Below we provide our response to the various points raised by the Quality Assurance Bureau before its final decision on our ETSD program:

1. *a. «A clear quality assurance procedure and path for approval of changes in the programme exists at departmental level. However, there is less structure visible at the program level. Program committee meetings appear not specifically aimed at quality assurance. Every two years a change of programme coordinator is an opportunity for review of the program, but it is not mandatory. Input from students seems sporadic and mostly relates to problems in specific courses. The students are not aware of any regular procedure for providing input at the program level. Apparently, there is no program-level input from external stakeholders such as industry». (Έκθεση ΕΕΑ, σελ. 2-3)*

Στην απάντησή σας, ημερομηνίας 29 Αυγούστου 2019, συμφωνείτε μεν με την άποψη της ΕΕΑ αλλά δεν σημειώνονται οι συγκεκριμένες ενέργειές σας προς την κατεύθυνση αυτή.

«Nevertheless, these were indeed implemented following informal processes (i.e. as part of the School Council meetings umbrella) and we agree that this review as part of a quality assurance process should be formally established and regularized. And we will take the necessary actions to introduce this formally». (Απάντηση ιδρύματος, σελ. 1)

Το ίδιο υφίσταται και σε πολλά άλλα θέματα τα οποία αναφέρετε στην απάντησή σας ότι θα εξεταστούν για ανάληψη δράσης.

Ενδεικτικά,

«*There is a need for a formal Annual Review and development procedures at the programme level. The review should consider aspects such as technology changes, students' feedback, and the changing market requirements for graduates. The review should consider aspects such as: program specification, forward planning budget, and resource provision» (Έκθεση ΕΕΑ, σελ. 4)*

Response:

The inter-departmental program committee has held a number of meetings proceeding the evaluation (specifically on 27/6/2019, 12/09/2019 and on 30/10/2019) with a number of formal decisions taken (committing the program administration). These decisions were divided in two

kinds; one relating to the academic revision of the program taking into account the recommendations of the evaluation committee and another, regarding the administrative revision of the program, concerning the administration and "running" of the program as well as its continuous improvement and quality assurance.

Regarding the academic set of decisions on the academic program revisions, their implementation in the program has been approved by the Rectors Council, 37/2019/PRYT, date 05/12/2019 and can be offered from Fall Semester 2020-2021. Overall these concern the introduction of new courses and seminars (on research methodology and engagement with practice and industrial market) as per evaluation recommendations and more formalized regular student tutorial. Details are provided in relevant annexes (as submitted also in the relevant decision-making meetings of the various bodies). Furthermore, the Engineering School Council (date 20/11/2019/POL), approved the decision of the Coordination Committee to increase the budget of the program for the annual meeting of the students with the industry. This decision was takes so that we receive feedback from the students and the partners, in order to have an objective opinion on any possible revisions that should be made to the program for it to stay competitive within the market.

Regarding the administrative set of decisions, the interdepartmental committee included a committing decision to hold at the end of each academic year, an annual review meeting inviting all stakeholders including enrolled students, industrial and societal representatives for an all rounded review which will be reported, and wherever appropriate and necessary to make the required revisions in the program after separate consideration of the inter-departmental committee.

In addition, the inter-departmental program committee (in its meeting 30/10/2019) decided to hold four meetings per academic year, in which they will discuss general matters relating to the program, one of which one will be specifically targeted to review the feedback from the relevant annual review meeting with Stakeholders and the students.

The decisions of the inter-departmental program committee were discussed and approved by the Engineering School Council (20/11/2019/POL)

Furthermore, regarding the general feedback from students, regular direct communication with program students is conducted each semester usually in the week before the lessons start. There, the committee gives an introductory presentation about the program and gives all the necessary

information about the University, its services, and answers all the questions that students may have.

The decisions of the Program Committee have been discussed and approved by all four Departmental Councils participating in the interdepartmental program and have been approved by the Engineering School Council (20/11/2019/POL).
The only (administrative-related) decision of the program committee following evaluation recommendations that has been on-hold is the matter of the provisions for the Program Coordination and the general recognition of the coordination administrative load, so that Coordinators can dedicate more explicitely and acknowledgably. This matter is dealt with at higher levels within the School and University as such decisions should be in accordance with other ongoing relevant evolutions within the University.

b. «Inputs should be solicited from external stakeholders, for example by performing a market study including: demand for graduates, skill set requested by potential employers, competing programs, both national (Cyprus + Greece) and international (for consideration of an English version of the program)» (Έκθεση ΕΕΑ, σελ. 4)

Response:

As part of the revision following this evaluation, the program created a new mandatory course of 1 ECTS, entitled "POL 900 Engagement with Practice and Industry", which is going to replace POL 701 Graduate Seminar II 1 ECTS. (approved by Rectors Council, 37/2019/PRYT, date 05/12/2019 and will be offer from the academic year 2020-2021). During the course, students will have the chance to visit sites / organizations related to the energy industry and market. Through the visits will be provided thoroughly iinformation on current practices, challenges, prospects and also problems in the energy industry (Indicative visits include wind & photovoltaic parks, bioclimatic buildings, air quality and climate monitoring stations of governmental energy and climate policies etc.

Moreover, within the same set of program-revising meetings of the Inter-departmental Committee, it was decided that the Capstone Design Project will establish regular further and stronger links with the industry and market by making separate public visit and presentation with interdepartmental groups of students making suggestions to targeted industrial stakeholders more closely relevant to the Capstone Design Project theme. Specifically, the results of the study will be annually presented at least to the Cyprus Land Development Corporation for assessment

whereas further stakeholders will be explored depending on the project e.g. http://www.cldc.org.cy/cgibin/hweb?-A=2401&-V=news

As already mentioned in previous parts, the program will take benefit of the progress in implementing Industrial Placement Schemes by the University of Cyprus and the Engineering School initiatives; due to the large administrative and organizational load of such efforts, the ETSD program will not implement this aspect independently from such greater scale efforts but will evolve in parallel with the School's and University's efforts. This is expected to take place within about the next couple of years, therefore when the scheme is in place, the relevant allowance will also be included in the program in order to take benefit from. Regarding further contact with the industry, as also already mentioned we have established annual review meetings at the end of the academic year, with invitees: Students and other Stakeholders (e.g. Industry, OEB, ETEK, Associations) including visiting critics for the Capstone Design Project.

Furthermore, it is also worth-noting that our ETSD program students are thoroughly informed about the industry opportunities from now on, not only by the Program Secretary and the Annual Career Fair, but also by the newly established Career Center (which was not included in our evaluation process) which now provides targeted information to the ETSD program students, too, regarding their occupation prospects through flyers and informative sessions. The Career Center was established in accordance with international practice as a one stop shop, primarily in order to network the students with possible employers. It helps students and graduates develop their skills, so that they are properly prepared to be entered into the industry, also it organizes multiple informative events throughout the year. The Career Center provides to the students a Career Orientation Test and consulting guidance. Additionally, it informs the students regarding their occupational choices and about scholarships, internships, while it offers to the students the chance to be employed.

c. «Analytical information on students at a program level, like key performance indicators on dropout rates, grading etc. both annual and as trends over the years was apparently not available to the program coordinator or to the EEC.» (Έκθεση ΕΕΑ, σελ. 15)

Response:

The following table provides information on the GPA of the current students and graduates, the number of drop outs, as well as the number of graduates until 2019 for both M.Eng and M.Sc.

September 2010 - September 2019

	M.Eng.	M.Sc
Current Students (sept. 2019)	**22**	**14**
Overall GPA Ranking	**Highest: 8.83/10** **Lowest: 7.05/10**	**Highest: 9.11/10** **Lowest: 6.81/10**
Graduates (until June 2019)	**104**	**39**
Graduates Overall GPA Ranking	**Highest: 9.19/10** **Lowest: 6.19/10**	**Highest: 9.42 / 10** **Lowest: 6.90 / 10**
Students who Dropped Out	**4**	**3**

d. «The interdepartmental format of the program, and the departmental split between four departments, needs to be more clear for students as sometimes they seek help or information directly from the departments when instead they need to go to interdepartmental administrator» (Έκθεση ΕΕΑ, σελ. 16)

Response:

The program curriculum which is published and given to students as their guidance to their enrolled program has been revised accordingly so that this information is explicit and clear. This will not only be in the program curriculum guide but also online on the ETSD program's website but also clearly presented in the introductory meetings with the new students of the program before the start of each semester.

Specifically for the program requirements and program-related information, students can contact the Program Coordinating Secretary during office hours

Office Hours: Monday – Friday: 14.30- 19.00

And for departmental procedural matters, relevant to their status as general departmental or university students, students can contact their department secretary during office hours: Monday-Friday: 07.30am – 02.30 pm
Wednesday: 07.30-14.00 & 14.30-18.00 (September-May)

In addition, from January 2020 the Program is planning for a full-time interdepartmental administrator (Engineering School Council 20/11/2019/POL).

e. «The Academic Supervisor is currently also the Pastoral Advisor – it is best practice to have these roles separated, so that the students have a trained Pastoral Advisor to turn to if they are experiencing any issues with their Academic Supervisor, and who is more familiar with mental health and wellbeing issues, and aware of all the resources the University has for supporting students in these areas» (Έκθεση ΕΕΑ, σελ. 19)

«The University/Programme should take a more pro-active role to ensure that all students have a meeting at least once a year, independently of the Academic team, with their Pastoral Advisor to pro-actively check on their wellbeing» (Έκθεση ΕΕΑ, σελ. 19)

Response:

This has been now explicitely taken care of by providing compete and relevant information in the revised program curriculum. Specifically, upon admission to the program and before the first day of registration, the representative of each Department in the interdepartmental committee of the program is assigned as academic supervisor to all the ETSD program-enrolled students of his/her department. The student can find the relevant information after the registration in the banner system. The academic supervisor meets with the student before the first registration to plan the first semester of studies, helps the student to appropriately select courses and oversees his/her academic progress with regular meetings, beginning, end and/or during the semester. The first meeting may also take place at the "New Students Introductory Day" which takes place the week of registration and one week before the start of the classes. At this meeting all Students Academic Advisors are present. All perdinent information is included in the Prospectus Programme, which you will find attached to this document.

Regarding specifically the students who are admitted to the program Master of Science MSc, there is also a research advisor assigned. The research advisor can be a person other than his /

her academic advisor. The selection of a research advisor is recommended to be a product of consultation between the student and a faculty member that his/her research interests are focus on energy. The research advisor may come from any of the School Departments, regardless of the Department of enrolment of the student. In collaboration with the research advisor, a suitable and specific thesis topic will be agreed. After submission and approval of the thesis proposal, the student, in collaboration with the research advisor, must form the thesis committee. The Research and Academic Advisor oversees students' academic progress with regular meetings, beginning, end and/or during the semester.

This information is included in the Prospectus Programme, which you will find attached to this document.

Regarding pastoral-general welafare advising, the University deals with this by providing human personel infrastructure for all the university students. Specifically there is a specially-dedicated service, Students Welfare Service, that contacts and communicates students directly for issues and problems beyond their academic sphere. It provides relevant support structures for which students are directly communicated and informed immediately upon enrolment in the University.

2. Η ΕΕΑ σημειώνει ότι τα μαθησιακά αποτελέσματα θα πρέπει να είναι διατυπωμένα με σαφήνεια. Στην απάντησή σας θα πρέπει να διαμορφωθεί και να σταλεί στον Φορέα η κοινή μορφή περιγραφής των μαθημάτων.

«Learning outcomes are not clearly defined, both at the program level and for many of the individual courses». (Έκθεση ΕΕΑ, σελ. 3)

«Based on the material available to the EEC, we recommend that the intended learning outcomes for the individual courses as well as for the programme to be identified more clearly.» (Έκθεση ΕΕΑ, σελ. 10)

«A standardised/uniform template for Course Descriptions will be formulated. This template will include specific guidelines for the instructors to clearly state the intended learning outcomes of their course» (Απάντηση ιδρύματος, σελ. 1)

Response:

We have clarified this by checking and verifying it for all the courses and in particular providing a more detailed description on the learning outcomes, especially for the courses were missing that aspect and were indicated during the evaluation. Furthermore, we have provided this for all

courses (included the newly introduced) in the unified CYQAA template. The revised Annex II is attached to this document.

3. Θα πρέπει να αναφέρετε συγκεκριμένα την αιτιολογία για τους δύο τίτλους που απονέμετε, M.Eng.και M.Sc. και πώς αντιμετωπίζετε τις πιο κάτω παρατηρήσεις της ΕΕΑ.

«Some students have reported that they find the courses to be easy compared to their undergraduate experience. This is not a major concern for the professional M.Eng. program where the main goal is developing the interdisciplinary understanding of the students rather the depth of disciplinary knowledge. However, this approach may be less appropriate for the M.Sc. research oriented programme». (Έκθεση ΕΕΑ, σελ. 3)

«Some of the courses seems to be at an academic level that is too low for a research oriented M.Sc. degree, compared to disciplinary M.Sc. programs in this university and elsewhere. This is due to the requirement of making courses accessible to students from a wide range of disciplines. The program should consider offering courses at a higher level to M.Sc. students, possibly taken from the disciplinary M.Sc. programs. In parallel, staff should consider ways for students from different backgrounds to gain the missing prerequisite knowledge and succeed in these higher-level courses. The Capstone project, which is very suitable for the professional M.Eng. program, should be reconsidered for the M.Sc. program. Possibly it could be reformulated as a more research-oriented activity, including an introduction to research methodology. This should be beneficial for students aiming for a research Ph.D. track rather than professional employment».(Έκθεση ΕΕΑ, σελ. 4)

Response:

First of all, to respond to this, we wish to make a distinction between a Masters of Science undertaken in the Inter-departmental program from a Masters of Science undertaken in a pure Departmental program. The bottom-line is that within the inter-departmental program we identify energy and sustainable design as a theme of multi-disciplinary nature hence the educational and research approach and consequently the requirements are more demanding on the holistic, lateral and consequently inter-desiplinary nature, which are not generally pursued within a pure intra-departmental Masters of Science program. To promote this explicitely, we have introduced a new course, entitled POL 800 Research Methodology (approved by Rectors Council, 37/2019/PRYT, date 05/12/2019) which has been added as a mandatory course only for

M.Sc. students before the start of their thesis (taught in English Language from Fall Semester 2020-2021), which introduces the students to the qualitative and quantitative methodology of research, for a variety of kinds of problems that reflect this educational philosophy and approach and can be seen in more detail in the relevant course description provided in the relevant annex.
For the exact same reason, as stated above, and after careful reconsideration, we decided that the Capstone Design Project should remain also for the Masters of Science students as it fosters the inter-disciplinarity in practice through a guided project. We believe that multi-disciplinary is not the mere addition of courses from different departments, but it is cultivated as a culture and way of approach and thinking, as well as guided through a practical example and engaged experience such as the Capstone Design Project.

4. Θα πρέπει να ενημερώσετε τον Φορέα για τις αλλαγές σε μαθήματα που σημειώνονται πιο κάτω.

« In any case, the committee will revisit and revise (where necessary) the list of the elective courses to add more interdepartmental value in their context.

Moreover, new courses, exclusively along an interdepartmental philosophy, will be added in the list. To this end, each department will be asked to design and offer interdisciplinary modules that are suitable for students having different engineering/architecture background.» (Απάντηση ιδρύματος, σελ. 4)

Response:

One new elective courses ECE 686 - Power System Modeling (8 ECTS) taught in Greek, have been added to the interdepartmental program for the Fall Semester 2019/20 and the elective MME 566 - Advanced Semiconductor Materials and Nano devices (8 ECTS), was approved to be taught only in English. (approved by Rector Council Decision, 25/2019/PRYT, date 18/07/2019)

The table below shows the distinction between the MEng and MSc. After the revision of the program

Offered Programs of Studies	*M.Eng.*	*M.Sc.*

Mandatory Courses:		
Core Courses	*32 ECTS*	*40 ECTS*
Advanced Project	*24 ECTS*	*24 ECTS*
Graduate Seminar	*1 ECTS*	*1 ECTS*
Educational visits	*1 ECTS*	*1 ECTS*
Elective Courses	*32 ECTS*	*8 ECTS*
Master Thesis	*0 ECTS*	*40 ECTS*
TOTAL ECTS	***90***	***114***

5. Επειδή το πρόγραμμα θα σταλεί στην ΕΕΑ για ανατροφοδότηση, να διευκρινιστούν με συγκεκριμένο παράδειγμα οι διδακτικές μέθοδοι και τα διδακτικά υλικά-μέσα τα οποία χρησιμοποιούνται και επιβεβαιώνουν την πιο κάτω απάντησή σας.

«We reassure the evaluation committee that most of the teaching staff is using modern teaching tools and approaches that well include in-lecture polling, quizzes, or videos.» (Απάντηση ιδρύματος, σελ. 8)

Response:

The instructors of the program's modules are largely using modern teaching tools and approaches that include in-lecture polling, quizzes, discussion-based presentations and videos to achieve the defined learning objectives. Of particular note to this endeavor, is the use of problem based learning approaches, which fall within the broader spectrum of Enquiry-Based Learning (EBL). Scross different courses different alternative methods may be sued depending on the nature of the course. The problem based learning is effectively integrated in a number of program's modules (e.g. ECE 685, ECE 686, ECE 687, Capstone design project etc.). The main features of this process are:

- *The learning process is mainly students' centred*
- *The process is initiated by the presentation of a problem.*
- *The students are responsible for identifying what they need to learn and what information they need to find and what research, investigations and analysis they need to undertake in order to understand the problem and reach to a conclusion.*

Moreover, some fundamental software tools and applications (e.g. MATLAB) are used to increase (and monitor) students' engagement in the courses. This method includes the creation and/or use of interactive scripts (related to specific teaching objectives) that can be accessed from the cloud. When it comes to the assessment of students' engagement, the MATLAB Grader is used to automatically grade their coding assignments.

Furthermore, in some other courses, discussion-based methods are used to develop initiative and independent and critical thinking. For example, an exposition exercise is introduced were students are free to choose a contemporary engineering problem from the public sphere and discuss/argue with their peers. In addition, to promote further independent and critical thinking students are provided with scientific journal papers which they are given time to study at home, and then come to class to discuss in a round table discussion. This approach is particularly appropriate in courses that aim to integrate a wide lateral spectrum such as for example CEE586- Sustainable Built Environment course.