

Cyprus Agency of Quality Assurance and Accreditation in Higher Education

Republic of Cyprus

External Evaluation Report

Program of Study

Institution: University of Cyprus

District: Nicosia

Name of the Program of Study in Greek:

ΠΤΥΧΙΟ ΜΗΧΑΝΙΚΟΥ ΜΗΧΑΝΟΛΟΓΙΑΣ ΚΑΙ ΚΑΤΑΣΚΕΥΑΣΤΙΚΗΣ

Name of the Program of Study in English:

BACHELOR MECHANICAL AND MANUFACTURING ENGINEERING

Department: Mechanical and Manufacturing Engineering

Language/s of instruction: Greek

Faculty: School of Engineering

Program Status (check where applicable):

- New Program of Study:
- Currently operation Program of Study:
 - Registered but not evaluated
 - Evaluated and accredited by SEKAP
 - Evaluated by the Cy.Q.A.A. and did not get accreditation

Program Category (check where applicable):

- Conventional
- Distance Learning
- Inter-university (Name of collaborating university/ies)

TABLE OF CONTENTS

Instructions.....	3
External Evaluation Committee (EEC).....	4
Introduction.....	5
Findings.....	6
Conclusions and Suggestions of the External Evaluation Committee.....	12
Document Number: 300.1.....	13

INSTRUCTIONS:

The present document has been prepared within the framework of the authority and competencies of the Cyprus Agency of Quality Assurance and Accreditation in Higher Education, according to the provisions of the “Quality Assurance and Accreditation of Higher Education and the Establishment and Operation of an Agency on Related Matters Laws of 2015 to 2016” [N. 136 (I)/2015].

The document is duly completed by the External Evaluation Committee for each program of study. The ANNEX (Doc. Number 300.1) constitutes an integral part of the external evaluation report for the external evaluation accreditation of a program of study.

EXTERNAL EVALUATION COMMITTEE:

NAME	TITLE AND RANK	UNIVERSITY / INSTITUTION
PAVLOS ALEIFERIS	PROFESSOR OF THERMOFLUIDS	IMPERIAL COLLEGE LONDON
ATANAS POPOV	PROFESSOR OF DYNAMICS	UNIVERSITY OF NOTTINGHAM UK
NOAM ELIAZ	PROFESSOR OF MATERIALS SCIENCE AND ENGINEERING	TEL-AVIV UNIVERSITY, ISRAEL
POLYCARPOS NICOLAOU	MECHANICAL ENGINEER	ETEK
CHRISTIANA KAMINARIDOU	MECHANICAL ENGINEER	TEPAK

INTRODUCTION:

I. The External Evaluation procedure

- Short description of the documents that have been studied, of the onsite visit meetings, and of the onsite visit to the infrastructures.

Application for evaluations – accreditation – program of study

Presentation of the curriculum – BSc program in Mechanical and Manufacturing Engineering

Presentation: Faculty of Engineering

Presentation: Knowledge – Research – Innovation – Entrepreneurship

Presentation: Department of Mechanical and Manufacturing Engineering

Form: Course evaluation questionnaire

Statistics of grades in the undergraduate program

Selected BSc final projects

Meetings: Vice-Rector for Academic Affairs, Vice-Dean for Academic Affairs, Department Chair and Vice Chair (UG studies coordinator), visit to teaching and research labs, meeting with faculty, members of teaching staff, student representatives, administrative staff, Library visit, computer room.

II. The Internal Evaluation procedure

- Comments concerning the quality and the completeness of the application submitted by the institution of higher education (Doc. Number 200.1), as well as concerning the overall acceptance of and participation in the quality assurance procedures, by the institution in general and by the program of study under evaluation in particular.

The evaluation committee appreciates the time and effort put in by the members of the Academic staff of the department in preparing this application and all associated documents provided to us as supplementary information to assist us with our evaluation task.

FINDINGS:

1. EFFECTIVENESS OF TEACHING WORK – AVAILABLE RESOURCES

- Organization of Teaching Work

Overall the BSc Program in Mechanical and Manufacturing Engineering at University of Cyprus is well organized in compliance with admission requirements set by the government and in compliance with the requirements of the professional body.

The students appear to be well supported by the members of Academic staff and experience modern methods of teaching and learning that include electronic platform support.

The currently low number of students allows for constructive teaching and communication even on a one-to-one basis. However, the committee felt this practice is not necessarily sustainable in case of plans for future expansion of student numbers.

Moreover, it is not entirely clear how the students participate and contribute to the improvement of the educational process on a fundamental level to make it more effective.

The procedures for the conduct and the format of the examinations is not part of a formal process of setting exams and moderating those on a departmental level, but organized and applied individually by each Academic ad-hoc.

Although the research labs were equipped to a high standard and this benefited final year projects, teaching labs for core engineering subjects taught in the first three years of study were not considered of adequate number and quality to ensure that the learning objectives are met. This applies particularly to labs related to fluid mechanics, thermodynamics and solid mechanics. The committee appreciates that the current spread of the Department in many different sites has been a contributing factor to this situation. We encourage the Department to strategically develop teaching labs of this type in their new campus and not focus only on moving and expanding current research labs.

The new Library is an impressive investment by the University that the Department would benefit from, but it clearly needs some time to get up to steady state to be fully useful to the students.

Generally, it was obvious to the committee that there is a need for formal and transparent system of Academic mentoring, tutoring and feedback to students, as detailed later on in the report.

Although, there are University regulations related to plagiarism, there is no evidence for their implementation in cases of potential widespread Academic offences and we have made specific suggestions to improve on that.

- **Teaching**

All members of Academic staff are very enthusiastic about their teaching and make a significant effort at adopting the best practices of course delivery, including books and modern educational platforms. However, we strongly recommend investment in subject-designated teaching laboratories to strengthen learning outcomes.

- **Teaching personnel**

All the members of Academic staff are experts in their field of research. However, the committee felt that because the fields of expertise of some of the Academics (starting from their undergraduate degrees) are not core

mechanical engineering, the program of study and individual courses should be restructured throughout with traditional core mechanical engineering content, as detailed later in the report.

The number of students to Academic staff ratio is favorable to Academics developing their own research path as well as for international rankings.

For planned retirements, redundancies, sabbaticals, etc. it seems that there is a need for a contingency plan that would assist supervised students by smooth transition to a new status.

2. PROGRAM OF STUDY AND HIGHER EDUCATION QUALIFICATIONS

- **Purpose and Objectives and learning outcomes of the Program of Study**

The program document needs to be streamlined and harmonized to illustrate better the coherence of the learning outcomes as a whole. It was not clear how the learning outcomes were matched against coursework assessment and written examinations.

- **Structure and Content of the Program of studies**

There are issues of consistency and coherence in the structure of the program.

It was felt both from the program document and discussions with students that there is a mismatch in the allocated 10 ECTS of the final year project and the actual workload experienced in practice by the students. Specific recommendations are made later in the report.

- **Quality Assurance of the Program of studies**

The committee felt that the members of the Academic staff safeguard quality by significant individual effort. The committee were not made aware of any clear procedures and detailed information to support quality assurance beyond this individual effort. Considering the lack of clear formal procedures for quality assurance, it is unclear how administrative personnel and students participate effectively in such efforts.

Despite this criticism the committee did not observe any quality assurance issues, but it is important to reduce the risk of potential future issues in this area.

- **Management of the Program of Study**

It is suggested to form a “Teaching Committee” that will meet at least twice per semester, preferably at the start and the end of each semester. This could act as a starting point to harmonize the syllabus documentation in terms of learning

objectives and outcomes. Then, it could focus on highlighting needs in terms of teaching equipment, planning any new courses and responding to student evaluation course feedback.

- **International Dimension of the Program of Study**

There are existing agreements for students exchange programs, for example Erasmus and mutual agreements with Universities in the USA.

While research collaborations may compare positively with other institutions, it is unclear whether any teaching collaborations are being actively pursued to a high level.

- **Connection with the labor market and the society**

Indicators for the employability of graduating students appear positive. There is some room for improvement in terms of effective procedures for career development to be applied formally. Similarly, benefits to the society can be strengthened by industrial involvement in terms of advice and feedback.

3. RESEARCH WORK AND SYNERGIES WITH TEACHING

- **Research Teaching Synergies**

There is an excellent synergy between teaching and research in terms of supporting final year projects. Research facilities and external/internal funding compare positively to other institutions in Cyprus and abroad.

4. ADMINISTRATION SERVICES, STUDENT WELFARE AND SUPPORT OF TEACHING WORK

- **Administrative Mechanisms**

Mechanisms are in place for academic and personal matters, yet there is no clear evidence of how these are applied formally and efficiently.

- **Infrastructures / Support**

The Library infrastructure is impressive despite not being fully established yet. The use of Blackboard is appropriate and there is no perceived shortage of any teaching materials.

While the research labs are well equipped, the teaching labs suffer from relatively low level of investment in terms of equipment and strategically defined priorities for experiments to support the curriculum.

- Financial Resources

Despite the economic climate over the past six years, there appears to be good use of financial resources managed by the Academic Department. It is also understood that the Academics have not been penalized in terms of their remuneration.

It seems that there could have been better allocation of financial resources to develop the program in terms of practical lab exercises in purposely designed teaching labs.

5. DISTANCE LEARNING PROGRAMS

N/A

6. DOCTORAL PROGRAMS OF STUDY

N/A to this report. See the dedicated report.

CONCLUSIONS AND SUGGESTIONS OF THE EXTERNAL EVALUATION COMMITTEE¹

- The present situation of the program, good practices, weaknesses that have been detected during the external evaluation procedure by the external evaluation committee, suggestions for improvement.

This is a relatively young Mechanical Engineering Department that has come a long way developing its teaching syllabus and courses as well as good research track record and it is also accredited by the professional body in Cyprus.

The members of staff are very enthusiastic and have put in a great amount of work into design, implementation and delivery of the teaching courses and projects. Nevertheless, the Department would benefit from more formalized procedures and changes to the current syllabus to ensure better quality assurance and consistency in the learning outcomes.

¹ It is highlighted, at this point, that the External Evaluation Committee is expected to justify its findings and its suggestions on the basis of the Document num.: 300.1. The External Evaluation Committee is not expected to submit a suggestion for the approval or the rejection of the program of study under evaluation. This decision falls under the competencies of the Council of the Agency of Quality Assurance and Accreditation of higher education.

We have made specific suggestions that are not repeated here but they can be found in some detail in the main body of this report.

Altogether, the satisfaction and the enthusiasm of the students as well as the vibrant Department should be praised. We believe that once the Department reaches steady state in terms of number of Faculty members, number of students, infrastructure and facilities in the new campus, and if most of our recommendations are implemented (including teaching in English, if regulation allows), the Department has the potential of becoming internationally recognized.

Quality Standards and Indicators

External Evaluation of a Program of Study

Institution: University of Cyprus

Program of Study: BACHELOR MECHANICAL AND MANUFACTURING ENGINEERING

Duration of the Program of Study: 4 years – 8 semesters

Evaluation Date: 11/02/2019

The present document has been prepared within the framework of the authority and competencies of the Cyprus Agency of Quality Assurance and Accreditation in Higher Education, according to the provisions of the “Quality Assurance and Accreditation of Higher Education and the Establishment and Operation of an Agency on Related Matters Laws of 2015 to 2016”.

The document describes the quality standards and indicators, which will be applied for the external evaluation of programs of study of institutions of higher education, by the External Evaluation Committee.

DIRECTIONS: Note what is applicable for each quality standard/indicator.

1. Poor
2. To an unsatisfactory degree
3. To a satisfactory degree
4. Best practice
5. Excellent

It is pointed out that, in the case of standards and indicators that cannot be applied due to the status of the institution and/or of the program of study, N/A (= Not Applicable) should be noted and a detailed explanation should be provided on the institution’s corresponding policy regarding the specific quality standard or indicator.

Members of the External Evaluation Committee

NAME	TITLE AND RANK	UNIVERSITY / INSTITUTION
PAVLOS ALEIFERIS	PROFESSOR OF THERMOFLUIDS	IMPERIAL COLLEGE LONDON
ATANAS POPOV	PROFESSOR OF DYNAMICS	UNIVERSITY OF NOTTINGHAM UK
NOAM ELIAZ	PROFESSOR OF MATERIALS SCIENCE AND ENGINEERING	TEL-AVIV UNIVERSITY, ISRAEL
POLYCARPOS NICOLAOU	MECHANICAL ENGINEER	ETEK
CHRISTIANA KAMINARIDOU	MECHANICAL ENGINEER	TEPAK

Date and Time of the On-Site Visit: 11/02/2019 9am to 6pm

Duration of the On-Site Visit: See above

1. EFFECTIVENESS OF TEACHING WORK – AVAILABLE RESOURCES						
1.1	Organization of teaching work	1	2	3	4	5
1.1.1	The student admission requirements to the program of study, are based on specific regulations which are adhered to in a consistent manner.					X
1.1.2	The number of students in each class allows for constructive teaching and communication, and it compares positively to the current international standards and/or practices.				X	
1.1.3	The organization of the educational process safeguards the quality implementation of the program's purpose and objectives and the achievement of the learning outcomes. Particularly, the following are taken into consideration:				X	
1.1.3.1	The implementation of a specific academic calendar and its timely publication.					X
1.1.3.2	The disclosure of the program's curricula to the students, and their implementation by the teaching personnel					X
1.1.3.3	The course web-pages, updated with the relevant supplementary material					X
1.1.3.4	The procedures for the fulfillment of undergraduate and postgraduate assignments / practical training					X
1.1.3.5	The procedures for the conduct and the format of the examinations and for student assessment			X		
1.1.3.6	The effective provision of information to the students and the enhancement of their participation in the procedures for the improvement of the educational process.			X		
1.1.4	Adequate and modern learning resources, are available to the students, including the following:			X		
1.1.4.1	facilities		X			
1.1.4.2	library				X	

	1.1.4.3	infrastructure		X			
	1.1.4.4	student welfare				X	
	1.1.4.5	academic mentoring			X		
1.1.5	A policy for regular and effective communication, between the teaching personnel and the students, is applied.			X			
1.1.6	The teaching personnel, for each course, provide timely and effective feedback to the students.					X	
1.1.7	Statutory mechanisms, for the support of students and the communication with the teaching personnel, are effective.				X		
1.1.8	Control mechanisms for student performance are effective.				X		
1.1.9	Support mechanisms for students with problematic academic performance are effective.				X		
1.1.10	Academic mentoring processes are transparent and effective for undergraduate and postgraduate programs and are taken into consideration for the calculation of academic work load.			X			
1.1.11	The program of study applies an effective policy for the prevention and detection of plagiarism.			X			
1.1.12	The program of study provides satisfactory mechanisms for complaint management and for dispute resolution.			X			

Justify the answer you have provided and note the additional comments you may have on each standard / indicator.

1.1.1. The admission requirements are set by the Pancyprian examination organized by the Ministry of Education and Culture and adhered to in a consistent manner.

1.1.2. On one hand, the currently low number of students allows for constructive teaching and communication even on a one-to-one basis. However, the committee felt that this is not necessarily sustainable in case of plans for future expansion of student numbers.

1.1.3.1.-1.1.3.4. The students seem to be well informed of the programs timetable and other procedures although the committee cannot comment as to whether this information is continuously updated throughout the academic year as necessary, since we did not have a chance to observe the running of the process.

1.1.3.5. The procedures for the conduct and format of the examinations is not part of a formal process of setting exams and moderating those on a departmental level but organized and applied individually by each Academic.

1.1.3.6. It is not clear how the students participate and contribute to the improvement of the educational process on a fundamental level to make it effective.

1.1.4. See individual comments below:

1.1.4.1. and 1.1.4.3. Although the research labs were equipped to a high standard and this benefited final year projects, teaching labs for core engineering subjects taught in the first three years of study were not considered of adequate number and quality to ensure that the learning objectives are met. This applies particularly to labs related to fluid mechanics, thermodynamics and solid mechanics. The committee appreciates that the current spread of the Department in many different sites has been a contributing factor to this situation. We encourage the Department to strategically develop teaching labs of this type on their new campus and not focus only on moving and expanding current research labs.

1.1.4.2. The new Library is an impressive investment by the University that the Department would benefit from but it clearly needs some time to get up to steady state to be fully useful to the students.

1.1.4.5. There is no formal system of Academic mentoring in terms of personal tutors who follow the progress and development of the students from the beginning to the end of their studies. We encourage the Academics to put such a system in place because the general student welfare will benefit from.

1.1.5. There is no formal policy in place outside of one-to-one interactions by individual initiative by Academic staff and students. (See above as well)

1.1.6. The committee felt, based on student comments, that there is timely feedback. However, this is most probably related to the low number of students and again not necessarily sustainable.

1.1.7.-1.1.9. No clear mechanisms were demonstrated to the committee in terms of control, support and effectiveness.

1.1.10. Considering that such processes are not formally in place it is unclear to the committee how transparency can be applied effectively.

1.1.11. There is no policy that has been formally implemented based on current University regulations to deal with potentially widespread practices of plagiarisms in coursework and written exams. This can be improved by extended use of anti-plagiarism online tools to include a database of coursework submissions over a gradually increasing period of time. Similarly, introduction of standardized calculators uniformly used by everybody could assist with exam plagiarism.

1.1.12. Such mechanism is not clear from the provided information and it is important to develop those in view of future proofing the course in case of legal disputes.

Note, additionally:

- α) The expected number of Cypriot and International Students in the program of study. Lack of international students simply because the language of instruction is not English.
- β) The countries of origin of the majority of students. Greek Cypriots
- γ) The maximum planned number of students per class-section. 40-50

1.2	Teaching	1	2	3	4	5
1.2.1	The methodology utilized in each course is suitable for achieving the course's purpose and objectives and those of the individual modules.				X	
1.2.2	The methodology of each course is suitable for adults.					X
1.2.3	Continuous-formative assessment and feedback are provided to the students regularly.				X	
1.2.4	The assessment system and criteria regarding student course performance, are clear, adequate, and known to the students.					X
1.2.5	Educational activities which encourage students' active participation in the learning process, are implemented.				X	
1.2.6	Teaching incorporates the use of modern educational technologies that are consistent with international standards, including a platform for the electronic support of learning.					X
1.2.7	Teaching materials (books, manuals, journals, databases, and teaching notes) meet the requirements set by the methodology of the program's individual courses, and are updated regularly.					X

Justify the answer you have provided and note the additional comments you may have on each standard / indicator.

1.2.1.-1.2.7. All the members of Academic staff are very enthusiastic about their teaching and make a significant effort at adopting the best practices of course delivery, including books and modern educational platforms. However, comments have already been made regarding the lack of teaching labs.

1.3	Teaching Personnel	1	2	3	4	5
1.3.1	The number of full-time academic personnel, occupied exclusively at the institution, and their fields of expertise, adequately support the program of study.		X			
1.3.2	The members of teaching personnel for each course have the relevant formal and fundamental qualifications for teaching the course, as described by the legislation, including the following:				X	
1.3.2.1	Subject specialization, preferably with a doctorate, in the discipline.				X	
1.3.2.2	Publications within the discipline.					X
1.3.3	The specializations of Visiting Professors adequately support the program of study.	X				
1.3.4	Special Teaching Personnel and Special Scientists have the necessary qualifications, adequate work experience and specialization to teach a limited number of courses in the program of study.				X	
1.3.5	In every program of study the Special Teaching Personnel does not exceed 30% of the Teaching Research Personnel.				X	
1.3.6	The teaching personnel of each private institution of tertiary education, to a percentage of at least 70%, has recognized academic qualification, by one level higher than that of the program of study in which he/she teaches.	N/A				
1.3.7	In the program of study, the ratio of the number of courses taught by full-time personnel, occupied exclusively at the institution, to the number of courses taught by part-time personnel, ensures the quality of the program of study.					X
1.3.8	The ratio of the number of students to the total number of teaching personnel is adequate for the support and safeguarding of the program's quality.					X
1.3.9	The academic personnel's teaching load does not limit the conduct of research, writing, and contribution to the society.					X
1.3.10	Future redundancies / retirements, expected recruitment and promotions of academic personnel			X		

	safeguard the unimpeded implementation of the program of study within a five-year span.					
1.3.11	The program's Coordinator has the qualifications and experience to efficiently coordinate the program of study.			X		

Justify the answer you have provided and note the additional comments you may have on each standard / indicator.

1.3.1., 1.3.2. and 1.3.11. All members of Academic staff are experts in their field of research. However, the committee felt that because the fields of expertise of some of the Academics (starting from their undergraduate degrees) are not all core mechanical engineering, the program of study and individual courses have not been structured from the beginning and throughout with traditional core mechanical engineering content. For example, this was particularly evident in the fluid mechanics stream, turbomachinery, traditional power systems (including nuclear) and mechanical design assignments.

1.3.3. We were not informed of any formal appointments of Visiting Professors to support the program of study.

1.3.4.-1.3.5. The mechanism by which Special Teaching Personnel and Scientists can be allowed to lead or teach on a limited number of courses was not made clear to the committee. Neither were we made aware of any regulations that restrict special teaching personnel to 30%.

1.3.7.-1.3.9. The number of students to Academic staff ratio is favorable to Academics developing their own research path as well as for international rankings.

1.3.10. Considering the unfortunate event of a member of Academic staff passing away unexpectedly, the Department found itself in a position that safeguarding the program in a particular area was not easy to handle. Although, for planned retirements, redundancies, sabbaticals, etc. there maybe no issue, it seems that there is no contingency plan in place that would assist supervised students by smooth transition to a new status.

2. PROGRAM OF STUDY AND HIGHER EDUCATION QUALIFICATIONS						
2.1	Purpose and Objectives and learning outcomes of the Program of Study	1	2	3	4	5
2.1.1	The purpose and objectives of the program of study are formulated in terms of expected learning outcomes and are consistent with the mission and the strategy of the institution.			X		
2.1.2	The purpose and objectives of the program and the learning outcomes are utilized as a guide for the design of the program of study.		X			
2.1.3	The higher education qualification and the program of study, conform to the provisions of their corresponding Professional and Vocational Bodies for the purpose of registration to these bodies.					X
2.1.4	The program's content, the methods of assessment, the teaching materials and the equipment, lead to the achievement of the program's purpose and objectives and ensure the expected learning outcomes.			X		
2.1.5	The expected learning outcomes of the program are known to the students and to the members of the academic and teaching personnel.				X	
2.1.6	The learning process is properly designed to achieve the expected learning outcomes.		X			
2.1.7	The higher education qualification awarded to the students, corresponds to the purpose and objectives and the learning outcomes of the program.			X		
<p>Justify the answer you have provided and note the additional comments you may have on each standard / indicator.</p> <p>2.1.1., 2.1.2., 2.1.4.-2.1.7. On the basis of the master program document and the discussions that followed the committee felt that the way learning objectives and outcomes had been formulated was not consistent across all courses. It was not clear how the learning outcomes were matched against coursework assessment and written examinations. The program document needs to be streamlined and harmonized to illustrate better the coherence of the learning outcomes as a whole. The order of courses MME 155 and MME 255 does not seem right, at least according to how the learning outcomes are listed. Also, a similar problem was identified in the sequence of MME 325 and MME 327.</p> <p>2.1.3. Nevertheless, the program is considered to conform with the requirements for registration with the professional bodies of Cyprus.</p>						

2.2	Structure and Content of the Program of Study	1	2	3	4	5
2.2.1	The course curricula clearly define the expected learning outcomes, the content, the teaching and learning approaches and the method of assessing student performance.			X		
2.2.2	The European Credit Transfer System (ECTS) is applied and there is true correspondence between credits and workload per course and per semester for the student either he / she studies in a specific program or he/she is registered and studies simultaneously in additional programs of studies according to the European practice in higher education institutions.			X		
2.2.3	The program of study is structured in a consistent manner and in sequence, so that concepts operating as preconditions precede the teaching of other, more complex and cognitively more demanding, concepts.		X			
2.2.4	The higher education qualification awarded, the learning outcomes and the content of the program are consistent.			X		
2.2.5	The program, in addition to the courses focusing on the specific discipline, includes an adequate number of general education courses.					X
2.2.6	The content of courses and modules, and the corresponding educational activities are suitable for achieving the desired learning outcomes with regards to the knowledge, skills, and abilities which should be acquired by students.			X		
2.2.7	The number and the content of the program's courses are sufficient for the achievement of learning outcomes.			X		
2.2.8	The content of the program's courses reflects the latest achievements / developments in science, arts, research and technology.				X	
2.2.9	Flexible options / adaptable to the personal needs or to the needs of students with special needs, are provided.				X	

Justify the answer you have provided and note the additional comments you may have on each standard / indicator.

2.2.1., 2.2.3., 2.2.4., 2.2.6., 2.2.7. There are issues of consistency and coherence in the structure of the program along the lines elaborated in the previous section.

2.2.2. It was felt both from the program document and discussions with students that there is a mismatch in the allocated 10 ECTS of the final year project and the actual workload experienced in practice by the students. It is suggested that the number of ECTS be increased to at least 15 or perhaps up to 20. The larger figure would apply in case the Department elected to proceed with substantial group projects like Formula Student, Shell

Eco marathon, drone competitions, etc. This would need to be balanced by removal of ECTS from elective courses.

2.2.5. There is enough flexibility with regards to taking general educational courses. The number of 15 ECTS for electives is sufficiently high and comparable to other institutions.

Note the expected number of students who will be studying simultaneously at another Academic institution, based on your experience so far, regarding students who study simultaneously in the programs of your institution.

It seems there is no student enrolled simultaneously in another Academic institution.

2.3	Quality Assurance of the Program of Study	1	2	3	4	5
2.3.1	The arrangements regarding the program's quality assurance define clear competencies and procedures.		X			
2.3.2	Participation in the processes of the system of quality assurance of the program, is ensured for			X		
	2.3.2.1 the members of the academic personnel					X
	2.3.2.2 the members of the administrative personnel			X		
	2.3.2.3 the students.		X			
2.3.3	The guide and / or the regulations for quality assurance, provide detailed information and data for the support and management of the program of study.		X			
2.3.4	The quality assurance process constitutes an academic process and it is not restricted by non-academic factors.					X

Justify the answer you have provided and note the additional comments you may have on each standard / indicator.

2.3.1.,2.3.3. The committee were not made aware of any clear procedures and detailed information to support quality assurance.

2.3.2. The committee felt that the members of Academic staff safeguard quality by ad-hoc efforts. Considering the lack of clear formal procedures for quality assurance, it is again unclear how administrative personnel and students participate effectively in such efforts.

2.3.4. Considering the ad-hoc efforts of all Academics to ensure quality, it is felt that they are not restricted by non-Academic factors.

2.4	Management of the Program of Study	1	2	3	4	5
2.4.1	Effective management of the program of study with regard to its design, its approval, its monitoring and its review, is in place.			X		
2.4.2	It is ensured that learning outcomes may be achieved within the specified timeframe.			X		
2.4.3	It is ensured that the program's management and development process is an academic process which operates without any non-academic interventions.					X
2.4.4	The academic hierarchy of the institution, (Rector, Vice-Rectors, Deans, Chairs and Programs' Coordinators, academic personnel) have the sole responsibility for academic excellence and the development of the programs of study.					X
2.4.5	Information relating to the program of study are posted publicly and include:					X
2.4.5.1	The provisions regarding unit credits					X
2.4.5.2	The expected learning outcomes					X
2.4.5.3	The methodology					X
2.4.5.4	Course descriptions					X
2.4.5.5	The program's structure					X
2.4.5.6	The admission requirements					X
2.4.5.7	The format and the procedures for student assessment					X
2.4.6	The award of the higher education qualification is accompanied by the Diploma Supplement which is in line with the European and international standards.					X
2.4.7	The effectiveness of the program's evaluation mechanism, by the students, is ensured.				X	
2.4.8	The recognition and transfer of credit units from previous studies is regulated by procedures and regulations which ensure that the majority of credit units is awarded by the institution which awards the higher education qualification.				X	

Justify the answer you have provided and note the additional comments you may have on each standard / indicator.

2.4.1.-2.4.2. Although the program of study is managed by members of Academic staff within the merit of their own individual courses, there is no higher level dedicated committee to oversee the whole program development and running throughout the Academic year. Such a committee would need to report to departmental meetings after having met on a regular

basis. It is suggested to form such a “Teaching Committee” that will meet at least twice per semester, preferably at the start and the end of each semester. This could act as a starting point to harmonize the syllabus documentation in terms of learning objectives and outcomes. Then, it could focus on highlighting needs in terms of teaching equipment and planning any new courses.

2.4.3.-2.4.8. No major issue was identified but it is suggested to introduce two different sections in the course evaluation forms were the students will grade the course itself and the instructor separately.

In the case of practical training, note: Not relevant beyond practical training involved with workshops sessions or final year projects.

- The number of credit units for courses and the number of credits for practical training
- In which semester does practical training takes place?
- Note if practical training is taking place in a country other than the homecountry of the institution which awards the higher education qualification

2.5	International Dimension of the Program of Study	1	2	3	4	5
2.5.1	The program’s collaborations with other institutions are compared positively with corresponding collaborations of other departments / programs of study in Europe and internationally.			X		
2.5.2	The program attracts Visiting professors of recognized academic standing.	X				
2.5.3	Students participate in exchange programs.					X
2.5.4	The academic profile of the program of study is compatible with corresponding programs of study in Cyprus and internationally.			X		

Justify the answer you have provided and note the additional comments you may have on each standard / indicator.

2.5.1. Although research collaborations may compare positively with other institutions, it is unclear whether any teaching collaborations are being pursued actively to a high level.

2.5.2. There has not been any formal proof of visiting professors of high international standing being attracted to the program of study.

2.5.3. There are agreements for students exchange programs in place.

2.5.4. The matter has been commented on in previous sections.

Also, comment on the degree the program compares positively with corresponding programs operating in Cyprus and abroad in higher education institutions of the same rank.

The program would compare more positively if it was delivered in English.

2.6	Connection with the labor market and the society	1	2	3	4	5
2.6.1	The procedures applied, so that the program conforms to the scientific and professional activities of the graduates, are adequate and effective.			X		
2.6.2	According to the feasibility study, indicators for the employability of graduates are satisfactory.					X
2.6.3	Benefits, for the society, deriving from the program are significant.				X	

Justify the answer you have provided and note the additional comments you may have on each standard / indicator.

2.6.1.-2.6.3. Although indicators for the employability of graduates appear satisfactory, there is room for improvement in terms of effective support procedures to be applied formally. Similarly, benefits to the society can be strengthened by industrial involvement in terms of advice and feedback.

3. RESEARCH WORK AND SYNERGIES WITH TEACHING						
3.1	Research - Teaching Synergies	1	2	3	4	5
3.1.1	It is ensured that teaching and learning have been adequately enlightened by research.					X
3.1.2	New research results are embodied in the content of the program of study.					X
3.1.3	Adequate and sufficient facilities and equipment are provided to support the research component of the program of study, which are available and accessible to the personnel and the students.					X
3.1.4	The results of the academic personnel's research activity are published in international journals with the peer-reviewing system, in international conferences, conference minutes, publications etc.					X
3.1.5	External, non-governmental, funding for the academic personnel's research activities, is compared positively to the funding of other institutions in Cyprus and abroad.					X
3.1.6	Internal funding, of the academic personnel's research activities, is compared positively to the funding of other institutions in Cyprus and abroad.					X

3.1.7	The policy for, indirect or direct, internal funding of the academic personnel's research activity is satisfactory.					X
3.1.8	The participation of students, academic, teaching and administrative personnel of the program in research activities and projects is satisfactory.					X
3.1.9	Student training in the research process is sufficient.					X

Justify the answer you have provided and note the additional comments you may have on each standard / indicator.

3.1.1.-3.1.9. There appears to be excellent synergy between teaching and research in terms of supporting final year projects. Research facilities and external/internal funding are certainly compared positively to other institutions in Cyprus and abroad.

4. ADMINISTRATION SERVICES, STUDENT WELFARE AND SUPPORT OF TEACHING WORK

4.1	Administrative Mechanisms	1	2	3	4	5
4.1.1	There is a Student Welfare Service that supports students with regards to academic and personal problems and difficulties.				X	
4.1.2	Statutory administrative mechanisms for monitoring and supporting students are sufficient.			X		
4.1.3	The efficiency of these mechanisms is assessed on the basis of specific criteria.			X		

Justify the answer you have provided and note the additional comments you may have on each standard / indicator.

4.1.1.-4.1.3. Although, mechanisms are in place for Academic and personal matters, there is no clear evidence of how these are applied formally and efficiently, neither their associating criteria.

4.2	Infrastructure / Support	1	2	3	4	5
4.2.1	There are suitable books and reputable journals supporting the program.					X
4.2.2	There is a supportive internal communication platform.					X
4.2.3	The facilities are adequate in number and size.		X			

4.2.4	The equipment used in teaching and learning (laboratory and electronic equipment, consumables etc) are quantitatively and qualitatively adequate.		X			
4.2.5	Teaching materials (books, manuals, scientific journals, databases) are adequate and accessible to students.					X
4.2.6	Teaching materials (books, manuals, scientific journals, databases) are updated regularly with the most recent publications.					X
4.2.7	The teaching personnel are provided with training opportunities in teaching method, in adult education, and in new technologies on the basis of a structured learning framework.				X	

Justify the answer you have provided and note the additional comments you may have on each standard / indicator.

4.2.1.,4.2.2.,4.2.5.,4.2.6 The Library infrastructure is impressive despite not being fully established yet. The use of Blackboard is appropriate and there is no perceived shortage of any teaching materials.

4.2.3.,4.2.4. While the research labs are well equipped, the teaching labs suffer from low level investment in terms of equipment and strategically defined priorities for experiments to support the curriculum.

4.3	Financial Resources	1	2	3	4	5
4.3.1	The management and allocation of the financial resources of the program of study, allow for the development of the program and of the academic / teaching personnel.			X		
4.3.2	The allocation of financial resources as regards to academic matters, is the responsibility of the relevant academic departments.					X
4.3.3	The remuneration of academic and other personnel is analogous to the remuneration of academic and other personnel of the respective institutions in Cyprus.					X
4.3.4	Student tuition and fees are consistent to the tuition and fees of other respective institutions.	N/A				

Justify the answer you have provided and note the additional comments you may have on each standard / indicator.

4.3.1. There could have been better allocation of financial resources to develop the program in terms of practical lab exercises in purposely designed teaching labs.

4.3.2.,4.3.3. Despite the economic climate over the past six years there appears to be good use of financial resources managed by the Academic Department. It is also understood that the Academics have not been penalized in terms of their remuneration.

The following criterion applies additionally for distance learning programs of study.

5.	DISTANCE LEARNING PROGRAMS – NOT APPLICABLE	1	2	3	4	5
5.1	Feedback processes for teaching personnel with regards to the evaluation of their teaching work, by the students, are satisfactory.					
5.2	The process and the conditions for the recruitment of academic / teaching personnel, ensure that candidates have the necessary skills and experience for long distance education.					
5.3	Through established procedures, appropriate training, guidance and support, are provided to teaching personnel, to enable it to efficiently support the educational process.					
5.4	Student performance monitoring mechanisms are satisfactory.					
5.5	Adequate mentoring by the teaching personnel, is provided to students, through established procedures.					
5.6	The unimpeded long distance communication between the teaching personnel and the students, is ensured to a satisfactory degree.					
5.7	Assessment consistency, its equivalent application to all students, and the compliance with predefined procedures, are ensured.					
5.8	Teaching materials (books, manuals, scientific journals, databases) comply with the requirements provided by the long distance education methodology and are updated regularly.					
5.9	The program of study has the appropriate and adequate infrastructure for the support of learning.					
5.10	The supporting infrastructures are easily accessible.					

5.11	Students are informed and trained with regards to the available educational infrastructure.											
5.12	The procedures for systematic control and improvement of the supportive services are regular and effective.											
5.13	Infrastructure for distance education is comparable to university infrastructure in the European Union and internationally.											
5.14	Electronic library services are provided according to international practice in order to support the needs of the students and of the teaching personnel.											
5.15	The students and the teaching personnel have access to the necessary electronic sources of information, relevant to the program, the level, and the method of teaching.											
5.16	The percentage of teaching personnel who holds a doctorate, in a program of study which is offered long distance, is not less than 75%.											
<p>Justify the answer you have provided and note the additional comments you may have on each standard / indicator.</p> <p>If the following apply, note “√” in the appropriate space next to each statement. In case the following statements do not apply, note what is applicable:</p> <table border="1" style="width: 100%;"> <tbody> <tr> <td style="width: 80%;">The maximum number of students per class-section, should not exceed 30 students.</td> <td style="width: 20%;"></td> </tr> <tr> <td>The conduct of written examinations with the physical presence of the students, under the supervision of the institution or under the supervision of reliable agencies which operate in the countries of the students, is compulsory.</td> <td></td> </tr> <tr> <td>The number of long distance classes taught by the academic personnel does not exceed the number of courses taught by the teaching personnel in conventional programs of study.</td> <td></td> </tr> </tbody> </table>							The maximum number of students per class-section, should not exceed 30 students.		The conduct of written examinations with the physical presence of the students, under the supervision of the institution or under the supervision of reliable agencies which operate in the countries of the students, is compulsory.		The number of long distance classes taught by the academic personnel does not exceed the number of courses taught by the teaching personnel in conventional programs of study.	
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The following criterion applies additionally for doctoral programs of study.

6.	DOCTORAL PROGRAMS OF STUDY – NOT APPLICABLE	1	2	3	4	5
6.1	The provision of quality doctoral studies is ensured through Doctoral Studies Regulations.					
6.2	The structure and the content of a doctoral program of study are satisfactory and they ensure the quality provision of doctoral studies.					
6.3	The number of academic personnel, which is going to support the doctoral program of study, is adequate.					
6.4	The doctoral studies' supervisors have the necessary academic qualifications and experience for the supervision of the specific dissertations.					
6.5	The degree of accessibility of all interested parties to the Doctoral Studies Regulations is satisfactory.					
6.6	The number of doctoral students, under the supervision of a member of the academic personnel, is apt for the continuous and effective feedback provided to the students and it complies with the European and international standards.					
6.7	The research interests of academic advisors and supervisors are satisfactory and they adequately cover the thematic areas of research conducted by the doctoral students of the program.					

Justify the answer you have provided and note the additional comments you may have on each standard / indicator.

Note the number of doctoral students under the supervision of each member of the academic personnel of the program and the academic rank of the supervisor.

FINAL REMARKS – SUGGESTIONS

Please note your final remarks and suggestions for the program of study and/or regarding particular aspects of the program.

In addition to suggestions made earlier on this report, the following need to be considered as well:

- Personal homepages should be constructed for all faculty.
- Teaching sharing between departments is encouraged.
- The students felt that their maths courses should be more aligned with engineering mathematics that would be applied to their engineering courses later on, rather than be abstract or purely theoretical.
- Although the experimental methods and statistical analysis course is commendable, there is a need for technical report writing tutorial/course.
- We encourage course delivery by more than one Academic member of staff.
- We encourage adding a course, such as a non-examinable course "Horizons in Mechanical Engineering" in the first year, which will consist of popular science presentations given by relevant sectors in order to expose the students to practical aspects of the profession.
- Statistical analysis of student grades needs to be strengthened by inclusion of distributions.

Names and Signatures of the Chair and the Members of the External Evaluation Committee:

Name:	Signature:
PAVLOS ALEIFERIS	
ATANAS POPOV	
NOAM ELIAZ	
POLYCARPOS NICOLAOU	
CHRISTIANA KAMINARIDOU	

Date: 13/02/2019