

Doc. 300.1.3

Date: .....

# Feedback report from EEC experts

- **Higher education institution:**

University of Cyprus

- **Town:** Nicosia

- **Programme of study (Name, ECTS, duration, cycle)**

**In Greek:** Μηχανική Μηχανολογίας και Κατασκευαστικής (2 Έτη, 120 ECTS, Μάστερ, MSc)

**In English:** Mechanical and Manufacturing Engineering (2 Years, 120 ECTS, Master, MSc)

- **Language of instruction:** Greek or English

- **Programme's status**

~~New programme:~~

Currently operating:

√

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 and 2019” [136 (I)/2015 and 35(I)/2019].

#### A. External Evaluation Committee (EEC)

<i>Name</i>	<i>Position</i>	<i>University</i>
Pavlos Aleiferis	Professor	Imperial College London
Noam Eliaz	Professor	Tel Aviv University
Atanas Popov	Professor	University of Nottingham
Mr. Polycarpos Nicolaou	Member of the professional association	
Ms. Christiana Kaminaridou	Student	Cyprus University of Technology

#### B. Guidelines on content and structure of the report

- *The EEC based on the external evaluation report (Doc.300.1.1) and the Higher Education Institution’s response, must justify whether actions have been taken in improving the quality of the programme of study in each assessment area.*
- *Below each assessment area the EEC must circle the degree of compliance.*

## 1. Effectiveness of teaching work

### 1.1 Organization of teaching work

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. Additional comments: 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.

No significant expansion in student numbers is expected in the future. More precisely, the planned number of students to be admitted in the Master program of MME Department in the next years is 8-15 annually.

1.1.3.5. The procedures for the conduct and the format of the examinations and for student assessment.

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.

The formatting of the examination procedures followed in the Department of Mechanical and Manufacturing Engineering are in line with the general examination rules and procedures set at the University of Cyprus. The latter are consistently applied in all Departments of the University of Cyprus. These include among others the following:

“The University of Cyprus applies the principle of continuous assessment to each course. Specifically, the student's performance on a particular subject is assessed, at the discretion of the lecturer and with the approval of the Department, in at least two different ways. One must be the final written examination. The percentage of participation in the final written examination in the final score cannot exceed 60% of the final score. The allocation of the percentages for each exam, as determined by the curriculum, is independent of the degree the student achieves in each exam. The final written exam does not apply only in the case of the diploma thesis, screenwriting lessons, study or teamwork”.

In an effort to develop a more uniform process of setting examination papers on an individual basis thus maintaining the quality assurance in all graduate courses as per the Committee's suggestion, the Department Chair will be responsible for the statistical analysis of students' grades and will discuss the evaluation outcome with each Academic.

1.1.3.6. 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. 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.

Based on the comments of the evaluators, the department has assigned to the graduate studies committee to act also as a teaching committee to be in charge of the quality assurance of the graduate studies and make sure that administrative staff and students participate to the improvement of the educational process. The graduate studies committee will assure that all procedures and regulations of the graduate programs are implemented properly and will formally meet with administrative staff and students once every year to discuss any issues related to the educational process and how they can be improved.

1.1.4.1. and 1.1.4.3. Although the research labs were equipped to a high standard and this benefited research projects, more focused teaching labs for core engineering subjects would be required. This applies particularly to labs related to experimental fluid mechanics and thermodynamics. 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.

We thank the evaluation committee for highlighting the lack of teaching laboratories in some thematic areas and courses including courses related to fluid mechanics and thermodynamics.

As recognized by the Committee members, the current spread of the Department in 4 different sites and the lack of adequate teaching laboratory space prevented the development of teaching labs for core engineering subjects.

The Department has put into force a strategic plan for the development of teaching labs, with emphasis to laboratories linked to fluid mechanics, thermodynamics and solid mechanics.

As a result of this effort, the University of Cyprus has committed to provide to the department an amount of €500,000 within the next 2 years (by 2021) to be spent exclusively for the needs of the department for teaching laboratories and equipment. An amount of €50,000 has already be given to the department for this purpose. The laboratory equipment will be used for both undergraduate and graduate level laboratory exercises.

1.1.5. A policy for regular and effective communication, between the teaching personnel and the students, is applied.

There is no formal policy in place outside of one-to-one interactions by individual initiative by Academic staff and students.

As far as the graduate courses are concerned every academic instructor assigns weekly office hours for effective communication with the students. For the supervision of the graduate students at the Master level and following the suggestions of the evaluators, the department established the “thesis committee meeting” to take place at least six months before the expected examination of the Master thesis project (the Master thesis defense). The student will have to present the progress of his research work in front of the three members of the Master committee consisting of the academic advisor and two other faculty members of the department whose research interests are close to the research of the student. The role of the committee will be to assess the progress and performance of the student, support the student’s research activities by providing advice, identify potential problematic performances and find ways to improve them.

1.1.7.-1.1.9. Statutory mechanisms, for the support of students and the communication with the teaching personnel, are effective.

Control mechanisms for student performance are effective.

Support mechanisms for students with problematic academic performance are effective.

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

The thesis committee meetings described in our response to the comment #1.1.5 above will be an sufficient and effective mechanism for the support of the Master students, for assessing of their academic/research performance and for suggesting solutions to the student in case of a problematic performance.

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.

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

Academic mentoring for graduate students is not considered in the calculation of the academic load according the University of Cyprus regulations. With the Department’s initiative, undergraduate students are equally distributed among all faculty members. The same procedure is used for the number of Diploma Thesis students that each faculty member is supervising. For Master students, there is also an effort to be equally distributed among faculty members.

1.1.11. The program of study applies an effective policy for the prevention and detection of plagiarism.

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

The antiplagiarism online tool *SafeAssign* is available through Blackboard ([https://help.blackboard.com/SafeAssign/Instructor/Language\\_Support](https://help.blackboard.com/SafeAssign/Instructor/Language_Support)), which is accessible to all members of UCY academic staff. Students during exams are only allowed to use “simple” calculators that are not capable of storing information.

1.1.12. The program of study provides satisfactory mechanisms for complaint management and for dispute resolution.

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.

Activities of courses are carried out based on University of Cyprus regulations. For example, the students have access to their exams and in case of a dispute the exam is re-evaluated. Also, in case of plagiarism the students are reported to the “Disciplinary Committee for Student Issues” where the case is thoroughly investigated.

### 1.3 Teaching Personnel

1.3.1., 1.3.2. and 1.3.11. All members of Academic staff are experts in their field of research and this reflects positively on the support of PhD projects. However, it appears that the students may not get the exact type of project that meets their personal research interest due to the small number of academic staff and the narrow range of research topics on offer, for example total lack of experimental fluid mechanics with advanced diagnostic techniques.

We thank the evaluators for the positive comments regarding the expertise of the faculty members. It is true that owing to small number of academic staff the range of research topics is narrow compared to departments that have a larger number of faculty and this is inevitable. We have to stress, however, the fact that since the evaluation (in February 2019) the department increased the number of faculty from 12 to 13 and within this year the number of faculty will be increased to 16. The addition of 4 more faculty members in the department in research areas that were not sufficiently represented during the evaluation, including the areas of fluid mechanics, manufacturing, biomedical devices/bioengineering, automation, will improve significantly this issue.

1.3.3. The specializations of Visiting Professors adequately support the program of study.

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

We apologize if it was not clear during the evaluation, but we would like to inform the Committee that the department has formal appointments of Visiting Professors that support the Master and PhD programs. This is formally done during the summer semester, which makes it easier for the Visiting Professors to come to the department from abroad in order to teach a short-course and interact with the graduate students of the department. The summer of 2018, Prof. Alessio Alexiadis (School of Chemical Engineering, University of Birmingham, UK) served as a Visiting Professor in our department. He taught the short course “A primer on discrete multiphysics” and met with several faculty members and students. The summer of 2017, Dr. Damian Rouson (Sourcery Institute, California, USA) served as a Visiting Professor and taught the short course “Parallel Programming in Modern Fortran”. For this summer, we are in the process of contacting established researchers that would be interested in serving as Visiting Professors.

Other examples from previous years include:

- Prof. Andreas Polycarpou, Texas A&M University, U.S.A.
- Dr. Apostolos Korlos, University of Thessaly, Greece.
- Dr. Dimosthenis Michalopoulos, University of Patras, Greece.
- Prof. Panos Charalambides, University of Maryland, Baltimore County (UMBC), U.S.A.

It is noteworthy to mention at this point that although Visiting Professor positions are often announced in the Department, there are difficulties in attracting candidates from abroad due to language restrictions (official language at the undergraduate level is Greek) as well as different term schedule applied at the University of Cyprus (Fall semester: beginning of September – end of December; Spring Semester: mid-January – end of May) compared to Greek and other European Universities. Based on the above, in the future the Department will be targeting in attracting Visiting Professors for the summer semester.

We agree with the committee that the teaching of the whole program in English will definitely enhance the Visiting Professor appointments.

1.3.10 Future redundancies / retirements, expected recruitment and promotions of academic personnel safeguard the unimpeded implementation of the program of study within a five-year span.

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. 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. This is of particular importance for graduate students involved with long research projects of high ECTS value (56).

We already established that Master students will formally meet with their thesis committee six months before the expected defense of the Mater thesis. As far as the teaching of courses is concerned, more than one faculty members can teach all compulsory courses of the program. The thermodynamics course can be taught by Professors Stavros Kassinos and Dimokratis Grigoriadis, the fluid mechanics course can be taught by Professors Stavros Kassinos, Dimokratis Grigoriadis and Triantafyllos Stylianopoulos, the continuum mechanics course can be taught by Triantafyllos Stylianopoulos and Vasileios Vavourakis, the Modelling and Analysis of Dynamic Systems course can be taught by Professors Loucas Louca and Denis Politis (a new faculty member of the department) and the Manufacturing Process Automation course can be taught by Professors Denis Politis and Eftychios Christoforou (a new faculty member of the department).

**Please circle one of the following for:**

**Effectiveness of teaching work**

*Non-compliant*

*Partially compliant*

*Substantially compliant*

*Fully compliant*

## 2. Program of study and higher education qualifications

### 2.1 Purpose and Objectives and learning outcomes of the program of study

2.1.1., 2.1.2., 2.1.4.-2.1.7. On the basis of the masters 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. 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.

We thank the evaluators for pointing this out. We have streamlined and harmonized the description of the graduate level courses (ANNEX I). The program will be regularly reviewed by the Graduate Studies Committee of the department to keep it up-to-date.

### 2.2 Structure and content of the program of study

2.2.1., 2.2.3., 2.2.5 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. The purpose and objectives of the program and the learning outcomes are utilized as a guide for the design of the program of study. 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. The learning process is properly designed to achieve the expected learning outcomes. The higher education qualification awarded to the students, corresponds to the purpose and objectives and the learning outcomes of the program.

Considering the wide diversity of student applicants who may come even with no engineering background (for example, biologists) the committee felt that some provision for more basic engineering principles should be made in the syllabus. Discussion with students fortified this point. The committee recommends to the Department to consider the inclusion of some of the courses in the undergraduate program as electives in order to fill gaps in engineering for the nonengineering Master students.

We inform all the graduate students about the content of our graduate programs during the interview process, which is compulsory for all candidates for our programs. We pay particularly attention to the students that do not have an engineering background to explain them the needs of the graduate courses and we also ask them during the interview questions to assess their knowledge in mathematics and engineering. Therefore, nonengineering Master students are screened for their ability to perform studies in mechanical engineering and are well informed about the demands of the program before accepting to enter our program.

When they become accepted to the program, nonengineering students are advised and encouraged by the supervisors to audit undergraduate level courses. Unfortunately, there is no provision by the School of Graduate Studies of the University for the doctoral students to register and get credits for attending undergraduate level courses.

### 2.3 Quality assurance of the program of study

2.3.1.-2.3.3. 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.

We agree with the suggestion of the evaluators and we have assigned to the graduate studies committee of the department to be responsible for the quality assurance of the graduate programs and to make sure that administrative staff and students participate to the improvement of the educational process. The graduate studies committee will assure that all procedures and regulations of the graduate programs are implemented

properly and will formally meet with administrative staff and students once every year to discuss any issues related to the educational process and how they can be improved.

## 2.4 Management of the program of study

2.4.1.-2.4.4. 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 linking aspects of the master course to the undergraduate course (for example, via shared electives), planning any new courses and responding to student evaluation course feedback.

We agree with the evaluators. We have assigned to the committee of Graduate Studies of the department, consisting of three faculty members, to act also as a “Teaching Committee” and meet on a regular basis – twice per semester – to oversee the teaching procedures and whether the courses have met the teaching objectives and learning outcomes, link graduate courses to each other and with undergraduate courses, plan new courses, particularly in collaboration with the four new faculty members that have joined or will join the department this year and they will have to develop new courses. The committee along with the Department Head will also respond to the student evaluation of the courses.

## 2.5 International dimension of the program of study

2.5.1. While research collaborations may compare positively with other institutions, it is unclear whether any teaching collaborations are being actively pursued to a high level, like training networks in Europe and overseas.

Our department coordinates the COST action SimInhale (COST Action MP1404) through which several students of the department have visited for a short time other labs abroad. The department also has coordinated the last five years 6 Marie-Curie Individual Fellowships that also included visits of the fellows to labs and companies in Cyprus and abroad. There are also students that have travel for collaboration purposes making use of the Erasmus+ exchange program. The Department has a specific plan to improve its teaching collaborations through targeted actions such as Erasmus+ exchange programs by offering some undergrad courses in English, Erasmus+ staff mobility for teaching programs, participation of the Department’s academic personnel in short Short-Cycle Training Courses (e.g. Erasmus+ Short-Cycle training course on Thermal Analysis in Material Science/SC-ThAnMA), summer short courses offered by visiting professors etc.

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

We apologize if it was not clear during the evaluation, but we would like to inform the Committee that the department has formal appointments of Visiting Professors that support the Master and PhD programs. This is formally done during the summer semester, which makes it easier for the Visiting Professors to come to the department from abroad in order to teach a short-course and interact with the graduate students of the department. The summer of 2018, Prof. Alessio Alexiadis (School of Chemical Engineering, University of Birmingham, UK) served as a Visiting Professor in our department. He taught the short course “A primer on discrete multiphysics” and met with several faculty members and students. The summer of 2017, Dr. Damian Rouson (Sourcery Institute, California, USA) served as a Visiting Professor and taught the short course “Parallel Programming in Modern Fortran”. For this summer, we are in the process of contacting established researchers that would be interested in serving as Visiting Professors.

Other examples from previous years include:

- Prof. Andreas Polycarpou, Texas A&M University, U.S.A.
- Dr. Apostolos Korlos, University of Thessaly, Greece.
- Dr. Dimosthenis Michalopoulos, University of Patras, Greece.
- Prof. Panos Charalambides, University of Maryland, Baltimore County (UMBC), U.S.A.

It is noteworthy to mention at this point that although Visiting Professor positions are often announced in the Department, there are difficulties in attracting candidates from abroad due to language restrictions (official language at the undergraduate level is Greek) as well as different term schedule applied at the University of Cyprus (Fall semester: beginning of September – end of December; Spring Semester: mid-January – end of May) compared to Greek and other European Universities. Based on the above, in the future the Department will be targeting in attracting Visiting Professors for the summer semester.

We agree with the committee that the teaching of the whole program in English will definitely enhance the Visiting Professor appointments.

2.5.3. We were not made aware of specific agreements for students exchange programs at the masters level.

As mentioned in our response to #2.5.1, the department coordinates the COST action SimInhale (COST Action MP1404) through which several graduate students of the department have visited for a short time other labs abroad. We make also efforts to further encourage our students to participate in the ERASMUS program of graduate students exchange.

2.5.4. Teaching the whole program in English would certainly make it more internationally attractive. Invited lectures from Academics abroad and establishing formally Visiting Professorships would also help to broaden the international status of the program and the students would benefit in turn.

We agree with the evaluators. We plan to teach the entire program in English and expand our Visiting Professorship program.

## 2.6 Connection with the labor market and the society

2.6.1.-2.6.3. Indicators for the employability of PhD 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 and industrial processes can be strengthened by industrial involvement in terms of advice and feedback.

We agree with the evaluators for the need of industrial involvement in the PhD research. Our PhD students are benefitted from established collaboration between faculty of the department and external collaborators. Many faculty members have extended collaborations with industrial partners and have received funding from or with them. Examples of such collaborations are the one of Associate Professor Theodora Krasia-Cristoforou with Elysee, a local manufacturer of plastic piping systems and the collaboration of Assistant Professor Triantafyllos Stylianopoulos with Theramir Ltd, a local company specialized on materials for cancer and other diseases.

Associate professor Claus Rebholz has been extensively collaborating with industrial partners in the field of manufacturing in Europe and in Cyprus. Specifically, in Europe:

- Robert Bosch Manufacturing Solutions GmbH (Stuttgart/Germany), part of the bosch group, <https://www.bosch.com/>: Plasma and Laser Technology; Machine Design...
- encontec GmbH (Schwäbisch Gmünd/Germany), <https://www.encontec.de/>: Materials Testing; Process Technology
- Perpetuus Advanced Materials (Ammanford/UK), <https://perpetuusam.com/>: Carbon-based Materials; Plasma Processing

In Cyprus:

- Nikolaides & Kountouris Metal Company Ltd (Nicoais/Cyprus), [http://www.nkmetal.com.cy/company\\_profile\\_en.html](http://www.nkmetal.com.cy/company_profile_en.html): Polyurethane Panels; Thermal Insulation Mortars; Roll Forming; Metal Roofs/Frames.
- Porfyrios Glass Ltd (Nicosia/Cyprus), <http://porfyriosglass.com/>: Energy Glass; Safety Glass; Heat & Surface Treatments; Machining.

- Peta Plastics Ltd (Nicosia/Cyprus), <http://petaplastics.com/>: Plastic Packaging; Product Design; Automation Systems, Mold Design and Manufacture.

Professor Stavros Kassinis has the following collaborations with industrial partners from Europe and USA:

1. MYLAN UK  
Research contract  
<http://www.mylan.co.uk>
2. Simulations Plus Inc., Los Angeles, USA  
Hosted two undergraduate students for summer internships  
Research collaboration  
<https://www.simulations-plus.com>
3. ELPEN Pharma Greece  
Research Contract and student training  
<https://www.elpen.gr>
4. PureIMS, Netherlands  
Research Contract and joint publications  
<https://www.pureims.com/en/home/>
5. Emmace SE, Sweeden  
Research collaboration and joint publications and student training  
<https://www.emmace.se>
6. Medspray, Netherlands  
Hosted two undergraduate students for summer internships  
Research collaboration  
<http://www.medspray.nl/company.html>
7. Aptar Pharma, Germany  
In the process of signing a new contract  
[www.aptar.com](http://www.aptar.com)

Furthermore, research funding from Cyprus Research Promotion Foundation and the European Commission supports such collaborations.

It is our continuous effort to have industrial partners involved in the research activities of the department.

In addition, the University of Cyprus has already in place mechanisms to enhance the employability of the undergraduate and graduate students. The Center for Entrepreneurship and the Careers Office of the University train the students on how to prepare their cv and for job interviews and help them be connected with the industry.

**Please circle one of the following for:**

**Program of study and higher education qualifications**

*Non-compliant*

*Partially compliant*

*Substantially compliant*

*Fully compliant*

### 3. Research work and synergies with teaching

3.1.1.-3.1.9. There is an excellent synergy between teaching and research, particularly in terms of supporting PhD projects. Research facilities and external/internal funding compare positively to other institutions in Cyprus and abroad.

We thank the evaluation committee for recognizing the research excellence of the department and the ability to train graduate students.

Please circle one of the following for:

**Research work and synergies with teaching**

*Non-compliant*

*Partially compliant*

*Substantially compliant*

*Fully compliant*

### 4. Administrative services, student welfare and support of teaching work

4.1.1.-4.1.3. Statutory administrative mechanisms for monitoring and supporting students are sufficient. The efficiency of these mechanisms is assessed on the basis of specific criteria.

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

This will be part of the quality assurance that we established. The committee of graduate studies will oversee and assure that all mechanisms for monitoring and supporting the graduate students are applied.

#### 4.2 Infrastructure / Support

4.2.3.,4.2.4. While the research labs are well equipped, there is a need for more focused teaching labs on the graduate program.

We thank the evaluation committee for highlighting the lack of teaching laboratories in some thematic areas and courses including courses related to fluid mechanics and thermodynamics.

As recognized by the Committee members, the current spread of the Department in 4 different sites and the lack of adequate teaching laboratory space prevented the development of teaching labs for core engineering subjects.

The Department has put into force a strategic plan for the development of teaching labs, with emphasis to laboratories linked to fluid mechanics, thermodynamics and solid mechanics.

As a result of this effort, the University of Cyprus has committed to provide to the department an amount of €500,000 within the next 2 years (by 2020) to be spent exclusively for the needs of the department for teaching laboratories and equipment. An amount of €50,000 has already be given to the department for this purpose. The laboratory equipment will be used for both undergraduate and graduate level laboratory exercises.

## 4.3 Financial Resources

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

As we mention to our response in 4.2, there is already a plan for the development of the program in terms of practical lab exercises.

Please circle one of the following for:

**Administration services, student welfare and support of teaching work**

*Non-compliant*

*Partially compliant*

*Substantially compliant*

*Fully compliant*

## Final Remarks – Suggestions

- Teaching and supervision sharing between departments is encouraged, for example with Civil Engineering in the area of Solid/Computational Mechanics, and potentially Experimental Fluid Mechanics.

We agree with this suggestion, we have initiated discussions with the faculty of the civil engineering department to establish common courses on computational mechanics and experimental fluid mechanics.

- The students recommended elective courses in Engineering Mathematics rather than having to take math courses externally that are abstract or purely theoretical.

We agree with this suggestion, the new course on fluid mechanics “Theory and applications of incompressible Newtonian and non-Newtonian fluids” and the new course on solid mechanics “Nonlinear Mechanics of Solids and Structures” integrates the teaching of the Finite Elements method and computational mechanics into problems of fluid and solid mechanics.

- We encourage course delivery by more than one Academic member of staff.

Several courses can be taught by different faculty members on a rotation basis. Our plan is to implement such rotations.

- Analysis of student grades needs to be strengthened by inclusion of distributions over several years.

We agree with this suggestion. The Department Chair will be in charge of performing the analysis of student grades by inclusion of distributions over the years.

- To the benefit of students from diverse backgrounds, it is suggested to include some formal training on technical report writing in engineering and also project planning.

The department offers an elective course on “Technical writing” under the Master and PhD programs in Advanced Materials and Nanotechnology (4 ECTS). We encourage our students to register to this course and we will continue to do so.

## C. Conclusions and final remarks

*The EEC must provide constructive conclusions and final remarks.*

Summary of compliance ratings:

1. Substantially compliant
2. Substantially compliant
3. Fully compliant
4. Substantially compliant

The evaluation committee would like to thank the Department for their efforts in responding extensively to all points raised by the report and their sincere willingness to improve their procedures. It was also good to see that the University has planned to release financial resources and invest into new facilities, better teaching labs and the recruitment of new members of Academic staff to cover core Mechanical Engineering subjects.

The main reasoning behind “Substantially compliant” ratings instead of “Fully compliant” is that although the Department have suggested certain ways to address most of our points, they are yet to fully implement and test these, as well as provide clear procedures on how to safeguard these efficiently in the short and long term. Therefore, they cannot be rated as “Fully compliant” when not knowing at this stage the exact implementation and, more importantly, the outcome and any further needs for optimization as part of a continuous quality assurance effort. In essence, any certification and accreditation at this stage should come with some type of disclaimer remark for direct compliance, *i.e.* it should be subject to successful implementation of the proposed solutions. The evaluation committee are not sure of the exact conditions that need to be included to make sure that the Department actually implement what they commit to do but we want to believe that the Agency will have some procedures in place to safeguard this change.

As examples of individual points, *i.e.* not reiterating exhaustively all points of the original report and response document for the sake of brevity here at this stage, the committee would also like to highlight the following key topics:

Concerns that still remain are about the moderation of exam papers in terms of preparation and marking, the frequent and methodical involvement of students in the processes of the Department (studies committee meeting with students “at least once per year” may not be good enough), the issue of constantly and efficiently safeguarding against plagiarism in written work and exams, the Department’s not understanding entirely the comment to increase the number of Academics involved in the supervision of PhD students by also extending the range of thematic areas of research, the Department’s not understanding correctly the purpose of a teaching committee, *etc.* To clarify, a teaching committee should not be dealing with just analysing grades or looking into admin matters and practicalities of courses. A teaching committee should meet up to discuss mostly strategic teaching and learning matters across thematic areas, develop ideas for new courses to be introduced and others to be replaced, ideas for new learning methods, ideas for more inclusive learning, new methods of assessing learning outcomes, *etc.*, *i.e.* operating as part of an active and continuous process for optimisation of the whole syllabus from Bachelor’s to Master’s through to PhD, for quality assurance of learning, for modernisation of topics to follow the needs of the industry and society in Cyprus and worldwide, *etc.* Ideally the teaching committee should be focused on themes (thermofluids, dynamics, solid mechanics) and be reporting to the studies committee.

We also encourage the Department and the University to consider teaching the programme in English.

#### D. Signatures of the EEC

<i>Name</i>	<i>Signature</i>
<b>Prof. Pavlos Aleiferis</b>	
<b>Prof. Atanas Popov</b>	
<b>Prof. Noam Eliaz</b>	
<b>Ms. Christiana Kaminaridou</b>	

Date: July 13, 2019