few courses from the program of the previous TEI. However, the new undergraduate program is completely revised and includes courses typical for the curriculum of a good Physics department, anywhere in the world.

A special property of these programs is the variety of elective courses. The variety represents the preferences of the faculty and its expertise. The large number of courses presents the danger of trading variety to depth. Since the number of faculty members is small it is prudent to condense the elective courses. This streamlining should be coordinated with the hiring of new faculty members in key fields of research.

A special property characterizes the Department: it developed from a TEI in electrical engineering. The background of the faculty members will prove beneficial, insofar as it provides skills like computer competence which can be applied to the solution of hard and complicated problems.

The curriculum was revised in consultation with industrial and communal stakeholders who informed the Panel that they will be happy to hire future graduates. This will be the case in the areas of semiconductor technology, electronics, energy, and the environment.

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	

Panel Recommendations

Periodic revisions of the curriculum should carefully monitor possible adjustments, necessary to adjust to future demands, with concentration on key fields of research.

Principle 4: Student-centered 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

A student – centered approach in teaching is adopted. The courses are taught and assessed in ways that are sufficiently varied and, in some cases, quite creative.

Owing largely to the small student population, the teaching / learning process in the Department is characterized by close communication between teaching staff and students. The latter also have an adequate level of freedom in shaping their studies and acquiring relevant skills, as evidenced by the existence of three areas of specialization (Solid State Physics - Electronics - Nanotechnology, Nonlinear Dynamics and Complexity, Applications of Physics and Energy), as well as pedagogical and computing – oriented subjects.

Additional educational endeavours take place outside of the basic undergraduate curriculum; namely, occasionally offered courses taught by prominent external physicists and study groups on special fields of interest, such as astronomy and chaos theory.

Nevertheless, the educational process is hampered by staff shortages which sometimes result in some courses not being available, in addition to some instances of inadequate teaching performance, as reported by the Panel's interviews with the students. Another weakness is the absence of important educational laboratory material in advanced laboratory courses.

Assessment criteria and methods are published in advance.

Student satisfaction surveys are regularly conducted. There is some concern about the number of students that participate, however the Department is working on this issue.

There is a regulation covering the role and responsibilities of the academic tutor. The mentoring of students also largely takes place successfully in an informal manner.

There is a formal mechanism for student appeals, through the institution of the Student's Advocate (Συνήγορος του Φοιτητή).

Mutual respect and cooperation between teachers and students tend to be the norm in the Department.

To form an opinion concerning this Principle, the Panel drew on information from conversations with teaching staff, students, and the Department's OMEA, in addition to the relevant documents provided by the Department. Principle 4 concerns primarily the Department's approach to the learning process, which in this case is commendable. But a prerequisite is the ability to effectively implement its planned curriculum. Considerable effort and progress have been made by the Department.

The Panel finds the Physics Department to be substantially compliant with Principle 4. The core tenet of student-centered learning is clearly upheld by the Department, with many laudable efforts on the part of the educators. However, for the Department to fully perform its educational role, there are deficiencies that need to be addressed, some of which are due to lack of sufficient funding. These include the quantity and quality of teaching staff, as well as necessary purchases of educational laboratory equipment.

Panel Judgement

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

Panel Recommendations

The Department is moving in a positive direction to gradually correct problems that arose during the first 3 years of its existence. Maintaining this course is important, but there is also a window of opportunity to retroactively amend some of them as its first students have not yet graduated. The preparation and distribution of summaries of lecture material will benefit interested students currently taking these courses and is essential for more senior students who have not had the opportunity to cover this material.

Permitting students to retake an examination on a course they have already passed is an easy and efficient way of increasing both students' engagement with the program and Diploma value in terms of employability. At present, this is not allowed by IHU rules. The danger of abusing such a modification is minimal, given the considerable housing costs it would involve for students, most of whom are not from Kavala.

Care should be taken by the Department to actively communicate with the students, to avoid cases of miscommunication, as regards, for example, the Erasmus program.

Regarding the retention and hiring of new teaching staff, the Department needs to make optimal decisions with an absolute emphasis on quality.

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

Support for incoming students is satisfactory. First – year students are welcomed in the Department at a special event meant to acquaint them with the faculty. They are aided by the Department's secretariat and by their respective academic tutors (Σύμβουλοι Σπουδών). In addition, the Student Guide they provide is comprehensive and helpful.

As in most Greek universities, students alone are responsible for their academic development. However, given the relative importance of the institution of academic tutoring and the small size of the Department, students' progression is more likely to be noticed and facilitated by their teachers.

Students belonging to economically vulnerable groups can be helped by scholarships (at present, 10 scholarships of 900€ per year) provided by relevant funding allocated to the Department.

Student mobility support is substandard. Although in principle mobility is embraced as important, in practice the students are largely prevented from benefitting from the Erasmus program. The quality of relevant services is very low. The present difficulty in the effective implementation of programs of student mobility cannot be explained by the COVID–19 pandemic that has now subsided.

The European Credit Transfer System (ECTS) is applied across the curriculum.

The Department has not yet produced its first graduates, so Diplomas and, by extension, Diploma Supplements have not yet been issued. However, the Department has prepared in advance a complete template of Diploma Supplement in both the Greek and the English language. A more careful translation in English is required.

Regulations involving the undergraduate thesis are present in the Study Guide. The topic does not appear to be covered fully, but since the implementation of the first theses has not yet started, this is not considered to be a grave problem. However, according to the Study Guide for the academic year of 2022 - 2023, the undergraduate thesis should be available on both winter and spring semesters (Article 3.6, page 20). As of November 2022 though, undergraduate theses are only offered in the spring semester.

A practical training program is planned by the Department but is not yet in place. Despite this, the Department can draw on the network of active commercial contacts it has inherited from its existence as a TEI.

Relevant documents, as well as interviews with students, social and commercial partners, and the Department's President and OMEA were used to deliver a judgement on this Principle. While regulations concerning studies are sufficient, they are not always backed up by currently existing mechanisms and institutions.

There is a lot of work to be done for the Department to fully comply with Principle 5, even though in many instances the foundations have largely been set. The Department has overcome significant difficulties since its inception, establishing a functional study curriculum in the process. This success needs to be repeated in the case of undergraduate theses. As there is previous experience from the TEI era, the Panel is optimistic that this will indeed be the case. Aside from the basic issue of the undergraduate theses, the Department also must move quickly to remedy existing issues on the Erasmus program, as well as to commence its practical

training scheme. Both developments have the potential to significantly boost students' knowledge, experience, career opportunities and morale. It is important to remember that from the student perspective, services such as Erasmus and practical training should not be a luxury, but a given. Finally, one should note that for a Department that prides itself on its technical, industrial and otherwise commercial prowess, a particularly strong performance regarding undergraduate theses and practical training is a must.

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	
Substantially compliant	
Partially compliant	**X**
Non-compliant	

Panel Recommendations

Undergraduate theses deserve a more prominent role in the study program, in line with the present focus on technical experience. They should be able to have a longer duration, possibly spanning the entire 4th academic year, with a corresponding increase in their ECTS units.

It is necessary to accelerate the establishment of a functional practical training scheme in the Physics program.

During the meeting with some of the Department's social and commercial collaborators, the extension of the practical training up to 6 months instead of 2 was suggested. It may be a good idea to implement this proposal when the practical training scheme starts, if permitted by the current legal framework and university rules.

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 recruitment and appointment of new faculty members follows standard, authorized procedures and regulations. The entire Department determines the field of specialization of potential appointees, with proper weight given both to the teaching needs of the Department and the research aspirations of the faculty. Available positions are advertised in the official platform ΑΠΕΛΛΑ. At this time three positions are in the process of being filled.

The Department's teaching staff consists of its faculty, who are all actively engaged in teaching. Due to the many courses involved and the limited number of faculty, they teach 8 hours a week which is on the high side. Additionally, there are two technicians who carry a heavy workload.

Appropriate mobility and opportunities for professional development are available through grants. External faculty members also visit the Department to deliver seminars, or for longer-duration visits, that include teaching. The Department should strive to become more involved with and take advantage of the Erasmus programs. The coupling between teaching and

research is encouraged. In several cases it is formalized by assigning bachelor theses that involve the students doing research supervised by a faculty member.

The technological resources available for teaching are adequate. Innovations in teaching methods involve the acquisition of digital proficiency and the coupling of computer competence to applications.

There is a consistent and continuous process of assessment of the teaching performance of the staff in the form of an electronic questionnaire submitted anonymously by the students. A large fraction of the students who attend lectures submit these evaluations. The Department reviews the results of these evaluations and takes them seriously. Occasionally action is taken to remedy inadequate staff performance.

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

Great importance must be placed on the announcements of new faculty positions. The Department must ensure that the announcements indicate the areas which it wishes to emphasize, in an optimal way which does not unnecessarily exclude highly qualified candidates.

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

As detailed in document B1 of the Department's accreditation proposal, the Department has 7 lecture rooms, 8 laboratory spaces, 2 computer rooms, a larger lecture hall and a library which also contains a study hall. These spaces are at a close distance from one another, thus facilitating access. The Panel visited several of these spaces and received feedback on their functionality from students and staff.

The dimensions of these spaces were deemed appropriate for the present size of the student body, and their state of interior maintenance is satisfactory. A potential future increase in the size of the student body may require expansion of these facilities. Research laboratories need more space; nevertheless, they are well kept and functional. The advanced teaching labs have a partial shortage of equipment, and as a result several experiments are substituted by simulations; technical personnel for the laboratory are limited to only 2 persons, which is not

satisfactory. Also, acquisition of consumables runs into severe budgetary and administrative limitations.

Computer rooms are satisfactorily equipped; they are used for related courses, however no further access to these rooms is granted to students. There is no dedicated IT technician in the Department, a major omission given the importance of computing infrastructure. A major IT infrastructure in the Department is a "GRID" node for high performance computing and storage, connected to the network of such nodes centered at the European Laboratory for Nuclear Research (CERN).

The library contains an essential, but not very extensive, collection of Physics books, and has a rather tight budget for new purchases; however, there is, in addition, access to a large selection of electronic books, and to all major journals in the field. The opening hours of the library do not include evenings; also, students can only enter to borrow pre-ordered books, and cannot peruse them off the shelves. The study hall, which is much used by students, is spacious enough for the present size of the student population; however, it is not accessible in the evenings and weekends.

As regards student-centered learning, the Department is aware of the different issues at stake and the variety of approaches which can be employed. Many efforts in this direction are outlined in detail in the Department's accreditation proposal (B1) and in the course descriptions (B12). Provisions for students with disabilities, as well as for part-time students, are satisfactory; furthermore, there is some availability of grants for students in need (900 € / student).

Exterior maintenance is greatly needed for the whole campus. As discussed with the Head and with staff of the Department, there are legal and budgetary obstacles to obtaining permits for exterior maintenance work, and efforts are being made to overcome these obstacles.

The campus also contains several other facilities: dormitories, a dining hall, and indoor/outdoor sports infrastructure. While the schedule of the Panel did not allow visiting these facilities, a detailed discussion with students, as well as separately with staff, led to the following findings: Dormitories are in acceptable conditions, albeit in need of maintenance, but their number is limited (300 rooms for the whole Kavala campus whose total student population is ~4000) and very few Physics students (~10) presently use them. Dining was rated as satisfactory, in terms of quality, variety and price of meals. The indoor sports facilities are presently closed due to major structural problems with the building, and due to a lack of sports staff. Outdoor sports fields are operational in part but lack sufficient upkeep.

There are a variety of services available to students, including: An academic advisor, a career-related service (Δομή Απασχόλησης και Σταδιοδρομίας), a liaison to the job market (Γραφείο Διασύνδεσης), a student welfare service, as well as the "Student's Advocate" (Συνήγορος του φοιτητή). The existence of all these services is made known to students through orientation and online information. From the Panel's contact with students and staff, it appears that the concept of the academic advisor has been functioning well; students turn frequently to the advisor assigned to them for counselling on various issues, with satisfactory outcomes. Students also commended the accessibility and useful advice obtained from departmental staff. The remaining services are not used very frequently.

One important service available to students regards the Erasmus program: There is an Erasmus office of IHU, located at the Kavala campus, and one staff member of the Department who acts as an Erasmus coordinator. During the Panel's discussion with student representatives, considerable criticism was directed towards the Erasmus office for ignoring recent student applications. Apparently the COVID-19 pandemic is still used as a pretext, even during the present post-pandemic period.

A satisfactory collection of online services is available to students and staff: VPN (for remote access to the Department's electronic facilities), Turnitin (for detecting possible plagiarism in documents), Electronic Secretary (for processing requests from the administration), E-class (multifunctional support for courses), Εύδοξος/HEAL-Link (access to electronic books and journals).

In terms of cultural facilities, there is a cultural activity hall (Πολιτιστικό Στέκι), conveniently located next to the dining hall, with an increasing use for activities such as folk dancing. The range of cultural activities on campus is quite limited; however, there are efforts and signs of improvement in this respect. In addition, some cultural activities of scientific content, organized by the Physics Department, are worth mentioning; they regard the forming of activity groups for interested students, on the subjects: Astronomy, Biophysics, Chaos, Time Travel.

In conclusion, facilities for teaching, including laboratories, are by-and-large sufficient and of good quality. The services provided to students are also more or less acceptable but require improvement. Specific issues to be resolved are:

- Extensive maintenance of buildings, especially on the exterior, including walls, roofs, pathways, and toilets.
- The acquisition of equipment needed for advanced teaching laboratories must be given very high priority.
- Reopening of indoor athletic facilities and maintenance of outdoor facilities.
- Increased access of students to computer labs, library, and study areas; measures in this direction will also encourage more social activity on campus.
- Ensure that the IHU Erasmus office at the Kavala campus carries out its duties in a satisfactory and competent manner.

Panel Judgement

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

Panel Recommendations

It is the Panel's recommendation to address all issues mentioned in the above conclusion without unnecessary delay.

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

The Department is well-organized in terms of data collection regarding the student body and student progression. Several quality indicators are applied to this data on a regular basis, and they have been well documented in the accreditation proposal (e.g., "Quality Indicator" files from 2018 on). Given that this Department is only 3 years old, there are still no graduates and thus drop-out rates, and the career paths of graduates can only be examined in years to come. The Department is intent on maintaining close contact with its graduates, and this will have to be verified in a future evaluation.

As regards teaching methods, one relevant collection of data comes from the electronic evaluation questionnaires which students fill out at the end of each course (document B16 in the proposal); this questionnaire is very well structured, and it is conformant to standard international practice. The percentage of students who fill it out is not exceedingly low, but still needs to increase further. Cumulative results from past questionnaires were presented to the Panel, showing a relatively high degree of student satisfaction on the various points raised in the questionnaire on average. At the same time, a breakdown of results per course is essential and much more useful; indeed, students have expressed grievances to the Panel, related to particular courses, and it is clear that for such courses the questionnaire can help the Department review aspects of teaching with the corresponding instructor.

Staff satisfaction is typically monitored in departmental meetings. Given the small size of the Department, specific problems can be identified with relative ease.

Some data (e.g., regarding availability and accessibility of resources) is well known to the Department (given its small size), obviating the need for surveys at the departmental level.

Regarding the employability of its students, the Department is well-informed on several employment opportunities in the local job market. However, a more concerted effort for data collection relative to national and international employment opportunities (in research, industry, public/private instruction, etc.) would be very beneficial to students, and serve as useful information for advertising career prospects to newcomers. On a similar vein, data regarding opportunities for graduate education should be collected and frequently updated.

Conclusions:

Collection and analysis of various data is performed satisfactorily on a regular basis.

The use of course evaluation questionnaires is also satisfactory, but the response rate needs to increase. In addition, at present the Department does not have a formal procedure for discussing, with the corresponding instructors, issues that arise in courses which receive poor evaluations.

Employability for its future graduates is a matter of great importance for the Department.

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

Implement means for increasing the use of the course evaluation questionnaire (e.g., allocate a few minutes in a lecture towards the end of the semester for this purpose).

Establish an accepted procedure whereby the Department can review teaching methods with the instructor of each course, making use of the results from course evaluation questionnaires (with due attention to confidentiality and academic freedom). It is desirable that a faculty member (ombudsperson) be available toward the end of each semester, to receive confidential recommendations from students for improving the teaching of courses.

Regularly collect information from qualified sources regarding new teaching methodologies appropriate for each taught course.

Collect data regarding opportunities for employment and for graduate studies of its future graduates at local, national, and international level; perform periodic updates of such data.

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

A major source of publicly available information regarding the Physics Department is provided in its web pages, both in Greek and English. The Greek version is quite thorough, up-to-date, and easy to navigate. It includes a lengthy and detailed description of all courses offered. Some practical information (accommodation, public transport) is missing or not easily accessible.

The English version of the webpages needs a thorough revision; some translations, especially those involving Physics terminology are inaccurate, and items such as course descriptions are missing. This issue must be addressed with due priority, given its importance for international visibility and for the Erasmus program.

Further sources of information, accessible to faculty and students, is provided by appropriate electronic means, such as: "Electronic Secretary", "E-class", "Εύδοξος", "HEAL-Link". These facilitate the processing of administrative tasks, course grading, book/article retrieval, etc.

Other information material (e.g., brochures, posters, newspaper announcements) is not currently in use; such material would be important for informing interested parties such as prospective students and their families, prospective employers, or for the bulletin boards of Erasmus collaborating institutes, etc.

Effective advertising of the Physics UGP also requires other means of outreach, such as Open Days on campus for high school students, visits to high schools, science festivals, etc. The Department realizes the importance of such activities and has already implemented them to some extent; their enhancement is of prime importance, given the lack of information among prospective students, regarding the study of Physics and its career prospects.

To conclude, the presentation of the Physics Department in the Greek version of its online portal is quite detailed and accurate, requiring some enrichment; however, its English version is incomplete, and some Physics terminology is inaccurate.

Other sources of information on the Department, such as printed material, visits to high schools, and invitation of prospective high school students on campus must be further enhanced.

Panel Judgement

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

Panel Recommendations

A staff member should be appointed responsible for frequent updates of the online portal, to alleviate the workload of the Department Head.

The translation in English of all permanent webpage material must be completed and corrected; given the accuracy required, especially as regards the sizable course descriptions, this task should be assigned / outsourced to a dedicated person, acquainted with Physics terminology.

The Panel recommends enhancing other means of making the Department known, locally and abroad, via printed information material, and activities on campus or in high schools.

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 Department has adopted a very detailed and convincing plan for annual internal review, presented in document B1 of the accreditation proposal. According to the plan, appropriate Departmental committees (primarily OMEA) have been established, in charge of carrying out this task.

Properly documented outcomes of the internal reviews are communicated to the Department, and then duly submitted to the QAU/MODIP.

The Department appreciates fully the diverse aspects that such reviews must involve, and has formulated concrete procedures for producing, communicating, and implementing action plans which result from the reviews.

Corroborating evidence for the seriousness with which the Department addresses reviews and resulting recommendations is provided in documents B15 (Results of internal review of the new Physics UGP, 23.03.2022) and B25 (A progress report on implementation of recommendations stemming from external evaluation of IHU). Several actions have resulted from such recommendations; document B9 provides a description of such actions, along with corresponding timelines. Since the Department is still very young, many of these actions

necessarily have not yet been carried out to completion; nevertheless, actions already initiated, which are related to teaching and learning outcomes, have brought concrete results.

In conclusion, the Department's handling of internal reviews is commendable. Establishment of departmental committees and procedures, detailed breakdown of aspects of the review, systematic implementation of review recommendations, and concrete examples of improvements resulting from such implementation, have been convincingly presented to the Panel.

Panel Judgement

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

Panel Recommendations

Given that many goals and action plans have timelines (see document B9) past the date of the present review, it will be important to monitor their successful realization in the coming months.

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 undergraduate Physics program of the International Hellenic University was initiated in 2019. This is the fourth year the program has been in operation, and it will produce its first graduates at the end of this academic year.

Being a new program, so far, it has not undergone evaluation or accreditation by any external panel. A review of its program is being undertaken by the present Panel and has as its purpose to advise the HAHE about the program's accreditation, as well as to suggest ways to upgrade the Department's program. The Department has carefully prepared for this evaluation with appropriate documentation and presentations since it is very much aware of the importance of the external evaluations of its program. It is willing to implement any recommendations that result from this evaluation. Similarly, the institution's stakeholders whom the Panel interviewed are very interested in the Department's prospering and producing graduates who can easily be absorbed by the local economy.

Assuming this program is now accredited it is understood the Department will subsequently undergo regular external reviews organized by HAHE and will revise its program accordingly.

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

The Panel is satisfied with the Department's cooperation with the present accreditation procedure.

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.

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 students from the TEI era who did not graduate before their program was discontinued have a three-year grace period as of now to fulfil the new requirements put in place at that point in time that will enable them to obtain a university degree in engineering from IHU. A detailed plan for this transition has been prepared by the Physics Department and IHU's MODIP. This involves appropriate course work to bring them up to the level of university engineering graduates. Special provisions have been made for the practical training of students in the pre-existing TEI Electrical Engineering program. The Physics Department actively assists these students with tutorials and make up laboratories for them to complete their electrical engineering degree requirements.

As concerns the Physics Department's majors, they have no relation to the previous TEI period. The physics program that was initiated three years ago is in a different field and involves students entering the university as first year physics majors. At present the physics and engineering programs run in parallel. There is no mechanism for engineering candidates to transfer to the physics program, given the disparity between the two fields of study.

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.

The Panel recommends that the Department continue supporting the engineering students who are in the process of satisfying their degree requirements.

PART C: CONCLUSIONS

The Physics Department undergraduate program evaluated by this external Panel began functioning three years ago. The TEI Electrical Engineering department at Kavala was discontinued in February 2019, and in its place, like the fabled phoenix in Greek mythology, the faculty and staff of the discontinued TEI department, its academic buildings and its multi-million-euro state of the art research facilities were used to set up the first physics department in North Eastern Macedonia and Thrace.

When its fourth-year students graduate at the end of this academic year it will symbolically complete the transition from a TEI electrical engineering department's curriculum, offering engineering degrees, to a university physics department's curriculum, offering physics degrees to students who will have taken the standard required physics courses and a range of electives.

To conclude, here at Kavala, the Panel has studied the transition of an electrical engineering TEI department, to a physics department of university level. The Physics Department has taken a curriculum of courses, the experimental infrastructure, as well as the faculty of the TEI, but a University Physics Department needs a broader course curriculum in Material Science, Quantum Mechanics, etc., which the Department has incorporated into its curriculum. In addition, the faculty has expanded and continues with additional personnel to cover the new required courses. The Department has retained the practical student training that the surrounding area very much appreciates. The Department's commercial and other collaborators informed the Panel that they hope the technical element will be preserved.

To its credit, the Department has managed to combine pre-existing practical student training with applications in advanced subjects including material science, and the application of IT to sophisticated problems of electronics, energy, and the environment.

I. Features of Good Practice

- The content of the courses and the overall structure of the course curriculum is very satisfactory and conforms to international physics program standards. It is commendable that the transition from the old electrical engineering TEI program to the new one was achieved in a rather short period of time.
- The level of instruction is satisfactory. Student–oriented teaching methods are in place, with students praising the professors' dedication.
- Student supervision is very good, and professors are available when needed.
- There is a large variety of advanced research equipment that can also serve for student thesis projects.
- Extracurricular scientific activities provide enhanced interest and motivation to the students of the Department.
- Faculty are inventive when problems occur.

II. Areas of Weakness

- Advanced teaching laboratories (optics, atomic/nuclear) lack basic instrumentation and consumables.
- Many facilities are in urgent need of maintenance (see Principle 7).
- Supporting facilities are not adequate (dormitories, sports facilities).
- There is a lack of a sufficient number of faculty, technicians, and support staff.

III. Recommendations for Follow-up Actions

- Great importance must be placed on the announcements of new faculty positions. The Department must ensure that the announcements indicate the areas which it wishes to emphasize, in an optimal way which does not unnecessarily exclude highly qualified candidates.
- The range of elective courses should be decreased, considering the available research equipment and the research areas which the Department decides to emphasize.
- It is necessary to accelerate the establishment of a functional practical training scheme in the Physics program.
- The English versions of webpages and documents must be reviewed and corrected.
- Systematize accurate, fact – based information about employment opportunities and graduate studies and diffuse this information present and prospective students.
- Intensify outreach activities, addressed to high school students, potential employers, other stakeholders, and the community at large.
- The University Erasmus office should revitalize the international exchange program.

IV. Summary & Overall Assessment

The Principles where full compliance has been achieved are: **1, 10, 11, and 12.**

The Principles where substantial compliance has been achieved are: **2, 3, 4, 6, 8, and 9.**

The Principles where partial compliance has been achieved are: **5 and 7.**

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

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

The members of the External Evaluation & Accreditation Panel

Name and Surname **Signature**

1. **Professor Emeritus Harry Mavromatis (Chair)**
   American University of Beirut

2. **Professor Emeritus Emmanuel Paschos**
   Technische Universität Dortmund

3. **Professor Haralambos Panagopoulos**
   University of Cyprus

4. **Mr. Dimitris Paizis Radojkovic**
   University of Crete