



**ΕΛΛΗΝΙΚΗ ΔΗΜΟΚΡΑΤΙΑ**  
HELLENIC REPUBLIC



**Εθνική Αρχή  
Ανώτατης Εκπαίδευσης**  
Hellenic Authority  
for Higher Education

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

## Environmental Engineering

**Institution: International Hellenic University**

**Date: 4 February 2023**



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 of **Environmental Engineering** 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 External Evaluation & Accreditation Panel**

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

- 1. Professor Emeritus Spyros Pavlostathis (Chair)**  
Georgia Institute of Technology, Atlanta, GA, USA
  
- 2. Professor Emeritus Panagiotis (Pete) Scarlatos**  
Florida Atlantic University, Boca Raton, FL, USA
  
- 3. Associate Professor Seraphim Alvanides**  
Northumbria University, Newcastle, UK
  
- 4. Mr. Antonios Samiotakis**  
Member, Technical Chamber of Greece, Athens, Greece
  
- 5. Mr. Efthymios Kechagias**  
Student, Department of Mechanical Engineering,  
University of West Macedonia, Kozani, Greece

## II. Review Procedure and Documentation

In preparation for the visit, the External Evaluation & Accreditation Panel (EEAP) reviewed multitude of material provided by the Hellenic Authority of Higher Education (HAHE), which included background information and guidance on the accreditation process, detailed material and data related to the programme under evaluation, such as the programme accreditation proposal and associated appendices.

The program review was conducted via teleconference (Zoom), organized and coordinated by HAHE with the help of the Department of Environmental Engineering, International Hellenic University. The schedule and agenda of the review were as stated below:

### Monday, 30/01/2023:

- a) Preliminary private meeting of the EEAP.
- b) Welcome meeting and short overview of the undergraduate programme (UP) with the vice-Rector/President of MODIP Prof. K. Markidou and the Head of the Department Prof. D. Konstantinidis: presentation of Department history, academic profile, current status and future developments, strengths and areas of concern.
- c) Meeting with MODIP member Prof. V. Grammatikopoulos and MODIP staff Ms. M. Tsantouka, OMEA members Profs. P. Mentzelou, K. Anagnostopoulos, S. Galinou-Mitsoudi, and OMEA member student representative Mr. S. Nanis: discussion of degree compliance of the UP to the quality standards for accreditation, internal procedures, course examinations, review of students' progress, and course/instructor evaluations.
- d) Private debriefing (EEAP members only).

### Tuesday, 31/01/2023:

- a) Discussion with faculty I. Savvidis, D. Konstantinidis, E. Keramaris, M. Syrpi, F. Antoniou (Department Erasmus coordinator), A. Leousidis (Department chair of internship committee), T. Papaliangkas, and G. Pechlivanidis).
- b) Discussion with 1<sup>st</sup> to 4<sup>th</sup> academic year undergraduate students.
- c) On-line tour (video) and discussion of Department facilities, such as classrooms, laboratories, faculty and staff offices, secretariat, as well as University library and other campus facilities. Participating staff: Dr. T. Zelka, head of secretariat, and Mr. I. Gkizaris, secretariat responsible for student affairs. Participating faculty: I. Savvidis, D. Konstantinidis, K. Anagnostopoulos, S. Galinou-Mitsoudi, P. Mentzelou, E. Keramaris, M. Syrpi, F. Antoniou, A. Leousidis. Participating EDIP members: A. Liolios, and S. Mentekidis.
- d) Discussion with employers and social partners from both private and public sector: Mr. K. Gioutikas, Deputy Regional Governor of Central Macedonia/Development and Environment; Mr. G. Tselepis, General Secretary of the Hellenic Association of Biogas Producers; Dr. G. Konstantinidis, Director of Business Planning of Thessaloniki Metro, Attiko Metro S.A.; Mrs. E. Diamanti, Head of Department of Environmental Structures Projects, Region of Central Macedonia.
- e) Discussion with OMEA and MODIP members and staff on points needing clarification relative to Internal Quality Assurance System and procedures followed by the Institution and the Department. Participating faculty OMEA members: P. Mentzelou, K. Anagnostopoulos, S. Galinou-Mitsoudi; Mr. S. Nanis, OMEA member student

representative; V. Grammatikopoulos, MODIP member; and Mrs. M. Tsantouka, MODIP staff.

- f) Private debriefing (EEAP members only): discussion of findings and assignment of writing parts of the accreditation report draft to the members of the EEAP.

Wednesday, 01/02/2023:

- a) Private EEAP members meeting.
- b) Draft report writing.

Thursday, 02/02/2023:

- a) Final, closure meeting with the vice-Rector/President of MODIP, Head of the Department, OMEA, and MODIP members and staff: informal presentation of the EEAP key findings.
- b) Private EEAP members meeting: further discussion of findings and progress on the accreditation report draft.

Friday, 03/02/2023:

Report writing.

Saturday, 04/02/2023:

EEAP meeting: Review and finalization of report draft.

Throughout the review and evaluation process, the EEAP was in close communication with the Head of the Department, who was very accommodating in providing additional information requested by the EEAP. The EEAP found that OMEA and MODIP representatives, as well as the faculty, students, and staff interviewed were eager and helpful in our discussions, providing all additional information requested by the EEAP.

### **III. New Undergraduate Study Programme in operation Profile**

The Department of Environmental Engineering, as part of the creation of the International Hellenic University, was established in 2019 (Law 4610/2019; Official Gazette 70/A/7.05.19) by the transfer of faculty and staff members of the Civil Engineering Department, Alexandrian Technological Educational Institute of Thessaloniki to the new Department. In addition to the Department of Environmental Engineering, the School of Engineering at the Alexandria/Sindos Campus of the International Hellenic University includes the following departments: Mechanical Engineering, Topography and Geoinformatics Engineering, Computer and Telecommunications Engineering, Informatics and Electronic Systems Engineering, Production and Management Engineering. The Department of Environmental Engineering has two sections/sub-specialties: a) Built Environment and Management; and b) Hydraulics and Geo-Environmental Engineering. The Department has 12 permanent faculty, 16 non-tenure teaching faculty, and 2 administrative staff.

The number of admitted students per academic year set by the department is 110. However, 60 and 66 students were admitted in the academic year 2021-2022 and 2022-2023, respectively, due to the admission basis set by the Ministry of Education and Religious Affairs. According to Department data, 94% of admitted students had selected the new department as their 1<sup>st</sup>, 2<sup>nd</sup>, or 3<sup>rd</sup> choice; 88% of admitted and matriculated students are actively participating in the study programme.

The undergraduate program is a five-year study resulting in a Diploma. The curriculum includes ten (10) semesters of study, of which nine (9) semesters are related to course instruction and the last semester involves preparation of a diploma thesis. To obtain a diploma, the student must have successfully passed a total of fifty-four (54) courses and prepare/complete a diploma thesis. The 54 courses are distributed as follows: 10 general background, 20 required engineering, and 24 specialization courses. In order to obtain the diploma, the student must accumulate a total of three hundred (300) European Credit Transfer System (ECTS) credits, of which two hundred and seventy (270) credits are from the coursework and thirty (30) credits are from the diploma thesis. For graduates of the Department who have successfully completed four (4) semesters and have taken a set of specific courses from a designated list, a Certificate of Digital Skills may be granted. A large number of elective courses are available. The EEAP found that the curriculum is extensive but needs further development and restructuring with less focus on Civil Engineering and a greater focus in areas more closely related to the field and practice of Environmental Engineering.

The Department prepares graduates for careers in both the private and public sector of the economy. There are strong links to the society, Industry, and administration, both in the Region of Central Macedonia and beyond, which are key priority of the Department.

## 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

NOTE: In commenting on the programme compliance relative to the various elements of Principle 1 (i.e., elements *a* through *g*), and to avoid repetitions, when applicable, reference to comments in individual Principles (i.e., Principle 2 through 12) is made.

### ***a. The academic profile and the mission of the academic unit***

The Department of Environmental Engineering, as part of the creation of the International Hellenic University, was established in 2019 (Law 4610/2019; Official Gazette 70/A/7.05.19) by the transfer of faculty and staff members of the Civil Engineering Department, Alexandrian Technological Educational Institute of Thessaloniki to the new Department. The mission of the Department is to produce well-educated Environmental Engineers, conduct research that advances the science of Environmental Engineering, and impart expertise that serves societal needs. The scientific field of the Department is included in the internationally established scientific fields of Higher Education designated by UNESCO (International Standard Classification of Education – Fields of Education and Training 2013; ISCED-F 2013) (See also Principles 2, 3).

### ***b. The strategy of the Institution for its academic development***

The strategy of the operation of the Department of Environmental Engineering as well the development of the study programme is fully harmonized with the strategy of the Institution. The design of the programme study took into account the national and international experience as well as societal and research needs related to the broader area of the environment, leading to a comprehensive education of Environmental Engineers at the undergraduate level, but also to specialization at postgraduate level studies and the advancement of research related to the field of Environmental Engineering. Curricula of similar programmes in Greece and abroad were examined. For the development of the programme study, institutional, economic, developmental, as well as societal factors were considered. A SWOT analysis was conducted (See also Principles 2, 3).

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

As mentioned in section ***b. The strategy of the Institution for its academic development***, above, institutional, economic, developmental, as well as societal factors were considered for the development of the Department and its programme study. In particular, the supply and demand of Environmental Engineers in the immediate area, Central Macedonia Region, as well as in Greece and Europe was analysed, showing an increasing demand for Environmental Engineers, thus justifying the development of the new Department. The development and operation of the Department is consistent with and supportive of the Central Macedonia Region development vision. Relative to other similar programmes, the new Department is differentiated by its unique focus on the built environment and management and geo-environment, areas in which the faculty have long experience. However, with the creation of the new Environmental Engineering programme, restructuring of the study programme with less focus on Civil Engineering and a greater focus in areas more closely related to the field and practice of Environmental Engineering is required and essential for the successful development of the programme in terms of student education and training as well as research conducted. In addition, the Alexandria/Sindos campus is in close proximity to the Industrial Park of Thessaloniki, one of the largest industrial zones in Greece. The campus proximity to a multitude of industries offers lots of opportunities to the students for educational visits as well as for hands-on, realistic internships (See also Principles 2, 3, 5).

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

The general needs of infrastructure and support of the Department of Environmental Engineering students are covered by the Institution within the Alexandria/Sindos campus. The Department has four (4) classrooms, an auditorium/small amphitheatre, and has access to other campus facilities. The Department has eight (8) laboratories. The laboratories and the laboratory equipment are sufficient and adequate for the instructional needs of the students. However, given the anticipated increasing research activity and expansion in new research areas, it is necessary to replace some of the equipment with more modern and specialized units. The Department has 12 permanent faculty, 16 non-tenure teaching faculty, and 2 administrative staff. In addition, several academic scholars and PhD candidates contribute to the educational mission of the Department. Filling of future faculty positions resulting from retirement as well as new positions in academic/research areas more closely related to Environmental Engineering have been identified, will be soon prioritized by the Department General Assembly, and submitted for Institutional approval and announcement/advertisement. Faculty members carry externally funded research projects, directly related to the environment. Funding of research projects is secured from competitive national and international sources as well as industrial foundations and industry (See also Principles 6, 7, 8).

***e. The structure of studies***

The undergraduate program is a five-year study resulting in a Diploma. The curriculum includes ten (10) semesters of study, of which nine (9) semesters are related to course instruction and the last semester involves preparation of a diploma thesis. To obtain a diploma, the student must have successfully passed a total of fifty-four (54) courses and prepare/complete a diploma thesis. The 54 courses are distributed as follows: 10 general background, 20 required engineering, and 24 specialization courses. In order to obtain the diploma, the student must accumulate a total of three hundred (300) European Credit Transfer System (ECTS) credits, of which two hundred and seventy (270) credits are from the coursework and thirty (30) credits are from the diploma thesis. For graduates of the Department who have successfully completed four (4) semesters and have taken a set of specific courses from a designated list, a Certificate of Digital Skills may be granted. A large number of elective courses are available. The EEAP found that the curriculum is extensive but needs further development and restructuring with less focus on Civil Engineering and a greater focus in areas more closely related to the field and practice of Environmental Engineering. The Curriculum is based on learning outcomes specified in each course syllabus, the quality of teaching and research, as well as the use and integration of technology to improve teaching-learning processes. A number of published internal regulations exist for all aspects of course and laboratory delivery, examination, and grading, laboratory exercises, preparation of diploma thesis, etc. Modes of teaching include theory, practice exercises, laboratory exercises, homework, and individual or group study assignments. The students' performance and grading are a combination of end of semester examination and other assignments as mentioned above. Practical training is not required, but students can choose to embark in such activity, typically during the Summer. As mentioned in section **a**, above, the mission of the Department is to produce well-educated Environmental Engineers, conduct research that advances the science of Environmental Engineering, and impart expertise that serves societal needs. To a large extent the Department fulfils its role in imparting knowledge and skills to its graduates but lacks teaching and training in several areas integral to the field of Environmental Engineering as mentioned in sections **c** and **d**, above. Improving the graduates' competence will facilitate obtaining professional

rights. The Department is aware of the specific knowledge and skills for Environmental Engineers put forth by the Pan-Hellenic Association of Environmental Engineers, as well as by two Departments of Environmental Engineering in Greece (Democritus University of Thrace and Technical University of Crete), which will aid in the restructuring of the study programme (See also Principles 3, 6).

***f. The number of admitted students***

The undergraduate program is a five-year study resulting in a Diploma. The number of admitted students per academic year set by the Department is 110. However, 60 and 66 students were admitted in the academic year 2021-2022 and 2022-2023, respectively, due to the admission basis set by the Ministry of Education and Religious Affairs. According to Department data, 94% of admitted students had selected the new department as their 1<sup>st</sup>, 2<sup>nd</sup>, or 3<sup>rd</sup> choice. The proposed number of students over a five-year period is 600 (120 x 5) (See also Principle 5). Student transfers from/to similar departments of other Greek Higher Education Institutes cannot yet be made.

***g. Postgraduate studies and research***

The Department offers/participates in three postgraduate study programs: a) Design, and Construction of Technical Projects (offered by the Department); b) Health and Environmental Factors (jointly with the Department of Medicine of the Aristotle University of Thessaloniki (AUTH), the Department of Medicine of the Democritus University of Thrace (DUTH), and the Department of Geology of the AUTH); and c) New Materials and Technologies in the Design of Structural Constructions (jointly with the Department of Civil Engineering of the DUTH). The Department supports doctoral studies by itself and/or in collaboration with other Greek Universities. The faculty carry research projects of national and international scope/needs based on the laboratory facilities and resources of the Department as well as in collaboration with other Universities and Research Centres. It is commendable that the Department has developed a large number of collaborative research programs. However, consistent with the suggested restructuring of the study programme with less focus on Civil Engineering and a greater focus in areas more closely related to the field and practice of Environmental Engineering (See also Principles 3, 6, 7), the research activity should and is expected to be more in areas of research consistent with the field and practice of Environmental Engineering. Overall, the research output of the Department should and is expected to increase (See also Principle 6).

## Panel Judgement

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

<b>Principle 1: Strategic planning, feasibility and sustainability of the academic unit (overall)</b>	
Fully compliant	
Substantially compliant	✓
Partially compliant	
Non-compliant	

### **Panel Recommendations**

To avoid repetitions, where appropriate, specific recommendations are made for the remaining Principles that follow.

## 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**

The International Hellenic University secured certification of their Internal Quality Assurance System (IQAS) by the External Evaluation and Certification Committee of HAHE: <https://www.ihu.gr/modip/wp-content/uploads/sites/5/2021/11/Final-Accreditation-Report-IQAS-IHU.pdf>

According to the data presented to the EEAP, the Institution develops and implements their Quality Assurance Policy as part of its broader strategy. The past three years the University has applied this policy at the new undergraduate curriculum of the Department of Environmental Engineering, accompanied by annual quality assurance targets for the continuous development and improvement of the academic unit and teaching programme. The

Development Strategy and the Quality Policy of the University, as well as the responsibilities of the Quality Assurance Unit (MODIP), the structure of the IQAS and the Quality Manual of the Institution are publicly accessible from the main website of the Institution: [www.ihu.gr](http://www.ihu.gr)

The Quality Assurance Policy of the academic unit includes adequate reference to the delivery of the new undergraduate programme, including commitments to satisfy requirements and strive for continuous improvement. There are explicitly recorded in the four-year Business Plan of the academic unit and also in the Programme of Study. Continuous improvement is promoted via a dedicated webpage on the University's website. The Quality Assurance Policy is sufficiently communicated to all parties involved as it is publicly available via the main University website, as well as via the Departmental webpage. However, both these websites point to Quality Assurance Policies that are only available in Greek. The academic unit has set specific, measurable, achievable, relevant and timely goals regarding the new undergraduate programme, and according to their Quality Target for the Programme they are at a satisfactory point in terms of achieving the required targets. Based on the data presented to the EEAP, the targets are also paired with suitable key performance indicators (KPIs). Goals are monitored, updated, and communicated, according to the Quality Assurance Policy implemented by the Institution and the academic unit.

### Panel Judgement

<b>Principle 2: Quality assurance policy of the Institution and the academic unit</b>	
Fully compliant	
Substantially compliant	✓
Partially compliant	
Non-compliant	



## **Panel Recommendations**

**2a)** The Department should consider the curriculum and areas covered by the other two departments of Environmental Engineering in Greece: Democritus University of Thrace and Technical University of Crete.

**2b)** As part of the quality assurance process, continuous evaluation and improvement, the Department should initiate a dialogue with the Pan-Hellenic Association of Environmental Engineers (PASDMIP).

**2c)** The Department should initiate a dialogue with the other two departments of Environmental Engineering in Greece in order to facilitate exchange of good practices and academic/professional experiences. This kind of engagement would help the academic unit to enrich their Programme by covering both the breadth and the depth of the subject areas expected from Environmental Engineers. Such initiatives would also support the important aim of the academic unit to secure recognition of the graduates as qualified Environmental Engineers by the Technical Chamber of Greece (TEE), and to grant them the corresponding professional rights.

### **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 undergraduate programme has been designed with the aim to be harmonized with corresponding European Environmental Engineering programmes. The Greek and European standards concerning higher education have been taken into account. The feasibility study

presents in detail the objectives of the program, the process and the intended training results that graduates are expected to have.

The undergraduate programme is revised regularly every two years. The Department curriculum committee responsible for the programme revision process takes into account data from OMEA, MODIP, student course evaluation and external experts, such as scientific associations, etc. In addition, the committee, if deemed necessary, can propose additional revisions even after every semester.

The study guide is well structured and clearly articulates all information deemed necessary for the students, such as details of the Institution, the Department, the structure of the program, study regulations, registration process, course enrolment, explanation of ECTS, etc.

In its current structure, the Department consists of two sections/sub-specialties: i) Built Environment and Management and (ii) Hydraulic and Geo-Environmental Engineering. At present, there are two undergraduate programmes: Civil Engineering (TE) of the former TEI, and Environmental Engineering. The former TEI Civil Engineering (TE) programme is supported by the Department till all TEI students have completed their study programme and graduate (See also Principle 12). However, the EEAP has concluded that the Environmental Engineering programme being evaluated here is currently giving too much emphasis on Civil Engineering at the expense of Environmental Engineering. It can be argued that the emphasis on Civil Engineering gives the Department a unique profile compared to similar Departments in Greece, but the issue the EEAP has identified is that such an emphasis has a negative effect on the programme which demonstrates a deficiency in core/compulsory modules that are essential for Environmental Engineers. The EEAP has identified gaps and lack of sufficient depth in processes such physicochemical, biological/biochemical and atmospheric pollution. It is thus considered that the Department curriculum committee make corrective changes, in order to ensure the training of high-level Environmental Engineers consistent with that of the other two Environmental Engineering programmes (Democritus University of Thrace and Technical University of Crete), as well as the areas of competence set forth by the Pan-Hellenic Association of Environmental Engineers (PASDMIP).

### Panel Judgement

<b>Principle 3: Design, approval and monitoring of the quality of the new undergraduate programmes</b>	
Fully compliant	
Substantially compliant	
Partially compliant	✓
Non-compliant	

### **Panel Recommendations**

**3a)** The Department should consult the curricula of the two Environmental Engineering departments in Greece, namely, Democritus University of Thrace and Technical University of Crete, in order compare the thematic areas offered with the current curriculum at IHU and assist in the restructuring of the undergraduate programme.

**3b)** The Department should complete a thorough review of the current curriculum and critically assess core/compulsory modules related to Civil Engineering with the view of changing them to non-core/electives for Environmental Engineering students.

**3c)** The Department should enrich the curriculum with core/compulsory Environmental Engineering modules focusing on physicochemical and biological/biochemical processes, solid waste management, pollution prevention, restoration of polluted natural systems, atmospheric pollution, to name a few.

**3d)** During the proposed reform and restructuring, the Department curriculum committee should also consider views from professionals in the labour market, and also the areas of competence set forth by the Pan-Hellenic Association of Environmental Engineers (PASDMIP).

## **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**

The Department has adopted and is following a strong student-centered teaching approach. Students are exposed to a variety of flexible learning paths delivered by lectures, laboratories, individual and group work assignments, seminars as well as library and over-the-web literature reviews.

There is an active student involvement in the learning process as it was clearly indicated during the student interviews. The student-teacher relation is very good since the students are treated by their professors as future professionals and not just students pointed out by the students during the interview with the EEAP. Overall, the students were very satisfied and enthusiastic by all aspects of their academic experience.

The criteria and methods of assessment of student performance in their assignments, are posted in advance on the Department's web site along with other coursework pertinent information.

In order to ascertain the teaching effectiveness, each semester before the final examination period, students are filling out an electronic questionnaire rating the courses that they have taken during the running semester, along with anonymous comments relative to the course material covered, the instructor's competence, or other comments relative to teaching and laboratory resources. The rating is from a 5 (excellent) to 1 (poor) scale. Those data are

collected and analysed by the Department OMEA and communicated to the Institution MODIP so that any worrisome trends to be identified and properly addressed.

The progress and overall welfare of all students from the time they enter the Department until they graduate is monitored by their academic advisor. The academic advisor of each student is a faculty member assigned by the Department at the beginning of the student's first semester of study, but the student can ask for another faculty member in subsequent semesters. The academic advisor is always available to support and guide the student throughout the programme study till graduation.

The above findings were collected from a variety of sources including detailed documentation provided by HAHE and the Department, and very informative discussions with the administration, faculty, students and representatives of external employers and stakeholders. The enthusiasm, optimism and support for this new program of all participants in the EEAP interviews is a testimony that the Department is on the right track for success.

Graduates from student-centred programs, like this new Environmental Engineering programme, have the potential and it is very likely to become vibrant assets for the Greek socioeconomic conditions by contributing to the protection and restoration of the natural and built environment.

### Panel Judgement

<b>Principle 4: Student-centred approach in learning, teaching and assessment of students</b>	
Fully compliant	✓
Substantially compliant	
Partially compliant	
Non-compliant	

### Panel Recommendations

There are no specific recommendations.

## **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**

To ensure a smooth transition of new students, from the secondary education to the University, the Department during the first two weeks of the academic year organizes the Student's Welcome Day. During this event, newcoming students are given the opportunity to inquiry and learn everything about the life, personnel, and services available in the campus.

The student's academic progress is continuously monitored based on their class participation, laboratory exercises, practical projects, work assignments, and the progress and final examinations. Student admission, progression, recognition of academic qualifications and

award of degrees and certificates is very effectively and efficiently being handled in this new program.

Student mobility is encouraged. Presently the only venue for mobility is through the ERASMUS program. The Department maintains an office with a dedicated faculty for ERASMUS in coordination with the University ERASMUS office.

The ECTS is applied throughout the curriculum. A total number of 300 ECTS is required for graduation. The Diploma Supplement, both in Greek and English, is issued for all graduates free of charge and without request. For uniformity and quality assurance of the Diploma Thesis, there is a template and detailed guidelines in the Thesis Handbook. All of the above information is provided in the Student's Guide Handbook and is readily available in the Department's website. There is not any formal provision for practical training of Environmental Engineering students. However, there is a good synergy between the Department and the local community that could lead to extracurricular opportunities for undertaking practical training.

All of the above information is available in detail in the study proposal and other documents submitted by the Department to HAHE and made available to the EEAP. In addition, the above-mentioned information was further supported and enhanced through the discussions of the EEAP with the administration and faculty members. Community leaders working in the environmental area were very interested in and supportive of this new program.

### Panel Judgement

<b>Principle 5: Student admission, progression, recognition of academic qualifications, and award of degrees and certificates of competence of the new study programmes</b>	
Fully compliant	✓
Substantially compliant	
Partially compliant	
Non-compliant	

### Panel Recommendations

There are no specific recommendations.



## **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 enforces the pertinent Greek legislation for the recruitment of new faculty members and the development and promotion of the existing teaching staff. The students' evaluation reports are taken into account, especially in the development and promotion process of the teaching faculty and staff. In conjunction with the course evaluations conducted before the beginning of the examination period, the teaching staff is evaluated by the students every semester. The teaching workload is appropriate, set at 6 hours per person per week. Under exceptional circumstances, the teaching load is increased up to 9 hours, but usually for short periods of time.

The students' connection between teaching and research is carried out mainly through the completion of their Diploma Thesis, typically carryout in the last semester. The faculty are engaged in research of regional, national, and international significance. However, the Department has not yet defined a research strategy focusing on specific areas, especially those related to Environmental Engineering. As a strong recommendation is made by the EEAP for the restructuring of the study programme of the new Environmental Engineering programme

with less focus on Civil Engineering and a greater focus in areas more closely related to the field and practice of Environmental Engineering, the faculty research directions should also be gradually aligned with the restructured study programme, developing research laboratories not currently present. Research re-alignment will lead to further development of the programme in terms of student education and training, as well as research output. The current overall research output of the Department is significantly below that of other, similar Departments in Greece and Europe. Examples of incentives and support which can lead to development of researchers and a higher research output are rotating sabbaticals, regular research seminars with internal and external speakers, mentoring of junior researchers, attendance of national and international conferences, participation in research training workshops, participation in external research proposal evaluations, participation in journal editorial boards, etc.

### Panel Judgement

<b>Principle 6: Ensuring the competence and high quality of the teaching staff of the new undergraduate study programmes</b>	
Fully compliant	
Substantially compliant	✓
Partially compliant	
Non-compliant	

### Panel Recommendations

**6a)** Develop a Department research strategy capitalizing on the research interests of current academic staff, while identifies future research trends in the broader field of Environmental Engineering and Science, which will identify the need for the appointment of new academic staff consistent with the recommended restructuring of the Environmental Engineering study programme.

**6b)** Significant incentives and support should be given to the faculty to establish and promote a research culture and increase research output.

**6c)** It is recommended that the CVs of faculty and other research staff include any internationally recognised system of scientific evaluation (e.g., Google Scholar, Scopus, etc.).

## **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**

The new program has a number of laboratories that were carried over from the previous Civil Engineering TE program. Namely, there are the following well-equipped and functional laboratories for strength of materials, concrete testing, geotechnical, hydraulics, surveying, drafting and management of sustainable structural projects. The program is lacking specially equipped laboratories for chemistry/physicochemical processes, biological/biochemical processes, solid waste management, atmospheric pollution monitoring, to name a few. The Department is sharing a central library, which does not have enough reading space and is inadequate in environmental books and journals. There are 5 lecture rooms and one 100-seat amphitheatre which cover very adequately the lecture needs. The 20-seat IT room appears to have functionality issues too as is also the case with the lack of Wi-Fi. Generally, the existing laboratory facilities are not rationally distributed since they are skewed in favour of Civil Engineering, which is related to the former TEI program. Detailed information relative to laboratory and equipment safety and good practice procedures is posted in every laboratory.

The students enjoy a wide range of functional support services i.e., dormitories, cafeteria, career counselling, welfare office, medical clinic and sport/recreational facilities. The students are informed about the above services during their freshman orientation event while all pertinent information is readily available in the Department's website.

The Department coordinates smoothly the student support services through their secretarial office, which employs three permanent staff members, one for faculty affairs and finances and two for student affairs.

The above information is based mainly on the internal quality assurance report and the interviews of the EEAP with faculty, staff and students. The lack of chemistry lab and the inadequate IT and library facilities are of main concern and should be addressed properly and timely.

The new program needs to strengthen the Environmental Engineering component even if that means reduction or even elimination of some of its traditional Civil Engineering heritage. Also, the IHU needs to put more support to the library and IT services as needed.

### Panel Judgement

<b>Principle 7: Learning resources and student support of the new undergraduate programmes</b>	
Fully compliant	
Substantially compliant	
Partially compliant	✓
Non-compliant	

### **Panel Recommendations**

**7a)** The Department should communicate to the IHU administration and advocate expansion, and greater support of students' needs related to the Institution Library and IT services.

**7b)** Consistent with the recommended restructuring of the Environmental Engineering programme, restructure and transition existing laboratories presently focused on areas of traditional Civil Engineering to areas more closely related to the field and practice of Environmental Engineering by developing dedicated research laboratories not currently present.

**7c)** Consider the employment of a permanent well-trained research staff member to assist with the development and operation of the laboratories.

**7d)** Develop an External Advisory Board of prominent academics, employers, practicing Environmental Engineers, and stakeholders.

**7e)** Consider celebration of Earth Day to showcase the Department's educational programmes and research achievements, thus achieving further societal recognition.

## **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**

At the institutional level, the University's Quality Assurance Unit (MODIP) is responsible for the collection, analysis and evaluation of information for the effective management of all teaching programmes. MODIP supports the assessment and accreditation processes of the curricula and the internal quality assurance system of the Institution, within the framework of the principles, directives and guidelines of the Hellenic Authority of Higher Education (HAHE). At the Departmental level, the Internal Evaluation Team (OMEA), a committee consisting of three Departmental faculty members, is responsible for collecting data on the functioning of the undergraduate programme in cooperation with the secretariat and academic staff. The University's MODIP in collaboration with the Department's OMEA invites students and teaching staff to complete evaluation surveys by the end of each semester. The survey instrument consists of five-point Likert scale questions concerning teaching and learning processes, administrative services, and infrastructure, and allows space for expressing anonymously views or raise concerns. The University MODIP runs an electronic platform inviting students and teaching staff to complete questionnaires around the 10th-12th week of each semester. The Departmental student register communicates with the University student database providing efficient data access on registrations, course selections, grades, etc. Uploading data to the Integrated National Quality Information System (OPESP) is a responsibility of the Departmental OMEA together with the secretariat.

The Departmental OMEA consists of faculty members with experience in evaluation procedures and organisation of administrative work. OMEA communicates and cooperates with the University's MODIP ensuring that the Departmental and University Quality Policies are aligned. The Department's Internal Evaluation Report is submitted on an annual basis to the University's MODIP and includes aggregates of quantitative information concerning the functioning of the

Department. For the compilation of the annual internal report, OMEA makes use of a range of information, such as results from questionnaires, student register data, international databases, Departmental archives, etc. In addition to reporting, the collected data and analysed information inform the following activities: revision of courses (if and when deemed necessary); implementation of innovative teaching methods (e.g., implementing new technologies, where appropriate); planning educational, social and cultural initiatives and events; assessing teaching staff needs and infrastructure requirements. Finally, there is information exchange between the Departmental data and the University service "UMBRELLA" that supports vulnerable students with social care and counselling. "UMBRELLA" engages with students experiencing hardship and/or coming from vulnerable social groups and supports them towards successful completion of their studies.

The Department has provided the EEAP extensive and up to date lists of aggregate data, processed information and quality indicators. The quantitative information is comprehensive, while additional analyses allow comparisons between years enabling the identification of temporal trends. Regarding teaching, the Department conducts questionnaires that evaluate course content and instructor effectiveness for every course, which are then used for analysis, reflection and actions, depending on the results. It is evident from the material provided, that the internal evaluation reports and the information collected are taken seriously by the Departmental OMEA and discussed at the Departmental General Assembly where decisions on improvements and remedial action for identified issues are taken. Results are then published in the annual internal evaluation report of the Department. Overall, the Department performs very well on all fronts, based on the evidence provided to the EEAP.

### Panel Judgement

<b>Principle 8: Collection, analysis and use of information for the organisation and operation of new undergraduate programmes</b>	
Fully compliant	✓
Substantially compliant	
Partially compliant	
Non-compliant	

### Panel Recommendations

There are no specific recommendations.

## 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 secure University website <https://www.ihu.gr/tmimata/michanikon-perivallontos> points to a **non-secure** external website for the Department in both Greek and English <http://env.ihu.gr/en>. The Departmental website contains a wide range of information, logically organised under major pulldown menus: Department; Undergraduate/Postgraduate/Doctoral studies; Staff; Research; Erasmus; NEWS (sic). The website contains comprehensive material regarding the structure and organization of the Department, such as, procedures and regulations for undergraduate, postgraduate and doctoral studies, educational activities, programmes of study at undergraduate and postgraduate level, staff information (e.g., web pages of faculty members, research groups, etc.), as well as services offered to students and academic staff. Announcements concerning the academic activity of the Department are posted on the respective sections of the website alongside announcements of general interest. In addition to the Department's website each Laboratory and the majority of the faculty members have developed web pages specific to their subjects and activities.

In addition to the various information events for the undergraduate programme (e.g., induction for first-year students and information for the electives from the 6th semester onwards) and the postgraduate programmes (e.g., information events every semester for the available courses), the Department maintains a social media account for directly informing students and members of the academic community about the activities of the Department to a wider audience. The Department also informs prospective students about the offered programmes by participating in orientation events (online or face-to-face) for finishing high school students. Finally, the Department welcomes students from secondary schools of Northern Greece for open days with positive feedback from students and teachers who have participated in such events.

The Departmental website presents information about teaching and academic activities in a clear and comprehensive way. It is the main way for providing information to both current and



prospective students as well as anyone interested in the teaching and research activities of the Department. The homepage has a legible layout with a menu bar at the top, including a menu for News, and an area with announcements, recent activities and useful links on the right-hand side. The structure is clear and easy to navigate between the different topics. The website offers detailed information on the available programmes at the undergraduate, postgraduate and doctorate levels together with the study curriculum, regulations and schedule for each programme. A separate menu presents the research activities of the Department, the research projects and publications of the faculty members. There is also a dedicated option for the *Laboratory Infrastructure*, but this is “hidden” under the pulldown menu *Department*, with further submenus, therefore not easy to navigate.

There is adequate information on the Departmental Quality Policy, while the main University website has a dedicated section on University Policies. Although there is a dedicated Quality Policy webpage with information linked to the University's Quality Assurance Unit (MODIP), this only appears in Greek (<https://www.ihu.gr/politiki-poiotitas>). The same applies to the Departmental Policy which has a header in English, but the main text only appears in Greek (<http://env.ihu.gr/en/tmima/organogramma-tmimatos>). Overall, the Departmental webpages provide a lot of information, but only in Greek and the visual quality and navigation are variable. It is also not entirely obvious how regularly the webpages are updated as there is no indication of Date updates in the various webpages. However, a positive indication is that the various documents found in menu *Undergraduate studies* were referring to the current academic year 2022-23. In addition to the website, staff members and faculty of the Department can access a secure platform where can view class lists, student records and submit grades, while students can access their grades, submit choices for elective courses and apply for transcripts and other documents.

### Panel Judgement

<b>Principle 9: Public information concerning the new undergraduate programmes</b>	
Fully compliant	
Substantially compliant	✓
Partially compliant	
Non-compliant	

## Panel Recommendations

9a) Although there is adequate information in the Departmental website, there are important issues that need to be addressed. In particular:

- Securing the Departmental domain with encryption and verification (i.e., upgrading to HTTPS from the current HTTP)
- Ensuring that when the tab *English* is selected (top right) not only the menus but the actual text is also displayed in English.
- We strongly suggest that the webpage information related to the laboratories be moved out of the option *Department* to a dedicated pulldown menu for *Laboratories*. It is important to update and potentially standardise the information, because the respective laboratory submenus reveal variable quantity and quality.
- Overall, the website would benefit from further user testing and potential redesign for uniformity, user friendliness and accessibility.

The Department explained that the IHU is working towards the development of uniform, standard webpages for each Department. The EEAP was assured that a person responsible for the maintenance and updating of the Departmental website has been appointed, so we are confident that these recommendations will be actioned in due time.

## **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 annual assessment of the study programme is conducted according to the quality principles as put forth and required by HAHE, conducted by a programme committee, OMEA, and the General Assembly. OMEA leads the collection, analysis and evaluation of all key performance indicators, course satisfaction questionnaires, internal evaluation reports, and reports to MODIP. It was not clear to the EEAP to what degree the students as a whole are informed of the entire evaluation/accreditation process and its meaning. Student participation in the various committees, other than the Department OMEA which has a member-student representative, seems to be lacking.

The primary process for students' input to the study programme is by the course/instructor evaluation conducted at the end of each semester. Thus, student academic expectations, needs, and satisfaction are partially assessed via the electronic evaluation of each course. It should be noted that the students' participation in course evaluations is approximately 60%, and the mean score is greater than 3.5/5.0. Monitoring of student workload and progression is in general satisfactory. The institution of the faculty advisor is well established and practiced. An indirect way to assess student satisfaction is market placement of recent graduates and career advancement of graduates.

External input to the study programme by employers and other stakeholders and social partners, which can identify changing professional and societal needs, was not evident. However, during the evaluation of the programme by the EEAP, and as a result of a verbal recommendation, the Department proposed the establishment of an Advisory Committee, which will include external experts and stakeholders for input to the study programme and research, as well as Internal Action Groups (Task Force) which will provide input on specific areas of programme activities, including identifying new trends. It should be noted that due to the short operation of the new programme, revision of its strategic objectives has not been implemented so far. The EEAP believes that appropriate actions are being taken to identify and address issues with the changing professional and societal needs, consistent with the extrovert character of the programme.

### Panel Judgement

<b>Principle 10: Periodic internal review of the new study programmes</b>	
Fully compliant	
Substantially compliant	✓
Partially compliant	
Non-compliant	

### Panel Recommendations

**10a)** OMEA should meet with the student body at the beginning of each academic year to inform them of the evaluation process, the benefits for the overall success of the programme, and the value of their input in many aspects of the programme.

**10b)** The Department should engage employers and industry in discussions and input for the formulation and revision of its strategic objectives.

**10c)** Exit interviews of graduating students should be implemented to provide feedback on their overall experience and satisfaction with the Department.

## **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**

Given that the Department of Environmental Engineering, as part of the creation of the International Hellenic University, was established in 2019 and the programme is in its fourth academic year, there have not been any previous external evaluation reports. Thus, there are no Departmental progress reports relative to programme compliance in response to previous evaluation reports submitted by a panel of external, independent experts.

Based on the accreditation proposal submitted by the programme, as well as the discussions of the EEAP during the external evaluation, the Institution and Department administration, as well the faculty and staff are fully aware of the legal requirement as well as the value and positive impact of external evaluation towards not only achieving compliance to standards set forth by the HAHE, but also achieving continuous improvement of the programme towards a higher quality and academic standing. The OMEA and MODIP representatives provided a thorough description of the mechanisms in place to follow the progress of the programme relative to the various performance indicators being assessed, showing that the whole process is taken seriously and with professionalism by the administration, faculty and staff involved.

## Panel Judgement

<b>Principle 11: Regular external evaluation and accreditation of the new undergraduate programmes</b>	
Fully compliant	✓
Substantially compliant	
Partially compliant	
Non-compliant	

## Panel Recommendations

There are no specific recommendations.

## 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 report to support the transition period from the TEI Civil Engineering undergraduate programme to the Environmental Engineering program. The report clearly and comprehensively defines the period during which the Department continues to support the old undergraduate programme, the methods by which this is done, the transition process and requirements for students who wish to enrol to the new undergraduate programme, the estimated time the students are expected to graduate. As most of the teaching staff comes from the Civil Engineering Department of the former TEI program, there is sufficiently qualified staff to continue support the former program up to its completion date. The mandatory practical training of the old undergraduate programme is adequately supported by a three-member committee.

Regarding the students of the old undergraduate programme, who wish to graduate with the title of Environmental Engineer, the Department has drawn up a clear procedure regarding the obligations that students need to fulfil in order to join the new program, alongside the recognition of past credits, additional courses and remaining duration of studies when they join the new undergraduate programme.

Overall, the Department has taken adequate steps to ensure a smooth transition period.

### Panel Judgement

<b>Principle 12: Monitoring the transition from previous undergraduate study programmes to the new ones</b>	
Fully compliant	✓
Substantially compliant	
Partially compliant	
Non-compliant	

### Panel Recommendations

There are no specific recommendations.



## **PART C: CONCLUSIONS**

### **I. Features of Good Practice**

- The Department has implemented compliant mechanisms for monitoring and ensuring high quality of work and services. Quality assurance policies are already implemented regarding teaching delivery, assessment, and student progression. The existing quality assurance and continuous improvement policy aims to align practices with the strategic objectives the Department and the Institution.
- The faculty and staff are enthusiastic and dedicated to their mission. The students' overall experience is very positive. The enthusiasm of current students, employers, and other stakeholders was evident.
- The faculty and research staff are engaged in research of regional, national, and international significance. The Department has developed collaborative research projects with other Universities and Research Centres.
- Efforts are made to use and integrate new technology to improve teaching-learning and research (e.g., Virtual Reality Laboratory).
- The participation of women in an otherwise male-dominated Engineering field is valued and recognized as there are women at all levels: Deputy Department Head, Professor (1), Associate Professor (1), Assistant Professor (2), Teaching Assistants (6). The student gender ratio is balanced; half the student representatives that met with the EEAP were women.

### **II. Areas of Weakness**

- University facilities, such as Library, IT, and Wi-Fi, do not fully support students' activities and should be addressed properly and timely.
- The core curriculum is still focused on traditional Civil Engineering without sufficient coverage of thematic areas related to Environmental Engineering needed to satisfy competence areas expected for practicing Environmental Engineers.
- The program is lacking specially equipped laboratories for chemistry/physicochemical processes, biological/biochemical processes, solid waste management, atmospheric pollution monitoring, etc. which will be necessary to be developed in conjunction with the recommended restructuring of the study programme with a greater focus on Environmental Engineering.
- Research interests of staff are not entirely aligned with the subject area and practice of Environmental Engineering and in conjunction with the recommended restructuring of the study programme with a greater focus on Environmental Engineering.
- The Department current overall research output is significantly below that of other, similar Departments in Greece and Europe.

- Relationships with employers, social partners, and other stakeholders exist, but their active input in the restructuring and further development of the program to identify changing professional and societal needs was not evident.
- The information in the Departmental website is not complete, in particular in English, and the visual quality and navigation are variable.

### III. Recommendations for Follow-up Actions

- **Institutional Facilities:** The Department should communicate to the IHU administration and advocate expansion, and greater support of students' needs related to the Institution Library and IT services. The website should be improved and expanded.
- **Curriculum:** The EEAP strongly recommends restructuring of the curriculum with emphasis on Environmental Engineering modules and laboratory skills. The Department should consider the curriculum and thematic areas covered by the other two departments of Environmental Engineering in Greece, as well as the areas of competence expected from practicing Environmental Engineers set forth by the Pan-Hellenic Association of Environmental Engineers (PASDMIP).
- **Laboratories:** Consistent with the recommended restructuring of the Environmental Engineering study programme, the EEAP strongly recommends restructuring and transition of existing laboratories presently focused on areas of traditional Civil Engineering to areas more closely related to the field and practice of Environmental Engineering by developing dedicated research laboratories not currently present.
- **Research:** The EEA recommends that the Department develops a coherent research agenda/strategy with a focus in the thematic areas of Environmental Engineering capitalizing on the research interests of current academic staff, while identifies future research trends in the broader field of Environmental Engineering and Science consistent with the recommended restructuring of the Environmental Engineering study programme. Support academic staff with research activity (e.g., lighter teaching load and rotating sabbaticals) and incentivise higher research output and quality publications (e.g., collaboration with colleagues in other Departments, as well as publishing with PhD/MSc students).
- **Personnel:** It is recommended that the Department identifies and prioritizes teaching and research needs leading to the appointment of new academic staff consistent with the recommended restructuring of the Environmental Engineering study programme.
- **External Input:** An External Advisory Board of prominent academics, employers, practicing Environmental Engineers, and stakeholders should be developed; formalise communications and periodic input in matters of curriculum restructuring and revision, and other activities.

#### IV. Summary & Overall Assessment

The Principles where full compliance has been achieved are: **4, 5, 8, 11, and 12.**

The Principles where substantial compliance has been achieved are: **1, 2, 6, 9, and 10.**

The Principles where partial compliance has been achieved are: **3 and 7.**

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

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

## The members of the External Evaluation & Accreditation Panel

Name and Surname

Signature

- 1. Professor Emeritus Spyros Pavlostathis (Chair)**  
Georgia Institute of Technology, Atlanta, GA, USA
- 2. Professor Emeritus Panagiotis (Pete) Scarlatos**  
Florida Atlantic University, Boca Raton, FL, USA
- 3. Associate Professor Seraphim Alvanides**  
Northumbria University, Newcastle, UK
- 4. Mr. Antonios Samiotakis**  
Member, Technical Chamber of Greece, Athens, Greece
- 5. Mr. Efthymios Kechagias**  
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