Doc. 300.3.1/1

External Evaluation Report

(Programmatic within the framework of Departmental Evaluation)

Date: Date.

- **Higher Education Institution:**
Cyprus University of Technology
- **Town:** Limassol
- **School/Faculty:** Engineering and Technology
  - **Department:** Mechanical Engineering and Materials Science and Engineering
- **Programme(s) of study - Name (Duration, ECTS, Cycle)**

Programme 1 – [Title 1]
In Greek:
Πτυχίο Μηχανολόγων Μηχανικών (4 έτη, 240 ECTS)
In English:
BEng in Mechanical Engineering (4 years, 240 ECTS)
Language(s) of instruction: Greek

Programme 2 – [Title 2]
In Greek:
MSc Ενεργειακά Συστήματα (3 εξάμηνα, 90 ECTS)
In English:
MSc Energy Systems
Language(s) of instruction: Greek

Programme 3 – [Title 3]
In Greek:
Διδακτορικό Μηχανολογία (3 έτη, 240 ECTS)
In English:
PhD Mechanical Engineering (3 years, 240 ECTS)
Language(s) of instruction: Greek

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 2021 [L.136(I)/2015 – L.132(I)/2021].

A. Introduction

This part includes basic information regarding the onsite visit.

The committee members visited the Cyprus University of Technology virtually during the period of December 17th and December 20th due to Covid-19 related travelling restrictions. Nonetheless, they were provided with a significant number of resources that helped with the evaluation.

During December 17th 2021, the virtual site meeting featured a short briefing of the members of the EEC with the CYQAA officer, which was followed by (a) an introduction of the members of the external evaluation committee; (b) meeting with the Vice Rector for Academic Affairs; (c) meeting with the member of the Internal Evaluation Committee; (c) meeting with the Dean of the School of Mechanical and Engineering and the Head of the Department and (d) meeting with the Head of the Department and the Coordinator of the Undergraduate's Programme.

Then followed separate meetings (a) with academic and teaching staff members; (b) administrative staff members and (c) students' representatives, during which the EEC members had the opportunity to have a thorough review of the Undergraduate's Programme as well as of the operation of the Department as such. Finally, a wrap-up discussion was held with the Head of the Department and the Undergraduate's Programme Coordinator, to clarify questions that came up during the day.

During December 20th, 2021 a virtual guided tour took place, visiting the Department's laboratories and teaching and research facilities.

Three meetings followed, namely: (a) with the Head of Department, the Coordinator of the Mechanical Engineering MSc programme and a Professor of the Department, (b) with the Head of Department and the Coordinator of the Doctorate (PhD) programme and (c) with the Head of Department, the Coordinator of the Energy Systems MSc programme and a Professor of the Department. In these meetings the 2 MSc programmes and the PhD programme were presented and discussed thoroughly.

A further meeting followed, with academic and teaching staff members, in which the discussion focused on the teaching, research and administrative aspects of all courses and on the overall operation of the Department. The members of the Department gave extensive and detailed presentations and were very willing to answer questions asked by the committee and offer additional data and complimentary information.

A meeting with 10 students, both under- and postgraduate ones, followed, discussing very openly their perspective and experience of the studies and of their life as CUT students.

An exit meeting was held with the Head of the Department, the Coordinator of the graduate programmes and a Professor of the Department.

Overall, the committee believes that the following report has not been affected by the virtual nature of the visit, thanks to the efforts of all the parties involved.

B. External Evaluation Committee (EEC)

Name	*Position*	*University*
Agis Papadopoulos	Professor	Aristotle University Thessaloniki
Maria Charalambides	Professor	Imperial College London
Dimitris Chrysostomou	Associate Professor	Aalborg University
Maria Papamichael	Student	University of Cyprus
Polycarpos Nicolaou	Professional Mechanical Engineer	Scientific and Technical Chamber of Cyprus Representative - ETEK

C. Guidelines on content and structure of the report

- *The external evaluation report follows the structure of assessment areas.*

- *At the beginning of each assessment area there is a box presenting:*
  (a) *sub-areas*
  (b) *standards which are relevant to the European Standards and Guidelines (ESG)*
  (c) *some questions that EEC may find useful.*

- *The questions aim at facilitating the understanding of each assessment area and at illustrating the range of topics covered by the standards.*

- *Under each assessment area it is important to provide information regarding the compliance with the requirements of each sub-area. In particular, the following must be included:*

  Findings

  A short description of the situation in the Higher Education Institution (HEI), based on elements from the application for external evaluation and on findings from the onsite visit.

  Strengths

  A list of strengths, e.g. examples of good practices, achievements, innovative solutions etc.

  Areas of improvement and recommendations

  A list of problem areas to be dealt with, followed by or linked to the recommendations of how to improve the situation.

- *The EEC should state the compliance for each sub-area (Non-compliant, Partially compliant, Compliant), which must be in agreement with everything stated in the report. It is pointed out that, in the case of standards that cannot be applied due to the status of the HEI and/or of the programme of study, N/A (= Not Applicable) should be noted.*

- *The EEC should state the conclusions and final remarks regarding each programme of study as a whole.*

- ***The report may also address other issues which the EEC finds relevant.***

1. Study programme and study programme's design and development

(ESG 1.1, 1.2, 1.7, 1.8, 1.9)

Sub-areas

1.1. Policy for quality assurance
1.2. Design, approval, on-going monitoring and review
1.3. Public information
1.4. Information management

1.1 Policy for quality assurance

Standards

- *Policy for quality assurance of the programme of study:*
  - *has a formal status and is publicly available*
  - *supports the organisation of the quality assurance system through appropriate structures, regulations and processes*
  - *supports teaching, administrative staff and students to take on their responsibilities in quality assurance*
  - *ensures academic integrity and freedom and is vigilant against academic fraud*
  - *guards against intolerance of any kind or discrimination against the students or staff*
  - *supports the involvement of external stakeholders*

1.2 Design, approval, on-going monitoring and review

Standards

- *The programme of study:*
  - *is designed with overall programme objectives that are in line with the institutional strategy and have explicit intended learning outcomes*
  - *is designed by involving students and other stakeholders*
  - *benefits from external expertise*
  - *reflects the four purposes of higher education of the Council of Europe (preparation for sustainable employment, personal development, preparation for life as active citizens in democratic societies, the development and maintenance, through teaching, learning and research, of a broad, advanced knowledge base)*
  - *is designed so that it enables smooth student progression*
  - *is designed so that the exams' and assignments' content corresponds to the level of the programme and the number of ECTS*
  - *defines the expected student workload in ECTS*
  - *includes well-structured placement opportunities where appropriate*
  - *is subject to a formal institutional approval process*

- *results in a qualification that is clearly specified and communicated, and refers to the correct level of the National Qualifications Framework for Higher Education and, consequently, to the Framework for Qualifications of the European Higher Education Area*
- *is regularly monitored in the light of the latest research in the given discipline, thus ensuring that the programme is up-to-date*
- *is periodically reviewed so that it takes into account the changing needs of society, the students' workload, progression and completion, the effectiveness of procedures for assessment of students, student expectations, needs and satisfaction in relation to the programme*
- *is reviewed and revised regularly involving students and other stakeholders*

1.3 Public information

Standards

- *Regarding the programme of study, clear, accurate, up-to date and readily accessible information is published about:*
  - *selection criteria*
  - *intended learning outcomes*
  - *qualification awarded*
  - *teaching, learning and assessment procedures*
  - *pass rates*
  - *learning opportunities available to the students*
  - *graduate employment information*

1.4 Information management

Standards

- *Information for the effective management of the programme of study is collected, monitored and analysed:*
  - *key performance indicators*
  - *profile of the student population*
  - *student progression, success and drop-out rates*
  - *students' satisfaction with their programmes*
  - *learning resources and student support available*
  - *career paths of graduates*

- *Students and staff are involved in providing and analysing information and planning follow-up activities.*

You may also consider the following questions:

- *What is the procedure for quality assurance of the programme and who is involved?*
- *Who is involved in the study programme's design and development (launching, changing, internal evaluation) and what is taken into account (strategies, the needs of society, etc.)?*
- *How/to what extent are students themselves involved in the development of the content of their studies?*
- *Please evaluate a) whether the study programme remains current and consistent with developments in society (labour market, digital technologies, etc.), and b) whether the content and objectives of the study programme are in accordance with each other?*
- *Do the content and the delivery of the programme correspond to the European Qualifications Framework (EQF)?*
- *How is coherence of the study programme ensured, i.e., logical sequence and coherence of courses? How are substantial overlaps between courses avoided? How is it ensured that the teaching staff is aware of the content and outputs of their colleagues' work within the same study programme?*
- *How does the study programme support development of the learners' general competencies (including digital literacy, foreign language skills, entrepreneurship, communication and teamwork skills)?*
- *What are the scope and objectives of the foundation courses in the study programme (where appropriate)? What are the pass rates?*
- *How long does it take a student on average to graduate? Is the graduation rate for the study programme analogous to other European programmes with similar content? What is the pass rate per course/semester?*
- ***How is it ensured that the actual student workload is in accordance with the workload expressed by ECTS?***
- *What are the opportunities for international students to participate in the study programme (courses/modules taught in a foreign language)?*
- *Is information related to the programme of study publicly available?*
- *How is the HEI evaluating the success of its graduates in the labor market? What is the feedback from graduates of the study programme on their employment and/or continuation of studies?*
- *Have the results of student feedback been analysed and taken into account, and how (e.g., when planning in-service training for the teaching staff)?*
- *What are the reasons for dropping out (voluntary withdrawal)? What has been done to reduce the number of such students?*

Findings

A short description of the situation in the Higher Education Institution (HEI), based on elements from the application for external evaluation and on findings from the onsite visit.

Findings for all three courses evaluated

Quality Assurance:

There is a clear quality assurance procedure and also a process for the introduction and approval of changes in the programmes at a departmental level. These processes are less clearly structured at the program level.

There is input from students, which is mostly related to problems in specific courses. There is no systematic program-level input from external stakeholders such as industry or the ETEK.

General university practices apply with respect to measures on intolerance, integrity, fraud, etc.

Information management

There is a good flow of information for all three courses, considering the profile of the student population, their progress, success and drop-out rates, which is also enabled by the comparatively small number of students.

What needs to be enhanced is the feedback processing of students' satisfaction with their programmes. Also, a more structured information on career paths of graduates (for example career days once a year) would be helpful.

Public information:

Findings for BEng Mechanical Engineering

The department's web site contains information on the BEng programme's structure and requirements, learning aims, courses in each semester, qualifications awarded and admission criteria. Some more detailed information on the examination system, the pass rates and graduate employment opportunities would be helpful.

Findings for MSc Energy Systems

The department's web site contains information on the MSc Energy Systems programme's structure and requirements, learning aims, courses in each semester, qualifications awarded and admission criteria. Some more detailed information on the examination system, the pass rates and graduate employment opportunities would be helpful.

Findings for PhD Mechanical Engineering

No information is provided on the PhD programme as such, except for the specific on-going PhDs.

Strengths

A list of strengths, e.g. examples of good practices, achievements, innovative solutions etc.

Strengths for BEng Mechanical Engineering

The programme is well organized and both its content and delivery correspond well to EQF. It is in accordance with its objectives and aligned with developments in technology and society.
Information on the programme and its courses is available. Pass rates and time of completion are in line with similar courses in Cyprus and other countries.
Monitoring of the graduates' careers is not structured, but still effective.

Strengths for MSc Energy Systems

The programme is well organized and both its content and delivery correspond well to EQF. It is in accordance with its objectives and well aligned with developments in technology and society.
Information on the programme and its courses is available. Pass rates and time of completion are in line with similar courses in Cyprus and other countries.
Monitoring of the graduates' careers is not structured, but still effective.

Strengths for PhD Mechanical Engineering

The PhD programme utilizes good laboratory infrastructure and well esteemed supervisors.

Areas of improvement and recommendations

A list of problem areas to be dealt with, followed by or linked to the recommendations of how to improve the situation.

Areas of improvement and recommendations for BEng Mechanical Engineering

The results of the courses assessment by the students should be utilized in a more effective way for improvements.

Areas of improvement and recommendations for MSc Energy Systems

A number of students are dropping out due to financial reasons. This is not a problem of the course, but the University should consider options to support the good students that cannot cope with the fees; scholarships perhaps linked with some involvement in support of research or laboratory work would be an option.

Areas of improvement and recommendations for PhD Mechanical Engineering

There should be provided information on the PhD programme (Objectives, rules, duration, courses to be taken etc.) on the Department's site. Since the University has a detailed guide for PhD students, it would be useful to provide a link both to this and to the PhD regulation document.
There is no established communication structure between PhD students, neither formal nor informal. Introducing a PhD student's day, where each one will present its work to the others, or a Department's evening, where PhD students and staff will get to know each other are possible ways to address this. The former is also mentioned in the University's guide for PhD students.

There appears to be a lack of information on contractual obligations, and on changes that occur and are affecting retrospectively students already enrolled, from the University's administration. This should be addressed on a University's and/or Departmental level.

Please select what is appropriate for each of the following sub-areas:

Sub-area		***Non-compliant/ Partially Compliant/Compliant***		
		BEng Mechanical Engineering	MSc Energy Systems	PhD Mechanical Engineering
1.1	Policy for quality assurance	Compliant	Compliant	Compliant
1.2	Design, approval, on-going monitoring and review	Compliant	Compliant	Compliant
1.3	Public information	Compliant	Compliant	Non-compliant
1.4	Information management	Partially compliant	Partially compliant	Partially compliant

[Title 1]

2. Student – centred learning, teaching and assessment *(ESG 1.3)*

Sub-areas

2.1 Process of teaching and learning and student-centred teaching methodology
2.2 Practical training
2.3 Student assessment

2.1 Process of teaching and learning and student-centred teaching methodology

Standards

- *The process of teaching and learning supports students' individual and social development.*
- *The process of teaching and learning is flexible, considers different modes of delivery, where appropriate, uses a variety of pedagogical methods and facilitates the achievement of planned learning outcomes.*
- *Students are encouraged to take an active role in creating the learning process.*
- *The implementation of student-centered learning and teaching encourages a sense of autonomy in the learner, while ensuring adequate guidance and support from the teacher.*
- *Teaching methods, tools and material used in teaching are modern, effective, support the use of modern educational technologies and are regularly updated.*
- *Mutual respect within the learner-teacher relationship is promoted.*
- *The implementation of student-centred learning and teaching respects and attends to the diversity of students and their needs, enabling flexible learning paths.*
- *Appropriate procedures for dealing with students' complaints regarding the process of teaching and learning are set.*

2.2 Practical training

Standards

- *Practical and theoretical studies are interconnected.*
- *The organisation and the content of practical training, if applicable, support achievement of planned learning outcomes and meet the needs of the stakeholders.*

2.3 Student assessment

Standards

- *Assessment is consistent, fairly applied to all students and carried out in accordance with the stated procedures.*
- *Assessment is appropriate, transparent, objective and supports the development of the learner.*

- *The criteria for and method of assessment, as well as criteria for marking, are published in advance.*
- *Assessment allows students to demonstrate the extent to which the intended learning outcomes have been achieved. Students are given feedback, which, if necessary, is linked to advice on the learning process.*
- *Assessment, where possible, is carried out by more than one examiner.*
- *A formal procedure for student appeals is in place.*
- *Assessors are familiar with existing testing and examination methods and receive support in developing their own skills in this field.*
- *The regulations for assessment take into account mitigating circumstances.*

You may also consider the following questions:

- *How is it monitored that the teaching staff base their teaching and assessment methods on objectives and intended learning outcomes? Provide samples of examination papers (if available).*
- *How are students' different abilities, learning needs and learning opportunities taken into consideration when conducting educational activities?*
- *How is the development of students' general competencies (including digital skills) supported in educational activities?*
- *How is it ensured that innovative teaching methods, learning environments and learning aids that support learning are diverse and used in educational activities?*
- *Is the teaching staff using new technology in order to make the teaching process more effective?*
- *How is it ensured that theory and practice are interconnected in teaching and learning?*
- *How is practical training organised (finding practical training positions, guidelines for practical training, supervision, reporting, feedback, etc.)? What role does practical training have in achieving the objectives of the study programme? What is student feedback on the content and arrangement of practical training?*
- ***Are students actively involved in research? How is student involvement in research set up?***
- *How is supervision of student research papers (seminar papers, projects, theses, etc.) organised?*
- ***Do students' assessments correspond to the European Qualifications Framework (EQF)?***
- *How are the assessment methods chosen and to what extent do students get supportive feedback on their academic progress during their studies?*
- *How is the objectivity and relevance of student assessment ensured (assessment of the degree of achievement of the intended learning outcomes)?*

Findings

A short description of the situation in the Higher Education Institution (HEI), based on elements from the application for external evaluation and on findings from the onsite visit.

Findings for BEng Mechanical Engineering

The Department runs a four-year BEng Engineering course with a clear structure and detailed curriculum. The course provides students with a strong foundation during the first two years and more specialisation in the last two years which is the norm in several engineering HEI worldwide. A detailed description is available for each course with clear aims and learning outcomes as well as its formal assessment. Courses employ the usual means of lectures and tutorials whilst some include some laboratory based tuition. All graduates are registered as Mechanical Engineers by ETEK. The distribution of student places is based on the Pancyprian Entrance examinations; up to 14% places are awarded to students with 'special circumstances' who have obtained a general mark of at least 80% of the overall mark of the last candidate offered a place under no special circumstances, in an effort to widen participation. Though there is mention of an industrial training program in the application, it is not clear how well this is embedded in the curriculum and how much benefit the students receive from that. Student ratings regarding satisfaction with the course are at 6.7/10 (moderately good). Student welfare mechanisms include financial aid/hardship funds. The Department has adopted it teaching to be remote/online if needed in response to the pandemic of COVID-19. E-learning platforms are used effectively (Moodle) to support the students learning with continuous assessment being favoured to a single high-stake exam at the end of the year in an effort to promote consistent work habits and reduce exam failure rates. Academic Staff mentioned high failure rates (recently 40%-50%) especially in Mathematics exams, covid disruption might have contributed to this high failure rate as well as gaps in secondary level education. There was no information during the online meetings nor in the application related to course feedback, criteria for marking or formal examining procedures.

Findings for MSc Energy Systems

The Department offers a three academic semester MSc course in Energy Systems in a thesis-based or course-based option. The structure of the course is clearly laid out in detail and includes an option to take course from another CUT department or another University on approval from the Studies Committee. A detailed description is available for each course with clear aims and learning outcomes as well as the formal assessment. An internal review found the MSc programme to be comparable to other Cypriot and European Institutions. Admission relies on candidates having achieved a score of 6.5 in a relevant undergraduate degree. Although the normal duration is 13 months in a full-time study basis, on average students take 3-4 years to graduate as several are also in full-time employment in industry whilst studying. The difficulty of combining study and professional employment duties leads to the drop-out rate of approximately 20%. An industrial training programme is again mentioned as for the BEng above; here the application lists organizing year round meetings with potential employers to explore research collaboration, vacancies. Similar financial aid/hardship funds support as for BEng above. There was no information during the online meetings nor in the application related to course feedback, criteria for marking or formal examining procedures.

Findings for PhD Mechanical Engineering

For taught courses, similar to above for MSc. See section 6

Strengths

A list of strengths, e.g. examples of good practices, achievements, innovative solutions etc.

Strengths for BEng Mechanical Engineering

A rigorous course, well respected by industry as evidenced by comments made by students when asked about their experiences. Students respect their knowledgeable academic staff who they consider as experts in their respective fields. Several students spoke with enthusiasm about challenging courses they thought served well in stretching their boundaries (Thermo, Dynamics, Mechanics, Materials, Physics, Quantum Mechanics). Several found staff were very helpful when contacted directly, and mentioned specifically the support they received from Professors when they faced difficulties with scanning and uploading exams recently.

Strengths for MSc Energy Systems

A wide range of interesting course options are offered taught by experts at the top of their respective fields. Formalised procedures for curriculum changes and regular updates for refreshing the courses. Links with society and industry. Good e-learning support. Can offer research theses on a wide range of topics though it was mentioned that not many students take the thesis-based option.

Strengths for PhD Mechanical Engineering

For taught courses, similar to above for MSc. For thesis see section 6.

Areas of improvement and recommendations

A list of problem areas to be dealt with, followed by or linked to the recommendations of how to improve the situation.

Areas of improvement and recommendations for BEng Mechanical Engineering

1. Consider running seminars from invited industrial partners to provide inspiration and build a stronger relationship between students and potential future employers.
2. Extend programming skills beyond first year or embed in other courses in the form of coursework if this is not so already.
3. Not clear if students get enough practical experience (e.g. design group projects) to apply theory they learn in other courses. Students commented they have not seen enough practical elements to their studies.
4. Offer a non-technical elective to help build the multidisciplinary teams that will be needed in the future to tackle grand societal challenges (e.g. climate change, plastic pollution).
5. Students commented on excessive workload, high failure rates - they thought there was not enough time left for effective exam revision and preparation – they would also like to get a second chance later in the summer for passing a module.
6. Consider training for all staff and students in Equality, Diversity and Inclusion such an unconscious bias and active bystander if this has not been conducted already– women are a minority in the Department and awareness of extra hurdles faced by any minority group could help the Department's culture and inclusivity. There were some comments from students, both male and female, that some staff display a sexist behavior towards female students.
7. Consider extra support that needs to be given in first semester in Mathematics to ensure gaps in previous education are filled and lower failure rates.

8. Build stronger links between students and staff by timetabling regular sessions for non-academic related discussions to build a personal relationship, identify students that need support before their grades suffer, signpost support in case of mental health issues.
9. Create channels of effective communication through formalized staff-student committees if these are not existent already– these could meet once a semester with elected student reps to look into matters of concern of students, monitor how well they are responding to the challenges, future needs, workload management etc.

Areas of improvement and recommendations for MSc Energy Systems

1. In an effort to decrease drop-out rate and length of study needed for graduating from the MSc course, the Department could consider building a stronger link with the employers of the MSc students if these lie in the Engineering sector. They could offer running 'for free' MSc research projects in the interest of the employing industry, in lieu of more time given to the student to dedicate to their MSc studies.
2. Build a cohort culture amongst students by organizing social departmental events amongst staff and students. To this same effect, the Department can organise common soft skills courses for the postgraduate students such as leadership training, communication skills, teamwork, problem solving etc.
3. Some students commented that the advanced courses were not challenging enough for those that graduated at CUT – they were unsure whether this was because they know 'how things work/what the professors they know already expect' or the courses were not challenging enough.
4. The Department is already considering offering courses in English that could increase the student numbers – this could also help with hiring more female staff and in general the Department's diversity if the newly hired academic does not need to be fluent in the Greek language.

Areas of improvement and recommendations for PhD Mechanical Engineering

For taught courses, similar to above for MSc. For thesis see section 6.
During the PhD student interviews, it was apparent that PhD students feel isolated and distant from academic staff. They noted that the only Departmental activity that brought them together as a group was a seminar presentation event. So measures for building the cohort culture could be taken as in the MSc students above. Several were also highly critical of the recent and retrospective changes of the regulations of their study from the University, and especially those related to the compulsory teaching element which has to now be conducted without remuneration. Changes in regulations should not have been effected retrospectively for older students who had already started under different rules. The Department has expressed its support to the students and helped a few negatively affected students; perhaps the Department could communicate to the University the problems that this change has caused in the crucial staff-student relationships.

Please select what is appropriate for each of the following sub-areas:

Sub-area		***Non-compliant/ Partially Compliant/Compliant***		
		BEng Mechanical Engineering	MSc Energy Systems	PhD Mechanical Engineering
2.1	Process of teaching and learning and student-centred teaching methodology	Compliant	Compliant	Compliant
2.2	Practical training	Compliant	Partially compliant	Compliant
2.3	Student assessment	Partially compliant	Compliant	Compliant

3. Teaching staff *(ESG 1.5)*

Sub-areas

3.1.Teaching staff recruitment and development
3.2.Teaching staff number and status
3.3.Synergies of teaching and research

3.1.Teaching staff recruitment and development

Standards

- *Institutions ensure the competence of their teaching staff.*
- *Fair, transparent and clear processes for the recruitment and development of the teaching staff are set up.*
- *Teaching staff qualifications are adequate to achieve the objectives and planned learning outcomes of the study programme, and to ensure quality and sustainability of the teaching and learning.*
- *The teaching staff is regularly engaged in professional and teaching-skills training and development.*
- *Promotion of the teaching staff takes into account the quality of their teaching, their research activity, the development of their teaching skills and their mobility.*
- *Innovation in teaching methods and the use of new technologies is encouraged.*
- *Conditions of employment that recognise the importance of teaching are followed.*
- *Recognised visiting teaching staff participates in teaching the study programme.*

3.2.Teaching staff number and status

Standards

- *The number of the teaching staff is adequate to support the programme of study.*
- *The teaching staff status (rank, full/part time) is appropriate to offer a quality programme of study.*
- *Visiting staff number does not exceed the number of the permanent staff.*

3.3.Synergies of teaching and research

Standards

- *The teaching staff collaborate in the fields of teaching and research within the HEI and with partners outside (practitioners in their fields, employers, and staff members at other HEIs in Cyprus or abroad).*
- *Scholarly activity to strengthen the link between education and research is encouraged.*
- *The teaching staff publications are within the discipline.*
- *Teaching staff studies and publications are closely related to the programme's courses.*

- *The allocation of teaching hours compared to the time for research activity is appropriate.*

You may also consider the following questions:

- *How are the members of the teaching staff supported with regard to the development of their teaching skills? How is feedback given to members of the teaching staff regarding their teaching results and teaching skills?*
- *How is the teaching performance assessed? How does their teaching performance affect their remuneration, evaluation and/or selection?*
- *Is teaching connected with research?*
- *Does the HEI involve visiting teaching staff from other HEIs in Cyprus and abroad?*
- *What is the number, workload, qualifications and status of the teaching staff (rank, full/part timers)?*
- *Is student evaluation conducted on the teaching staff? If yes, have the results of student feedback been analysed and taken into account, and how (e.g., when planning in-service training for the teaching staff)?*

Findings

A short description of the situation in the Higher Education Institution (HEI), based on elements from the application for external evaluation and on findings from the onsite visit.

Findings for BEng Mechanical Engineering

The academic staff is competent and the with excellent qualifications for teaching in the programme. The number of teaching staff is adequate for the current needs of the programme but at the same time the committee supports the hiring of more people to counterbalance the high workload of the current staff. The teaching staff brings many learning from active research into the course of the programme.

Findings for MSc Energy Systems

The academic staff is competent and the with excellent qualifications for teaching in the programme. The number of teaching staff is adequate for the current needs of the programme but at the same time the committee supports the hiring of more people to counterbalance the high workload of the current staff. The teaching staff brings many learning from active research into the course of the programme.

Findings for PhD Mechanical Engineering

The academic staff has competent supervisors who are active in research and in pursuing external funding. The programme delivers highly skilled scientists to the world with great training and awareness and participation in state-of-the-art research.

Strengths

A list of strengths, e.g. examples of good practices, achievements, innovative solutions etc.

Strengths for BEng Mechanical Engineering

The vast majority of the academic staff is competent and regularly engaged in research that is being transferred to the course material. The staff qualifications are adequate to deliver excellent courses in the programme. Recruitment of new staff members follow all the necessary regulations for fair, transparent and clear recruitment.

Strengths for MSc Energy Systems

The vast majority of the academic staff is competent and regularly engaged in research that is being transferred to the course material. The staff qualifications are adequate to deliver excellent courses in the programme. Recruitment of new staff members follow all the necessary regulations for fair, transparent and clear recruitment.

Strengths for PhD Mechanical Engineering

The academic staff is very well connected with the PhD candidates. The PhD candidates gave credit to the academic staff for their availability, frequent communication, and constructive approach to coordination meetings. The academic staff has strong ties with international committees and European research consortia, and they are able to bring the gained experience and knowledge into the programme.

Areas of improvement and recommendations

A list of problem areas to be dealt with, followed by or linked to the recommendations of how to improve the situation.

Areas of improvement and recommendations for BEng Mechanical Engineering

It is apparent that the academic staff has a strong focus on research and connecting their gained knowledge with teaching. However, there is no established programme for the development of their teaching and pedagogical skills.

It is suggested to establish a 1-year pedagogical course for the development of the teaching skills of the existing and future academic staff. All academic staff should follow such course so the department can ensure that all teaching staff is up-to-date with the best teaching methods.

It is also advised to balance the workload of the teaching staff with hiring more teaching assistants.

Areas of improvement and recommendations for MSc Energy Systems

It is apparent that the academic staff has a strong focus on research and connecting their gained knowledge with teaching. However, there is no established programme for the development of their teaching and pedagogical skills.

It is suggested to establish a 1-year pedagogical course for the development of the teaching skills of the existing and future academic staff. All academic staff should follow such course so the department can ensure that all teaching staff is up-to-date with the best teaching methods.

It is also advised to balance the workload of the teaching staff with hiring more teaching assistants.

Areas of improvement and recommendations for PhD Mechanical Engineering

It is apparent that the academic staff has a strong focus on research. However, there is no established programme for the development of their supervision and leadership skills.

It is suggested to establish a semiannual meeting of the PhD supervisors for the exchange of experiences, best practices and advice between the more experienced advisors and newly recruited staff. Since all PhD advisors are also employed in the BSc and MSc programmes they will benefit from the previously suggested pedagogical course. Additional leadership courses from external stakeholders such as industrial partners or development consultants could be beneficial to sharpen the leadership and advisory skills of the PhD advisors.

Please select what is appropriate for each of the following sub-areas:

Sub-area		***Non-compliant/ Partially Compliant/Compliant***		
		BEng Mechanical Engineering	MSc Energy Systems	PhD Mechanical Engineering
3.1	Teaching staff recruitment and development	Partially compliant	Partially compliant	Partially compliant
3.2	Teaching staff number and status	Compliant	Compliant	Compliant
3.3	Synergies of teaching and research	Compliant	Compliant	Compliant

4. Student admission, progression, recognition and certification *(ESG 1.4)*

Sub-areas

4.1. Student admission, processes and criteria
4.2. Student progression
4.3. Student recognition
4.4. Student certification

4.1 Student admission, processes and criteria

Standards

- *Pre-defined and published regulations regarding student admission are in place.*
- *Access policies, admission processes and criteria are implemented consistently and in a transparent manner.*

4.2 Student progression

Standards

- *Pre-defined and published regulations regarding student progression are in place.*
- *Processes and tools to collect, monitor and act on information on student progression, are in place.*

4.3 Student recognition

Standards

- *Pre-defined and published regulations regarding student recognition are in place.*
- *Fair recognition of higher education qualifications, periods of study and prior learning, including the recognition of non-formal and informal learning, are essential components for ensuring the students' progress in their studies, while promoting mobility.*
- *Appropriate recognition procedures are in place that rely on:*
    - *institutional practice for recognition being in line with the principles of the Lisbon Recognition Convention*
    - *cooperation with other institutions, quality assurance agencies and the national ENIC/NARIC centre with a view to ensuring coherent recognition across the country*

4.4 Student certification

Standards

- *Pre-defined and published regulations regarding student certification are in place.*
- *Students receive certification explaining the qualification gained, including achieved learning outcomes and the context, level, content and status of the studies that were pursued and successfully completed.*

You may also consider the following questions:

- *Are the admission requirements for the study programme appropriate? How is the students' prior preparation/education assessed (including the level of international students, for example)?*
- *How is the procedure of recognition for prior learning and work experience ensured, including recognition of study results acquired at foreign higher education institutions?*
- *Is the certification of the HEI accompanied by a diploma supplement, which is in line with European and international standards?*

Findings

A short description of the situation in the Higher Education Institution (HEI), based on elements from the application for external evaluation and on findings from the onsite visit.

Findings for BEng Mechanical Engineering

Students are satisfied with the level of teaching and organisation of the programme. The admission requirements are appropriate and there is a plethora of ways to collect, monitor and act on information related with student progression.

Findings for MSc Energy Systems

Students are satisfied with the level of teaching and organisation of the programme. The admission requirements are appropriate and there is a plethora of ways to collect, monitor and act on information related with student progression.

Findings for PhD Mechanical Engineering

PhD Candidates are satisfied with the level of research and communication with their advisors. There are clear procedures for the candidates' admission, progression and finalization of their thesis.

Strengths

A list of strengths, e.g. examples of good practices, achievements, innovative solutions etc.

Strengths for BEng Mechanical Engineering

The students are happy with the diversity of the courses and the communication with the teachers. They are particularly satisfied with the transition to online teaching due to the pandemic situation. They are also satisfied with the prospects of future employment.

Strengths for MSc Energy Systems

The students are happy with the diversity of the courses and the communication with the teachers. They are particularly satisfied with the transition to online teaching due to the pandemic situation. They are also satisfied with the prospects of future employment.

Strengths for PhD Mechanical Engineering

The PhD candidates are satisfied with the study conditions and the workload balance of teaching assistance and research. They are particularly satisfied with the existing laboratories and the connection with the PhD advisors.

Areas of improvement and recommendations

A list of problem areas to be dealt with, followed by or linked to the recommendations of how to improve the situation.

Areas of improvement and recommendations for BEng Mechanical Engineering

Special attention is required to the matter of recognition of ECTS for all courses. There are limited established frameworks for exchange of students via the ERASMUS or other EU student mobility channels.

Areas of improvement and recommendations for MSc Energy Systems

Special attention is required to the matter of recognition of ECTS for all courses. There are limited established frameworks for exchange of students via the ERASMUS or other EU student mobility channels. It is recommended to establish a late “internship” semester where students work in close contact with industrial stakeholders for a whole semester or move to a recognized academic or research institution abroad for that semester. Such semester will foster external collaboration, will establish ties with industrial stakeholders and secure future employment for the graduates.

Areas of improvement and recommendations for PhD Mechanical Engineering

The introduction of more diverse courses in the PhD curriculum is recommended. Courses such as Introduction to Academic and Scientific Ethics, Presentation skills, Communication skill, Management of Research projects, Introduction of Research Methodologies, Writing and publishing of academic articles can be a great addition to the rather basic existing list of PhD courses.
There is no framework for a highly recommended external stay of the PhD candidate to an academic or research institution abroad. Such external stay of minimum 3 months is essential for the proper development of the PhD candidate to a competent researcher.
One option to finance such stays would be to utilize respective Marie Curie programmes.

Please select what is appropriate for each of the following sub-areas:

Sub-area		***Non-compliant/ Partially Compliant/Compliant***		
		BEng Mechanical Engineering	MSc Energy Systems	PhD Mechanical Engineering
4.1	Student admission, processes and criteria	Compliant	Compliant	Compliant
4.2	Student progression	Compliant	Compliant	Partially compliant
4.3	Student recognition	Compliant	Compliant	Compliant
4.4	Student certification	Compliant	Compliant	Compliant

5. Learning resources and student support *(ESG 1.6)*

Sub-areas

5.1.Teaching and Learning resources
5.2.Physical resources
5.3.Human support resources
5.4.Student support

5.1 Teaching and Learning resources

Standards

- *Adequate and readily accessible teaching and learning resources (teaching and learning environments, materials, aids and equipment) are provided to students and support the achievement of objectives in the study programme.*
- *Adequacy of resources is ensured for changing circumstances (change in student numbers, etc.).*
- *All resources are fit for purpose.*
- *Student-centred learning and flexible modes of learning and teaching, are taken into account when allocating, planning and providing the learning resources.*

5.2 Physical resources

Standards

- *Physical resources, i.e. premises, libraries, study facilities, IT infrastructure, are adequate to support the study programme.*
- *Adequacy of resources is ensured for changing circumstances (change in student numbers, etc.).*
- *All resources are fit for purpose and students are informed about the services available to them.*

5.3 Human support resources

Standards

- *Human support resources, i.e. tutors/mentors, counsellors, other advisers, qualified administrative staff, are adequate to support the study programme.*
- *Adequacy of resources is ensured for changing circumstances (change in student numbers, etc.).*
- *All resources are fit for purpose and students are informed about the services available to them.*

5.4 Student support

Standards

- *Student support is provided covering the needs of a diverse student population, such as mature, part-time, employed and international students and students with special needs.*
- *Students are informed about the services available to them.*
- *Student-centred learning and flexible modes of learning and teaching, are taken into account when allocating, planning and providing student support.*
- *Students' mobility within and across higher education systems is encouraged and supported.*

You may also consider the following questions:

- *Evaluate the supply of teaching materials and equipment (including teaching labs, expendable materials, etc.), the condition of classrooms, adequacy of financial resources to conduct the study programme and achieve its objectives. What needs to be supplemented/ improved?*
- *What is the feedback from the teaching staff on the availability of teaching materials, classrooms, etc.?*
- *Are the resources in accordance with actual (changing) needs and contemporary requirements? How is the effectiveness of using resources ensured?*
- *What are the resource-related trends and future risks (risks arising from changing numbers of students, obsolescence of teaching equipment, etc.)? How are these trends taken into account and how are the risks mitigated?*
- *Evaluate student feedback on support services. Based on student feedback, which support services (including information flow, counselling) need further development?*
- *How is student learning within the standard period of study supported (student counselling, flexibility of the study programme, etc.)?*
- *How students' special needs are considered (different capabilities, different levels of academic preparation, special needs due to physical disabilities, etc.)?*
- *How is student mobility being supported?*

Findings

A short description of the situation in the Higher Education Institution (HEI), based on elements from the application for external evaluation and on findings from the onsite visit.

Findings for BEng Mechanical Engineering

The Department runs a well-organised BEng course with the use of an e-learning platform (Moodle) to support student learning. The Department is relatively newly built and the teaching rooms are all modern and well equipped. There is a range of Laboratories to support practical skills (Metallurgy workshop, Physics Laboratories and Engineering measurements). There are very good library services and staff are dedicated, working long shifts to help students. The two libraries provide study spaces though there is always demand for more working spaces by students who prefer to work there rather than municipal libraries. Electronic library services are also provided to support student and staff needs. There are several computer rooms for teaching and computer rooms for students' use at the two Libraries. There is ICT support for managing all systems running in the University and an Estate Management Services team. All resources are fit for purpose. Though there are tutors/mentors assigned to students formally, it is not clear whether the students actually benefit from this system in terms of getting access to pastoral support and building mentoring relationships with the academic staff. There is a single, very committed, administrator in the whole Department. There are support structures available for students with special needs and learning difficulties.

Findings for MSc Energy systems

Same as for BEng above

Findings for PhD Mechanical Engineering

Same as for BEng above (see also section 6)

Strengths

A list of strengths, e.g. examples of good practices, achievements, innovative solutions etc.

Strengths for BEng Mechanical Engineering

The Department's staff work hard to reach their ambitious goals of providing a good learning environment for their students. The university is relatively young and benefits from modern infrastructure; it is situated in a coastal town of a high standard of living. There are support structures in place mostly at University level. Tutoring hours are included in the course outlines and also posted on Moodle. Students make good use of these and tutors are willing to arrange extra meetings outside the original timetable. Students can use the Learning Centre by the Student Development Centre.

Strengths for MSc Energy systems

Same as for BEng above

Strengths for PhD Mechanical Engineering

Same as for BEng above (see also section 6)

Areas of improvement and recommendations

A list of problem areas to be dealt with, followed by or linked to the recommendations of how to improve the situation.

Areas of improvement and recommendations for BEng Mechanical Engineering

Though pastoral support structures are in place at university level, it was not clear that the students knew about these and how to access them. Perhaps the Department could think of ways to strengthen communication about these services as well as consider whether such support can be complemented at the Departmental level to further strengthen the relationship between students and staff. In addition, the Department can form a working group with an aim to assess and evaluate how well their students are currently accessing the support they need (e.g. through devising an anonymous questionnaire for students to fill in).

Areas of improvement and recommendations for MSc Energy Systems

Same as for BEng

Areas of improvement and recommendations for PhD Mechanical Engineering

Same as for BEng

Please select what is appropriate for each of the following sub-areas:

Sub-area		***Non-compliant/ Partially Compliant/Compliant***		
		BEng Mechanical Engineering	MSc Energy Systems	PhD Mechanical Engineering
5.1	Teaching and Learning resources	Compliant	Compliant	Compliant
5.2	Physical resources	Compliant	Compliant	Compliant
5.3	Human support resources	Compliant	Compliant	Compliant
5.4	Student support	Partially compliant	Partially compliant	Partially compliant

6. Additional for doctoral programmes *(ALL ESG)*

Sub-areas

6.1. Selection criteria and requirements
6.2. Proposal and dissertation
6.3. Supervision and committees

6.1 Selection criteria and requirements

Standards

- *Specific criteria that the potential students need to meet for admission in the programme, as well as how the selection procedures are made, are defined.*
- *The following requirements of the doctoral degree programme are analysed and published:*
  - *the stages of completion*
  - *the minimum and maximum time of completing the programme*
  - *the examinations*
  - *the procedures for supporting and accepting the student's proposal*
  - *the criteria for obtaining the Ph.D. degree*

6.2 Proposal and dissertation

Standards

- *Specific and clear guidelines for the writing of the proposal and the dissertation are set regarding:*
  - *the chapters that are contained*
  - *the system used for the presentation of each chapter, sub-chapters and bibliography*
  - *the minimum word limit*
  - *the binding, the cover page and the prologue pages, including the pages supporting the authenticity, originality and importance of the dissertation, as well as the reference to the committee for the final evaluation*
- *There is a plagiarism check system. Information is provided on the detection of plagiarism and the consequences in case of such misconduct.*
- *The process of submitting the dissertation to the university library is set.*

6.3 Supervision and committees

Standards

- *The composition, the procedure and the criteria for the formation of the advisory committee (to whom the doctoral student submits the research proposal) are determined.*
- *The composition, the procedure and the criteria for the formation of the examining committee (to whom the doctoral student defends his/her dissertation), are determined.*
- *The duties of the supervisor-chairperson and the other members of the advisory committee towards the student are determined and include:*
  - *regular meetings*
  - *reports per semester and feedback from supervisors*
  - *support for writing research papers*
  - *participation in conferences*
- *The number of doctoral students that each chairperson supervises at the same time are determined.*

You may also consider the following questions:

- *How is the scientific quality of the PhD thesis ensured?*
- *Is there a link between the doctoral programmes of study and the society? What is the value of the obtained degree outside academia and in the labour market?*
- *Can you please provide us with some dissertation samples?*

Findings

A short description of the situation in the Higher Education Institution (HEI), based on elements from the application for external evaluation and on findings from the onsite visit.

Overall the PhD Program in Mechanical Engineering is well organized with well-established procedures for selection, admission and evaluation of candidates.

There is a University regulation on PhD studies, that foresees (a) minimum and maximum duration (6 to 16 plus possibly another 2 semesters), (b) the members and the role of the advisory and the examining committee, (c) monitoring and reporting, (d) procedures for the format of the examinations, (e) issues of plagiarism and misconduct, etc.

It is important that the PhD thesis can also be written in English (or as a matter of fact in any other international language), which in theory enables also non-Greek speaking students to enrol.

The students appear to be very well supported by the members of Academic staff and work in modern research labs. The number of students allows for personal advisory and constructive teaching and communication primarily on a one-to-one basis. Nevertheless, the Department would benefit from more formalized procedures and processes during the supervision of doctoral students.

It was felt from discussions, that a more structured and formal communication form between the University and/or the Department and the PhD students considering the operational procedures and the rules of involvement in research and teaching activities would be helpful.

The members of academic staff are very enthusiastic and have put in a great amount of work into research supervision and the design, implementation and delivery of the teaching courses. Also, the students are given the opportunity to develop themselves apart from their research work, by getting involved in teaching activities, like tutoring and marking coursework assignments.

It was felt from discussions that some thematic areas are favorably represented, whilst others are very little represented if at all. This is apparently also reflected in the involvement of some academic staff members.

Strengths

A list of strengths, e.g. examples of good practices, achievements, innovative solutions etc.

Well organized course, with clear and concise rules of admission, supervision and assessment of PhDs.

Enthusiastic staff, committed to their work, senior scientists that are well esteemed in the international community and participate in interesting research projects, mainly applied research ones.

Good laboratory infrastructure, good links to the international research community.

Areas of improvement and recommendations

A list of problem areas to be dealt with, followed by or linked to the recommendations of how to improve the situation.

There is a need for more structured and formalized information and communication activities and procedures.

Please select what is appropriate for each of the following sub-areas:

Sub-areas		***Non-compliant/ Partially Compliant/Compliant***
6.1	Selection criteria and requirements	Compliant
6.2	Proposal and dissertation	Compliant
6.3	Supervision and committees	Compliant

D. Conclusions and final remarks

Please provide constructive conclusions and final remarks, which may form the basis upon which improvements of the quality of each programme of study under review may be achieved, with emphasis on the correspondence with the EQF.

Overall, the Bachelor, Masters of Science and PhD programmes offered by the Department are well structured, achieve their educational goals and deliver valuable input to society.

The academic and teaching staff is of high quality and is highly motivated; the infrastructure is at a very good level and adequate for the educational and research activities.

As mentioned in detail in the report, some procedures can be run in a more formal and structured way. This applies in particular for the communication between the University and/or the Department and the PhD students.

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

- The perspective of establishing the European University of Technology is very important as it will enable a true internationalisation of the courses and the attraction of more, non-Greek speaking students and staff.
- The syllabus of the MSc programme could be more streamlined.
- We encourage course delivery by more than one Academic member of staff.
- Analysis of students' assessment can be utilized in a more effective way, to improve both the syllabi and the perception of the courses by the students.
- To the benefit of students from diverse backgrounds, it is suggested to include some introductory courses in fundamentals, especially mathematics.
- Similarly, some courses (which can also be short courses) on soft skills can be included.

E. Signatures of the EEC

Name	*Signature*
Agis Papadopoulos	
Maria Charalambides	
Dimitris Chrysostomou	
Maria Papamichael	
Polycarpos Nicolaou	

Date: 11.01.22

5 Lemesou Avenue, 2112, Nicosia
T: + 357 22 504 340
F: + 357 22 504 392
e-mail: info@dipae.ac.cy