ΕΛΛΗΝΙΚΗ ΔΗΜΟΚΡΑΤΙΑ
HELLENIC REPUBLIC

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

Electrical and Computer Engineering

Institution: Democritus University of Thrace

Date: 27 June 2020

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

enqa.

Report of the Panel appointed by the HAHE to undertake the review of the Undergraduate Study Programme (Integrated Master) of **Electrical and Computer Engineering** of **Democritus University of Thrace** for the purposes of granting accreditation

Abbreviations and special terms (English and Greek) used in this report

EEAP / Panel	External Evaluation & Accreditation Panel / Επιτροπή Πιστοποίησης
DUTH	Democritus University of Thrace / Δημοκρίτειο Πανεπιστήμιο Θράκης
EDIP	Support Teaching Staff / Ειδικό Διδακτικό Προσωπικό
ΕΣΔΠ	Internal System of Quality Assurance / Εσωτερικό Σύστημα Διασφάλισης Ποιότητας
ECE/ΗΜΜΥ	Electrical and Computer Engineering / Ηλεκτρολόγων Μηχανικών και Μηχανικών Υπολογιστών
HAHE/ΕΘΑΑΕ	Hellenic Authority for Higher Education / Εθνική Αρχή Ανώτατης Εκπαίδευσης
IEG/ΟΜΕΑ	Internal Evaluation Group / Department's Internal Evaluation Committee / Ομάδα Εσωτερικής Αξιολόγησης
IQAS / ΕΣΔΠ	Internal Quality Assurance System / Εσωτερικό Σύστημα Διασφάλισης Ποιότητας
KPIs	Key Performance Indicators
QAU / MODIP / ΜΟΔΙΠ	Quality Assurance Unit / Μονάδα Διασφάλισης Ποιότητας
QAP	Quality Assurance Policy / Πολιτική Διασφάλισης Ποιότητας
ECTS	European Credit Transfer and Accumulation System
GDPR	General Data Protection Regulation
GS	Guide to Studies / Οδηγός Σπουδών
CC/ΔΜ	Course Credits / Διδακτικές Μονάδες
ΕΤΕΠ	Ειδικό Τεχνικό Εργαστηριακό Προσωπικό
CES	Course Evaluation Survey
ΕΠΕ/EC	Επιτροπή Ποιότητας και Ελέγχου/ Executive Committee
ΕΠΠΣ/CC	Επιτροπή Προγράμματος Προπτυχιακών Σπουδών/Curriculum Committee
ΕΣΔΕ/CoC	Επιτροπή Συντονισμού Διδακτικού Έργου/Coordinating Committee
ΕΣΕ/EAB/IB	Εξωτερική Συμβουλευτική Επιτροπή/ External Advisory Board/Industrial Board

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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 Undergraduate Study Programme (Integrated Master) of **Electrical and Computer Engineering** of the **University of Thrace** comprised the following five (5) members, drawn from the HAHE Register, in accordance with Laws 4009/2011 & 4653/2020:

1. **Prof. Nikitas Dimopoulos**, University of Victoria, Canada (Chair)
2. **Prof. Emeritus Nicolas Spyratos**, Université Paris-Sud XI & CNRS, France
3. **Prof. Nicholas Buris**, Shanghai University, China
4. **Prof. Anthimos Georgiadis**, Leuphana Universität Lüneburg, Germany
5. **Mr. Christos Christodoulou**, Member of the Technical Chamber of Greece, Greece

II. Review Procedure and Documentation

The External Evaluation & Accreditation Panel (EEAP or Panel) considered the documentation provided by the Program through ΕΘΑΑΕ (HAHE) as well as documentation provided by ΕΘΑΑΕ itself. This documentation provided by the Program included the following:

- The Department of Electrical and Computer Engineering Quality Assurance Policy (Π1_Πολιτική Ποιότητας)
- The Department of Electrical and Computer Engineering accreditation report (Πρόταση Ακαδημαϊκής Πιστοποίησης Προγράμματος Προπτυχιακών Σπουδών) dated 28 March 2019
- The Department of Electrical and Computer Engineering Guide to Studies for the academic year 2018-2019 (Οδηγός Σπουδών 2018-2019) including the table of assigned instructors (Π2.1_Πίνακας Μαθημ_Διδασκόν 2018-2019), the curriculum (Π2.2_Πρόγρ Σπουδών Ακαδ Έτους 2018-2019) and the diploma addendum (Π2.3_Παράρτημα Διπλώματος).
- The Department of Electrical and Computer Engineering set of regulations for the undergraduate programme included in directory Π3_Κανονισμος Λειτουργίας ΠΠΣ και Λοιποί Κανονισμοί. The detailed list of documents are:
    - Operational regulations and procedures (Π3.0_ Κανονισμός λειτουργίας ΠΠΣ)
    - Mobility regulations (Π3.1_Κανον Κινητικ Erasmus+)
    - Internship regulations (Π3.2_Κανον Πρακτικής Άσκησης Φοιτ)
    - Student advisor terms of reference (Π3.3_Κανονισμός Λειτουργίας για τον Θεσμό του Συμβούλου Σπουδών)
    - Policies concerning the diploma thesis (Π3.4_Κανον Εκπόν Διπλωμ Εργασιών)
    - Health and security policies (Π3.7_Πολιτική Υγιεινής και Ασφάλειας)
    - Procedures of awarding prizes (Π3.8_Διαδικασία Χορήγησης Βραβείων)
    - Procedures of holding informational research meetings (Π3.9_Διαδικ Διεξαγ Ενημερ Ημερίδας_Έρευνα_Τμήμα)
- The Department of Electrical and Computer Engineering course outlines (Π4_Περιγράμματα Μαθημάτων)
- Goal settings and action plan (Π5_ Στοχοθεσία Προγρ. Δράσεων)
- Course experience surveys and statistics (Π6_Ερωτηματολόγια και Στατιστικά αξιολόγ)
- The Department of Electrical and Computer Engineering set of documents related to the internal evaluation. These include:
    - Minutes of the internal evaluation meeting (Π 7.1- Πρακτικό εσωτ αξιολ)
    - Motion of adoption of the internal evaluation (Π 7.2- Eisigisi)
    - List of findings (Π 7.2.1- Κατάσταση Ευρημάτων)
    - Π 7.2.2 - Check list
- The Department of Electrical and Computer Engineering HQA Reports of quality indicators (Π8_ Δεδομένα Ποιότητας ΟΠΕΣΠ)

- Remaining material included in directory Π9_ΛΟΙΠΟ ΥΛΙΚΟ. These include:
    - Guide to course outcomes (Π9.1_Οδηγός_εφαρ_μαθ_αποτελεσμ)
    - Study of the employment status of graduates (Π9.2_Απορρόφηση Αποφοίτων)
    - Laboratory infrastructure (Π9.3_Εγκαταστ_Εργαστ Εξοπλ)
    - Research and other distinctions (Π9.4_Ερευν και άλλες διακρίσεις_ενδεικτικά)
    - Funding (Π9.5_Χρηματοδότηση ΕΛΚΕ ΔΠΘ)
    - ΕΛΚΕ Action report and results (Π9.5β_Απολογισμός Δράσεων και Πεπραγμένων ΕΛΚΕ_21-5-2020)
    - The professional rights and responsibilities of Engineers as published in the official gazette of the Greek State (Π9.6_ΦΕΚ187Α_05_11_2018_Επαγγελματικά_Δικαιώματα ΠΔ 99_2018)
- Additional material included in directory Π10_Πρόσθετα Στοιχεία_INTEGRATED MASTER. These include:
    - Additional terms specific to Integrated Master programs (Π10_ Πρόσθετοι όροι για Ε_ΑΤΣ)
    - Decision to recognize the Integrated Master degree programme of the Department of Electrical and Computer Engineering, DUTH as published in the official gazette of the Greek State (Π10_1_integrated_Master ΦΕΚ)

The documentation provided by ΕΘΑΑΕ (HAHE) included the following:

- Reports of quality indicators for the Department of Electrical and Computer Engineering, DUTH and for the years 2015-2018
- Reports of quality indicators for the undergraduate programme of studies of Department of Electrical and Computer Engineering, DUTH and for the years 2015-2018
- Guidelines for accreditation (ODIGOS PISTOPOIISIS_en)
- STANDARDS FOR QUALITY ACCREDITATION OF UNDERGRADUATE PROGRAMMES (P1_STANDARDS FOR QUALITY ACCREDITATION_PROGRAMME_EN)
- P12a Guidelines for the Accreditation Panel
- Mapping Grid (P13)
- External Evaluation Report (Department of Electrical and Computer Engineering, DUTH 2014)

Due to the COVID-19 pandemic, all the interactions of the Panel with HAHE, the Programme and the internal discussions of the Panel were conducted virtually through Zoom. All times reported are EEST. The External Evaluation & Accreditation Panel (aka EEAP or simply Panel) met with the General Director of HAHE Dr. Christina Besta, on Thursday, June 18, 2020 at 16:00. During the meeting, Dr. Besta presented HAHE's approach of accrediting undergraduate programs. The Panel met privately on Friday, June 25, 2020 at 19:30 to introduce its members, coordinate and discuss its approach of the upcoming accreditation visit. The virtual visit of the Department of Electrical and Computer Engineering, DUTH took place on Monday June 22, and Tuesday, June 23, 2020.

On Monday, June 22, the Panel had a sequence of meetings with members of the academic community and external stakeholders as follows:

- 17:00-17:30 Teleconference with the Vice-Rector/President of MODIP& the Head of the Department
- 17:30-19:30 Teleconference with OMEA & MODIP representatives
- 19:45-20:30 Teleconference with teaching staff members
- 20:45-21:30 Teleconference with students
- 21:30-22:00 Debriefing meeting of the Panel

On Tuesday, June 23, the schedule was as follows:

- 17:00-18:00 Online tour: classrooms, lecture halls, libraries laboratories, and other facilities/Discussion about the facilities presented in the video produced for this purpose
- 18:00-18:45 Teleconference with Programme graduates
- 19:00-19:45 Teleconference with employers, social partners
- 20:00-20:30 Debriefing meeting of the Panel and preparation of the oral report to the Programme.
- 20:30-21:00 Teleconference with OMEA & MODIP representatives
- 21:00-21:15 Closure with the Vice-Rector/President of MODIP, the Head of the Department, OMEA & MODIP

The names of the individuals present at the meetings are with HAHE.
The Panel met with 13 out of 37 faculty members.

III. Study Programme Profile

The Democritus University of Thrace (DUTH) was established in 1973 and accepted its first students in 1974. Nowadays, it is one of the largest universities in Greece with a student population of 29,000. An additional characteristic of the University is that it is decentralized with departments distributed in several Thracian cities.

The Department of Electrical and Computer Engineering was first established in 1975 in the city of Xanthi as the Department of Electrical Engineering. The Department was renamed as the Department of Electrical and Computer Engineering in 1993. Nowadays, the Department comprises five sections and as of 2019, it awards a five-year degree (Integrated Master). In addition, the Programme awards postgraduate degrees and a Doctoral degree.

There are a total of 37 faculty members (21 Professors, 11 Associate Professors and 5 Assistant Professors). Additionally, there are 3 teaching staff (ΕΔΙΠ), 5 technical staff (ΕΤΕΠ), 1 permanent scientific assistant (βοηθός), and 6 administrative staff (διοικητικοί).

As of 2019, there are a total of 1451 registered (undergraduate) students of which 219 or 15.1% are female. Of the registered student population, 855 or 59% are within the 'v+2' limit of the duration of their studies.

The Department is housed at two locations. The offices and lecture halls are housed in two buildings at the Kimmeria campus of the University while the labs are housed in a set of temporary buildings in the center of town which originally housed the whole department.

The new buildings at Kimmeria campus are modern and well furnished.

The Programme awarded 146 (Integrated Master) degrees in 2019.

PART B: COMPLIANCE WITH THE PRINCIPLES

Principle 1: Academic Unit Policy for Quality Assurance

INSTITUTIONS SHOULD APPLY A QUALITY ASSURANCE POLICY AS PART OF THEIR STRATEGIC MANAGEMENT. THIS POLICY SHOULD EXPAND AND BE AIMED (WITH THE COLLABORATION OF EXTERNAL STAKEHOLDERS) AT ALL INSTITUTION'S AREAS OF ACTIVITY, AND PARTICULARLY AT THE FULFILMENT OF QUALITY REQUIREMENTS OF UNDERGRADUATE PROGRAMMES. THIS POLICY SHOULD BE PUBLISHED AND IMPLEMENTED BY ALL STAKEHOLDERS.

The quality assurance policy of the academic unit is in line with the Institutional policy on quality, and is included in a published statement that is implemented by all stakeholders. It focuses on the achievement of special objectives related to the quality assurance of study programmes offered by the academic unit.

The quality policy statement of the academic unit includes its commitment to implement a quality policy that will promote the academic profile and orientation of the programme, its purpose and field of study; it will realise the programme's strategic goals and it will determine the means and ways for attaining them; it will implement the appropriate quality procedures, aiming at the programme's continuous improvement.
In particular, in order to carry out this policy, the academic unit commits itself to put into practice quality procedures that will demonstrate:

a) the suitability of the structure and organization of the curriculum;
b) the pursuit of learning outcomes and qualifications in accordance with the European and the National Qualifications Framework for Higher Education;
c) the promotion of the quality and effectiveness of teaching;
d) the appropriateness of the qualifications of the teaching staff;
e) the enhancement of the quality and quantity of the research output among faculty members of the academic unit;
f) ways for linking teaching and research;
g) the level of demand for qualifications acquired by graduates, in the labour market;
h) the quality of support services such as the administrative services, the Library, and the student welfare office;
i) the conduct of an annual review and an internal audit of the quality assurance system of the undergraduate programme(s) offered, as well as the collaboration of the Internal Evaluation Group (IEG) with the Institution's Quality Assurance Unit (QAU).

Study Programme Compliance

Democritus University of Thrace (DUTH) has instituted two units for the quality assurance and monitoring at two levels: MODIP at the university level, and OMEA at the department level. The cooperation of MODIP with OMEA is deemed appropriate and helpful to the accreditation effort and continuous improvement of the Programme. The EEAP met with representatives from both MODIP and OMEA during its remote visit. The Department, through its Head, and OMEA

expressed their firm commitment to apply appropriate measures that would lead to the Programme´s successful accreditation and continuous improvement. The Department implements a Quality Assurance Policy which is aligned with the Institution's Quality Policy as well as the principles provided by the HAHE. The Quality Assurance Policy focuses on its educational, scientific, research and administrative work, and is accessible and sufficiently communicated to all members of the department, stakeholders and the public via its well designed and informative website.

The Department has established a series of strategic goals for the continuous improvement of the Program. The Department has further elaborated these goals by assigning specific improvement targets and indicators as well as proposed actions that will affect the stipulated improvements. Further, each strategic goal is assigned to a group of entities such as committees, the Head of the Department etc. who will be responsible of monitoring and implementing the stated actions, and a deadline.

The Department should be commended on initiating the process of setting and monitoring strategic goals. However, the process and perhaps the set goals that were chosen, need rethinking. It is not evident that the chosen goals are part of a long-term (3 to 5 years) strategic plan that was arrived to through a formal process and serves as a guide in quality assurance. Further, there is no single individual executive position that was identified as responsible in ensuring that the specified actions are indeed undertaken. Some of the target values of the indicators are not well thought of (e.g. Δ3.05, Δ3.45) or justified (e.g. Δ3.09, Δ3.10). Finally, all the deadlines are extremely short and set to August 31, 2020.

The curriculum is typical of a Programme in Electrical and Computer Engineering. It comprises courses in fundamentals of science, mathematics and engineering science as well as advanced courses offering specialized knowledge in several areas of Electrical and Computer Engineering. While courses focusing in fundamental knowledge in early years are required, the students have the ability to tailor-make their curriculum, by selecting advanced courses in later years of the program, to suit their interests. Each course has been assessed and assigned a course-specific ECTS; It is the Programme's requirement that the curriculum comprises at least 300 ECTS.

The EEAP has noted with satisfaction that the Programme has complied with the suggestion of the earlier (2014) External Evaluation Report that it reduce the number of courses in the curriculum. The Programme has done so for the first three years of the curriculum of the Programme and it expects that its proposed changes to the curriculum in the last two years of the Programme will be approved.

The EEAP has noted with satisfaction the high academic standard of the academic staff; the great majority of which are active researchers with strong publication records.

The Department, to promote quality in teaching, has established a best teacher award awarded to the instructor who achieves the best student evaluations in two consecutive years. This is an excellent initiative, however, fulfilling the conditions of the award is quite difficult, and hence the award has yet to be awarded.

The Panel, during its discussions with the graduates and industrial representatives, was satisfied that the qualifications of the Programme graduates are well sought after by domestic and foreign employers.

The Programme conducts annual reviews pertaining to its quality. The findings are discussed by the Executive Committee, the Curriculum Committee, and the General Assembly of the Department.

Panel Judgement

Principle 1: Institution Policy for Quality Assurance	
Fully compliant	
Substantially compliant	**X**
Partially compliant	
Non-compliant	

Panel Recommendations

R1.1 Consider developing a long-term Strategic Plan following an established procedure of deriving such a plan (e.g. SWOT analysis).

R1.2 Ensure that for each action dictated by the strategic plan, in addition to the committees responsible for its implementation, there is a single identifiable administrative position overseeing its implementation and ensuring that the specified actions are indeed undertaken.

R1.3 Ensure that the deadlines of achieving the targets set by the strategic plans are concomitant to the target and achievable.

R1.4 Consider redesigning the conditions for the best teacher award so that they are achievable.

Principle 2: Design and Approval of Programmes

INSTITUTIONS SHOULD DEVELOP THEIR 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.

Academic units develop their programmes following a well-defined procedure. The academic profile 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 National Qualifications Framework for Higher Education are described at this stage. The approval or revision process for programmes includes a check of compliance with the basic requirements described in the Standards, on behalf of the Institution's Quality Assurance Unit (QAU).

Furthermore, the programme design should take into consideration the following:

- *the Institutional strategy*
- *the active participation of students*
- *the experience of external stakeholders from the labour market*
- *the smooth progression of students throughout the stages of the programme*
- *the anticipated student workload according to the European Credit Transfer and Accumulation System*
- *the option to provide work experience to the students*
- *the linking of teaching and research*
- *the relevant regulatory framework and the official procedure for the approval of the programme by the Institution*

Study Programme Compliance

The ECE department and its Programme had been evaluated in 2013. At that time its programme of study was found to consist of a rather heavy load of courses with significant overlap of material. One of the external evaluation committee's recommendations was to streamline the curriculum.

The ECE department, to its credit, did undertake the task of revamping the curriculum. The number of required courses for graduation has been reduced from 65 to 54. The process is divided into two phases. Phase I applies to the first 3 years and it has already been approved and offered to the new students. Phase II concerns the last two years of study and it has been crafted, submitted and is currently pending approval.

The Panel examined various aspects of the new curriculum including the mandatory and elective courses as well as the curricula of the three specializations of the Programme (i.e. Power, Telecommunications, Electronics and Computer Engineering).

In addition to the description of the courses as provided by the department, the Panel discussed aspects of the curriculum with current students and recent graduates. It was corroborated that

the overlap amongst courses had been severely reduced. Even though that had the unintended consequence of rendering some courses more “difficult” because their material was not repeated in previous courses, the consensus of those responding was positive. The overall load to the students was decreased by the mere fact of reducing the number of courses.

The Programme also involves the “voluntary” undertaking of an internship (“praktiki”), by the students. DUTH has an office which coordinates such opportunities for the students and several students take advantage of this. The Panel talked to students who had participated in internships and they all seemed appreciative of its benefits to their job opportunities and careers. Industrial representatives also praised the program. Because of the limited number of available opportunities to pursue internships, DUTH limits this voluntary opportunity to only once per student over the duration of their entire 5 yr. programme of study. Even though some students expressed the desire to pursue an internship more than once, or to make it mandatory because of its benefits, the Panel feels that, at this juncture, the internship programme structure is appropriate. However, it encourages the Programme to explore the possibility of increasing the total number of internships available and to closely monitor the benefits and costs of the internship programme.

The Panel has noted with pleasure the existence of two required electives in the first semester focusing in the areas of Engineering Law and the Philosophy of Science. The Panel also notes the inclusion in the curriculum, as electives, of courses focusing on entrepreneurship and jointly offered by other engineering programmes in the Faculty of Engineering. The Panel considers exposure of engineering students in such complementary subjects as crucial in the development of their skills and urges the Programme to introduce additional courses in such areas requiring a minimum number of courses/ECTS in these subjects. Critical is the inclusion of courses that advance the students’ communication skills.

The Panel in its discussion with faculty and stakeholders noted the increasing need of software engineering in industry and, therefore, it urges the Programme to consider reinforcing its Software Engineering curriculum in its Strategic Plan.

Overall, the quality of the curriculum seems to be good, as the panel surmised from statements by industrial representatives who had hired DUTH ECE graduates. Without exception, these industrial representatives described with very positive comments their satisfaction of the knowledge and background of the department graduates. Some of the foreign industrial representatives compared DUTH ECE graduates as on par, if not better than graduates of some of the best-known universities in Europe. Obviously, the effects of the curriculum change will manifest themselves more clearly in the future.

Panel Judgement

Principle 2: Design and Approval of Programmes	
Fully compliant	**X**
Substantially compliant	
Partially compliant	
Non-compliant	

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

Panel Recommendations

R2.1 Some of the foreign high-tech industrial representatives mentioned the importance of design tools and they appreciated that their DUTH hires were knowledgeable on tools used in the industry rendering excessive training on the job unnecessary. The benefit to graduates is relatively high as they become more employable. Consider seeking and identifying further opportunities to introduce and integrate tools used in industry in more of the courses, as appropriate.

R2.2 The Panel urges the Programme to introduce additional courses in complementary areas dealing with subjects in humanities, arts, social sciences, management, engineering economics and communications that complement the technical content of the curriculum and ensure that a minimum number of such courses are part of each student's program.
Critical is the inclusion of courses that advance the students' communication skills

R2.3 The Panel urges the Programme to consider reinforcing its Software Engineering curriculum in its Strategic Plan.

R2.4 The Panel encourages the Programme to explore the possibility of increasing the total number of internships available and to closely monitor the benefits and costs of the internship programme.

Principle 3: Student- centred Learning, Teaching and Assessment

INSTITUTIONS SHOULD ENSURE THAT THE 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.

Student-centred learning and teaching plays an important role in stimulating students' motivation, self-reflection and engagement in the learning process. The above entail continuous consideration of the programme's delivery and the assessment of the related outcomes.

The student-centred learning and teaching process

- *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 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.*

In addition :

- *the academic staff are familiar with the existing examination system and methods and are supported in developing their own skills in this field;*
- *the assessment criteria and methods are published in advance;*
- *the assessment allows students to demonstrate the extent to which the intended learning outcomes have been achieved. Students are given feedback, which, if necessary is linked to advice on the learning process;*
- *student assessment is conducted by more than one examiner, where possible;*
- *the regulations for assessment take into account mitigating circumstances;*
- *assessment is consistent, fairly applied to all students and carried out in accordance with the stated procedures;*
- *a formal procedure for student appeals is in place.*

Study Programme Compliance

The Programme allows students to select from a large collection of electives and this offers focused learning paths. There are currently no prerequisites for following a course (whether an optional or a mandatory course). The Panel heard during the review that prerequisites cannot be instituted (this is the law). Additionally, the students the Panel interviewed considered the introduction of prerequisites as potentially slowing their progress by not allowing them to attend a course if they have not passed its prerequisites. Therefore, this is not an omission of the department. However, stating prerequisites for each course is advantageous as the prerequisite knowledge is indispensable for one to follow the material in the course. Therefore, the Panel encourages the department to simply inform the students of the prerequisite knowledge for each

course during the presentation day or through other channels (i.e. provide this information without necessarily enforcing a prerequisites structure).

Course outlines are available both in Greek and English, follow a common format, and are described in the department's website.

Student surveys are regularly realized and include a comprehensive and well elaborated questionnaire for the evaluation of the quality and effectiveness of teaching by the students. However, the Panel was not very clear how the information gleaned from the course experience surveys has informed the quality assurance processes in the Programme.

There is an e-class platform that students find very helpful. In its discussions with the student representatives, the Panel was made aware that during the current COVID-19 lockdown the content of e-courses was greatly improved.

The grade of a course is assigned based not only on the final examination but also on midterms, homework, tutorials and labs. Labs are mandatory, and students' participation in the labs is tracked. All these encourage the student to actively participate in the course during the time it is offered.

As mentioned in Principle 2 above, there is a teaching support centre which demonstrates the commitment of DUTH and of the department to good teaching practices.

Each student is assigned a faculty advisor at the start of their programme.

There is an optional two-month internship that takes place during July and August. The students find an internship either through personal contacts or assisted by their professors. A student is allowed a maximum of one internship during their programme and there is only a limited number of such internships.

The Panel noted with satisfaction that the Department and DUTH have structures and procedures to accommodate students with disabilities. These are listed at the department's web site at https://www.ee.duth.gr/φοιτητικά/δοσυπ/.

Through the Panel's interview with student representatives, it was evident that students overall evaluate positively the availability of professors to interact with them, they feel they receive adequate stimuli from the teaching staff and are in general satisfied with the learning outcomes they acquire. Moreover, the teaching process adequately promotes mutual respect between students and teaching staff; professors have also expressed their satisfaction with their interaction with students. The students expressed their appreciation on the quality and depth of the material covered in class, the quality of teaching as well as of the quality and accessibility of facilities offered by DUTh (classrooms, labs, library, and various other services).

Panel Judgement

Principle 3: Student- centred Learning, Teaching and Assessment	
Fully compliant	**X**
Substantially compliant	
Partially compliant	
Non-compliant	

Panel Recommendations

R3.1 For each course, advise students on the prerequisite knowledge required.

Principle 4: Student Admission, Progression, Recognition and Certification

INSTITUTIONS SHOULD DEVELOP AND APPLY PUBLISHED REGULATIONS COVERING ALL ASPECTS AND PHASES OF STUDIES (ADMISSION, PROGRESSION, RECOGNITION AND CERTIFICATION).

Institutions and academic units need to put in place both processes and tools to collect, manage and act on information regarding student progression.

Procedures concerning the award and recognition of higher education degrees, the duration of studies, rules ensuring students progression, terms and conditions for student mobility should be based on the institutional study regulations. Appropriate recognition procedures rely on institutional practice for recognition of credits among various European academic departments and Institutions, in line with the principles of the Lisbon Recognition Convention.

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).

Study Programme Compliance

The performance threshold and the number of students admitted yearly are determined by the state. Following current law and state policies, there is turnover of students due to transfers to other universities located elsewhere. The final number of students each year registering for the 1st year is approximately varying around 150 to 200 over the last several years. However, faculty attrition has been a monotonic decrease since 2010 to the current level of 37, causing the ratio of students to faculty to increase accordingly. The current ratio is around 40 or 23, depending on whether the number of non-active students, allowed by state law to be classified as such, is counted or not.

The ratio of women to men in the student population as evidenced by data on graduates is 16.6% over the existence of the department. However, at the inception of the ECE programme this ratio started at 7.1% and has reached 15% over the last ten years

The student body is active in the IEEE and they routinely invite speakers on campus. Also, the students participate in other engineering activities such as competitions. The year 2019 marked two years in a row that the student chapter of the IEEE at DUTH was awarded an “exemplary student chapter” award by the IEEE.

The DUTH ECE department is active in the Erasmus program. There is a DUTH level office which manages and facilitates the Erasmus students. DUTH currently has bilateral agreements with 20 universities in Europe for Erasmus. Currently, it appears that most such agreements have been initiated by individual faculty and their collaborations and contacts. The number of universities with bilateral agreements could increase if a department or university wide effort was undertaken.

The last semester is devoted to the pursuit of “diplomatiki” (graduation thesis), a graduation project accompanied by a thesis. Even if a team of students work on a large “diplomatiki”, each has his or her own responsibilities, writes and defends their own thesis. The Panel examined a small sample of seven (7) such graduation theses ranging from those which attained a low score to those that excelled. The quality of the work was very good. Even the low-end theses were comparable to work seen in other universities with a good blend of theoretical work and design implementation. Therefore, there was strong evidence that the students are exposed to the methodology of performing research.

One characteristic observed, however, was that the spread of grades on theses is very narrow. Over the last five years, the average of theses grades varies over the years between 9.85 and 9.97. This is a remarkably narrow spread. The Panel worries that, perhaps, the lack of differentiation could function as a disincentive to students. The department explained that graduating theses were not defended until they were deemed (by the supervising faculty) of an appropriate quality. This would result in the theses receiving high grades.

The department applies the recognized European Credit Transfer and Accumulation System (ECTS) to its curriculum. The ECTS information is transparently listed in the guides. Students who graduate exceeding the minimum criteria for graduation can have their detailed information stated and receive the appropriate credit as they pursue their careers further. Additionally, the Programme issues a diploma supplement both in Greek and in English.

The Department was very quick in responding to the unprecedented circumstances of COVID-19. Students and faculty alike expressed their appreciation to getting useful and substantive help at late hours in the early and peak days of crisis.

Panel Judgement

Principle 4: Student Admission, Progression, Recognition and Certification	
Fully compliant	**X**
Substantially compliant	
Partially compliant	
Non-compliant	

Panel Recommendations

R4.1 The Panel urges the Programme to devise approaches, as per applicable legislation, to reduce, if not eliminate, the number of non-active students.

R4.2 The Panel urges the Programme to reconsider the pros and cons of a narrow spread in the graduation theses grades.

R4.3 The Panel urges the Programme to consider department-wide or university-wide concerted efforts to increase bilateral student exchange agreements (Erasmus, etc.) with other universities.

Principle 5: Teaching Staff

INSTITUTIONS SHOULD ASSURE THEMSELVES OF THE QUALIFICATIONS AND COMPETENCE OF THE TEACHING STAFF. THEY SHOULD APPLY FAIR AND TRANSPARENT PROCESSES FOR THE RECRUITMENT AND DEVELOPMENT OF THE TEACHING STAFF.

The Institutions and their academic units have a major responsibility as to the standard of their teaching staff providing them with a supportive environment that promotes the advancement of their scientific work. In particular, 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 recognize 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.*

Study Programme Compliance

The Department engages in the professional development of its teaching staff following the national standards and available resources. Faculty recruitment is initiated by the Electrical and Computer Engineering Department and the hiring or promotion procedure follow the Greek state laws and regulations. Additionally, conditions of employment, also following the national regulations overall, recognize the importance of teaching and research. However, there is no clear evidence of departmental regulations providing teaching release time for new faculty to set up their laboratory and initiate research or providing teaching release time to faculty due to increased research output.

Some faculty engage in mobility through sabbaticals, reported at approximately 2% of the faculty complement. The EEAP urges that this practice be enhanced and taken advantage of by all faculty members

The current faculty is active and very strong researchers. However, there are only 2 female faculty members in a complement of 37. The Department stated that there is an additional appointment that is pending and that appointment is of a female faculty.

The Department academic staff has been strengthened through appointing several promising researchers. The Panel considers a positive step that the recent appointments were non-DUTH graduates contributing to diversity. The Panel however noted the underrepresentation of female faculty.

There is extensive evidence that substantial professional development opportunities exist for the teaching staff of the Department, including opportunities for the continuing involvement in research projects, national and international, that contribute significantly to education.

Department faculty and staff are available onsite for their students and follow an open-door policy as evidenced by the student evaluations. Links between teaching and research are strong. The department encourages and supports innovation in teaching methods and the use of new technologies. Faculty assessment in teaching is based on regular student evaluations, which are examined by MODIP, OMEA, and the Department.

Plans for the further development including actions to attract highly qualified academic staff for new recruitment have been reported. However, an overall strategic plan for future development of the department including a road map for recruitment and special effort to attract females was not presented.

Panel Judgement

Principle 5: Teaching Staff	
Fully compliant	
Substantially compliant	**X**
Partially compliant	
Non-compliant	

Panel Recommendations

R5.1 The Panel urges the Department to introduce, as per applicable legislation, clear regulations for teaching release time for new faculty and to faculty due to increased research output.

R5.2 The Panel urges the Department to institute a long-term strategic plan for future development of the department including identifying areas of current and future demand and strengthening these areas.

R5.3 The Panel urges the Department to institute policies and procedures, as per applicable legislation, which will ensure that the number of female faculty increases.

Principle 6: Learning Resources and Student Support

INSTITUTIONS SHOULD HAVE ADEQUATE FUNDING TO COVER 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 funding and means to support learning and academic activity in general, so that they can offer to students the best possible level of studies. The above means could include facilities such as libraries, study rooms, educational and scientific equipment, information and communications services, support or 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 or international students, students with disabilities) and 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. However, the internal quality assurance ensures that all resources are appropriate, adequate, and accessible, and that students are informed about the services available to them.
In delivering support services the role of support and administrative staff is crucial and therefore they need to be qualified and have opportunities to develop their competences.

Study Programme compliance

The Department has all the necessary facilities (classrooms, laboratories, IT infrastructure, support section) for the number of students admitted.

There are two locations the department operates from, in town (labs and the Library) and out of town, in Kimmeria (faculty and department offices and classrooms) with good capacity. There is public transportation (free of charge) connecting the two locations frequently. Classrooms, labs and offices appear to be modern and well equipped and sufficient to accommodate the current complement of students and staff.

A wide range of support services are available to all students. For example, the e-class platform, which is an integrated Electronic Course Management System under open source philosophy, a range of open academic courses that are freely accessible and available on-line, the department's participation in Erasmus programs, the possibility for internship programmes (practical training), student residences and catering services.

Students are well informed about the available services at the Department, through the information day at the beginning of their studies, the Department's website and through social media managed by the department.

During the meeting with the students no major complaints were formulated concerning daily life in the DUTH.

Panel Judgement

Principle 6: Learning Resources and Student Support	
Fully compliant	**X**
Substantially compliant	
Partially compliant	
Non-compliant	

Panel Recommendations

R6.1 A more frequent (than hourly) bus service between the Kimmeria campus and the downtown labs may need to be negotiated with the public transit authority.

Principle 7: Information Management

INSTITUTIONS 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.

Institutions are expected to establish and operate an information system for the management and monitoring of data concerning students, teaching staff, course structure and organisation, teaching and provision of services to students as well as to the academic community.

Reliable data is essential for accurate information and for decision making, as well as for identifying areas of smooth operation and areas for improvement. Effective procedures for collecting and analysing information on study programmes and other activities feed data into the internal system of quality assurance.

The information gathered depends, to some extent, on the type and mission of the Institution. The following are of interest:

- *key performance indicators*
- *student population profile*
- *student progression, success and drop-out rates*
- *student satisfaction with their programme(s)*
- *availability of learning resources and student support*
- *career paths of graduates*

A number of methods may be used for collecting information. It is important that students and staff are involved in providing and analyzing information and planning follow-up activities.

Study Programme Compliance

Democritus University of Thrace and accordingly the Electrical and Computer Engineering Department, have established and operate an information system following the regulations of HAHE, through which they collect information about students, faculty and staff, infrastructure, organization and quality of teaching, as well as availability and offering of services. The system records all courses and rules for the students, while offering the capability for the extraction of numerous and diverse statistical analyses, performance indicators, the profile of the student population, the percentages of on-time graduation or graduation delays by 1, 2, or more years, and dropouts. However, some information provided into different records of the data presented are not harmonized, e.g. list of goals, policy and accreditation proposal.

Each semester, students fill out questionnaires (Course Experience Surveys), now electronically, as opposed to the paper forms used in the past, from which conclusions can be drawn about student satisfaction for the curriculum they follow, availability of resources, etc. These data are recorded and codified by OMEA. OMEA makes the results of the CES available to the faculty member teaching the course, to the department's chair and the General Assembly of the Department, where, after detailed discussions, corrective actions are proposed, if and where needed. However, the analysis of the surveys is not automated and its (the analysis) use to

update the department's strategic planning is not clear. Finally, there is no register of the Programme's alumni.

While the Program has provided a set of strategic goals these differ depending on the document discussing them. The document discussing Quality Assurance policies (Π1_Πολιτική Ποιότητας) on page 5 lists 8 goals while the action plan (Π5_ Στοχοθεσία Προγρ. Δράσεων) lists six. Although five of the six goals listed in the action plan substantially match the spirit of the goals found in the Quality Assurance Policies document, their wording, content and order do not align. Goal 6 (Σ6) in the action plan has no corresponding goal in the Quality Assurance document while goals 2, 4 and 5 do not have corresponding goals in the action plan. The Panel urges the Programme to ensure that the strategic goals in the Strategic Plan are described consistently when encountered in the documentation and are also evaluated consistently.

Panel Judgement

Principle 7: Information Management	
Fully compliant	
Substantially compliant	**X**
Partially compliant	
Non-compliant	

Panel Recommendations

R7.1 The analysis of the surveys and further data should be automated and used to inform the department's strategic planning.

R7.2 The Programme's alumni register should be established soon.

R7.3 Information provided into different records of the data should be consistent and harmonized.

Principle 8: Public Information

INSTITUTIONS SHOULD PUBLISH INFORMATION ABOUT THEIR TEACHING AND ACADEMIC ACTIVITIES WHICH IS CLEAR, ACCURATE, OBJECTIVE, UP-TO-DATE AND READILY ACCESSIBLE.

Information on Institution's activities is useful for prospective and current students, graduates, other stakeholders and the public.

Therefore, institutions and their academic units provide information about their activities, including the programmes they offer, the intended learning outcomes, the qualifications awarded, the teaching, learning and assessment procedures used, the pass rates and the learning opportunities available to their students, as well as graduate employment information.

Study Programme Compliance

The DUTH ECE website seems modern and with focused information. As an independent outside visitor, one can easily find information about the department, its quality processes and the supporting offices at the university level of such processes, rules and regulations. Additionally, the website lists all the evaluations the department has undergone since 2011 and the resulting reports. The video of the town, the university and the department's teaching and laboratory facilities, as shown to the panel in lieu of a face-to-face visit, and included on the department's web site, was impressive. The lab equipment was very good and modern. The student and research projects, e.g. DUTHsat a nanosatellite which was actually deployed, were impressive. This video should also become part of the university's "public information" and brand campaign.

In asking a statistically significant group of industrial representatives, the DUTH ECE department appeared to be the only one in Greece that had contacted some of them in order to participate in an External Advisory Board. Although such an instrument should have been put in place long ago in order to facilitate, among other things, the strategic plan of the department, the effort is worth noting and the panel encourages this activity to proceed meaningfully and expeditiously.

As is normally the case, the actions of the department are interconnected to many things and benefits to its public information are also realized by indirect channels. For example, the high level activity of the internships, the interaction with industry, the local IEEE student chapter, the seminars by external speakers, the high quality of its recent graduates as well as the continuing interaction of the university with its graduates, add to the reputation and the "public information" about the department.

Panel Judgement

Principle 8: Public Information	
Fully compliant	**X**
Substantially compliant	
Partially compliant	
Non-compliant	

Panel Recommendations

R8.1 Continue with the creation and consider strengthening the alumni association into an active body. Seek feedback by graduates employed in high tech and use it to adapt the curriculum, research efforts and other crucial department offerings and activities.

R8.2 Complete and activate the External Advisory Board.

Principle 9: On-going Monitoring and Periodic Internal Review of Programmes

INSTITUTIONS SHOULD HAVE IN PLACE AN INTERNAL QUALITY ASSURANCE SYSTEM FOR THE AUDIT AND ANNUAL INTERNAL REVIEW OF THEIR 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 study programmes aim to maintain the level of educational provision and to create 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. Revised programme specifications are published.

Study Programme Compliance

The curriculum has undergone a significant revision as suggested by the previous (November 2013) External Evaluation. The first three years of the updated curriculum have been approved and implemented, while the last two years of the update are pending approval.

There is evidence as reported by the Graduates and Stakeholders, that in updating the curriculum, the Programme considered the opinions/needs of the external stakeholders in light of the latest research in the discipline, targeting particularly the courses of the last semesters, thus ensuring that the curriculum is up to date. To this direction, it is positive that the Department has decided to establish an External Advisory Board.

The students expressed their overall satisfaction for the curriculum, for the Instructors and their availability, and the Department's infrastructure.

Moreover, students do participate in the Curriculum Committee and this is clearly a good practice for the Department.

There is evidence of periodic internal quality reports, performed on an annual basis, published on the website of the Department and made commonly available.

The Department and the OMEA are aware of the low completion rate of students' Course Experience Surveys (CES), due to the new electronic completion system. OMEA strives to increase the number of questionnaires by employing a variety of approaches such as urging the students during meetings of the Department with students or by asking instructors to urge their students to complete the surveys. The students the Panel interviewed, confirmed that they are being encouraged by the Department to complete the surveys at many opportunities. The Panel urges

the Department to devise effective means to increase the student participation in the CES and ensure statistically robust results.

The Department and students both indicated ways that complains about student issues are taken into consideration and are discussed in the appropriate committees and the General Assembly.

Moreover, students interviewed by the Panel reported that the workload is reasonable, especially when compared with the previous curriculum.

The results of the Course Experience Surveys are visible to the instructors after the completion of the evaluation period and they are processed by the OMEA; the key findings are brought to the General Assembly and influence the courses' instructional assignments.

Students are pleased by the variety of the Programme's courses, enabling them to experience different areas of ECE.

Students acknowledged that the course materials have been updated recently. They stated that this may have been the result of the need of remote classes due to COVID-19; this material is now fully available in electronic classes (e-class). This was identified as a major deficiency in previous years Course Experience Surveys which has now been resolved. The Department should continue its efforts towards this goal on a regular base.

The Panel was pleased to note that the Department has initiated a quite impressive External Advisory Board, with representatives of the local and National Industry, as well as of International External Stakeholders. Such a board is expected to provide critical up-to-date advice as to the trends in the area which the Programme will use to ensure an up-to-date curriculum.

However, this board has not been appointed nor activated yet.

Although the Department has established most of the structures (e.g. committees, external advisory board, course experience surveys, etc.) and policies needed to monitor and assure the quality, the Panel did not observe a sustained "closing of the loop" in that data and analysis of the status of the Programme inform its long-term strategic planning, and its short-term corrective actions.

Panel Judgement

Principle 9: On-going Monitoring and Periodic Internal Review of Programmes	
Fully compliant	
Substantially compliant	**X**
Partially compliant	
Non-compliant	

Panel Recommendations

R9.1 The Panel urges the Department to develop processes, based on measuring critical outcomes, that inform its decision making i.e. "close the loop" and include these in its strategic planning.

R9.2 The Panel urges the Department to appoint and activate the External Advisory Board at the earliest possible opportunity.

R9.3 The Panel urges the Department to devise effective means to increase the student participation in the CES and ensure statistically robust results.

Principle 10: Regular External Evaluation of Undergraduate Programmes

PROGRAMMES SHOULD REGULARLY UNDERGO EVALUATION BY COMMITTEES OF EXTERNAL EXPERTS SET BY HAHE, AIMING AT ACCREDITATION. 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 committee of independent experts. HAHE grants accreditation of programmes, 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 template's requirements, and as a catalyst for improvement, while opening new perspectives towards the international standing of the awarded degrees.

Both academic units and institutions participate in the regular external quality assurance process, while respecting the requirements of the legislative framework in which they operate.

The quality assurance, in this case the accreditation, is an on-going process that does not end with the external feedback, or report or its follow-up process within the Institution. Therefore, Institutions and their academic units ensure that the progress made since the last external quality assurance activity is taken into consideration when preparing for the next one.

Study Programme Compliance

The Panel has acknowledged that the Department OMEA along with the University MODIP are collaborating and witnessed that their collaboration was effective for the compliance of the Department with several points of the previous External Evaluation process.

Graduates but also Stakeholders reported with satisfaction that they were informed by the follow-up process that the curriculum has been updated. It also became evident to the Panel that the Instructors are fully aware of the significance of the external review and the follow up processes.

The Panel noted with pleasure that the Department is committed to excellence and quality assurance; the Instructors are mentoring students in many different aspects; the Graduates are satisfied by their acquired knowledge and skills during their studies, and they (the Graduates) acknowledged their on-going communication with the Department.

An external evaluation of the Department of Electrical and Computer Engineering at DUTH was carried out in November 2013 by the Hellenic Quality Assurance and Accreditation Agency (HQA). The evaluation resulted to a number of recommendations to the department in several areas including the organization of the department and strategic planning, curriculum, teaching and research.

The Panel found that the Department has implemented or is in the process of implementing most of the recommendations of the previous external evaluation. Some of the most notable are discussed below:

The number of the required courses for the fulfillment of the degree has been reduced.

Furthermore, the Department has a concise administrative hierarchy (the Department Head, the Executive Committee (Επιτροπή Ποιότητας και Ελεγχου) and the Coordinating Committee (Επιτροπή Συντονισμού Διδακτικού Έργου) for the thoroughness of the teaching workflow.

The Panel acknowledges the good practice of the Department to provide (in cooperation with other Departments of the Engineering School) courses on entrepreneurship.

The Department has made some effort to modernize the teaching methods, by incorporating open labs, updated courses materials in the e-class and small-group teaching. This is stated by the interviewed students and Professors as well as OMEA.

The Department has made efforts to exploit the research outcomes, by cooperating with the Hellenic Industrial Property Organization (a local office has been founded at the Polytechnic School premises); in addition, a spin off company has been recently founded.

Panel Judgement

Principle 10: Regular External Evaluation of Undergraduate Programmes	
Fully compliant	**X**
Substantially compliant	
Partially compliant	
Non-compliant	

Panel Recommendations

PART C: CONCLUSIONS

I. Features of Good Practice

- The faculty comprises accomplished researchers
- The infrastructure of the Department in terms of buildings and equipment is modern, spacious and well maintained
- The faculty is present and reachable by the students
- The Department is aware and positive of the quality assurance process
- The graduates are appreciative of the knowledge and skills they have acquired through their studies in the Pprogramme
- The graduates' skills are acknowledged and appreciated by their employers

II. Areas of Weakness

- There is no long-term Strategic Plan established using a formal method
- Females are under-represented in the faculty
- Insufficient programme content in complementary studies and communications

III. Recommendations for Follow-up Actions

These recommendations have been extracted and summarized from the recommendations found in the ten principles above and comprise recommendations the Panel thinks will most effectively help the Program improve its Quality Assurance processes and standards.

Although several of the recommendations are related, if not identical, they apply to different principles. This is particularly evident with the recommendations relating to the development of a strategic plan

There are several other recommendations interspersed in the Principles.

High Priority Recommendations
Develop a long-term Strategic Plan with goals, quantifiable metrics, feasible actions, realistic deadlines and owners with the responsibility to implement it in a consistent way. The Panel urges strongly that these goals or actions include:

a) Larger number of female faculty.

b) External Advisory Board active in providing regular and meaningful feedback to the department's strategic plan and programme (e.g. as it pertains to areas of future demand, etc.)

c) Appropriate number of available courses to cover subjects in humanities, arts, social sciences, management, engineering economics, communications, etc.

d) Appropriate number of faculty and available courses per area of focus consistent with the department's strategic goals.

IV. Summary & Overall Assessment

The Principles where full compliance has been achieved are:

2, 3, 4, 6, 8, 10

The Principles where substantial compliance has been achieved are:

1, 5, 7, 9

The Principles where partial compliance has been achieved are:

None

The Principles where failure of compliance was identified are:

None

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

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

The members of the External Evaluation & Accreditation Panel

Name and Surname	**Signature**
Prof. Nikitas Dimopoulos	
Prof. Emeritus Nicolas Spyratos	
Prof. Nicholas Buris	
Prof. Anthimos Georgiadis	
Dr Christos Christodoulou	