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Doc. 300.1.2

Higher Education Institution's Response

Conventional-face-to-face programme of study

Date: Date

- **Higher Education Institution:**
Frederick University
- **Campus:** Nicosia
- **School:** Engineering
- **Department / Sector:** Mechanical Engineering
- **Programme(s) of study under evaluation**
Name (Duration, ECTS, Cycle)

Programme

In Greek:

Ενεργειακή Μηχανική (3 ακαδημαϊκά εξάμηνα, 90 ECTS, Μάστερ (MSc))

In English:

Energy Engineering (3 academic semesters, 90 ECTS, Master (MSc))

Language(s) of instruction: English

- **Specializations (if any):**

In Greek:

1. Αειφόροι Ενεργειακοί Πόροι
2. Αειφόρο Δομημένο Περιβάλλον

In English:

1. Sustainable Energy Resources
2. Sustainable Built Environment

3. Programme's Status: 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 to 2019” [N. 136 (I)/2015 to N. 35(I)/2019].

A. Guidelines on content and structure of the report

- *The Higher Education Institution (HEI) based on the External Evaluation Committee's (EEC's) evaluation report (Doc.300.3.1) must justify whether actions have been taken in improving the quality of the department in each assessment area.*
- *In particular, under each assessment area, the HEI must respond on, without changing the format of the report:*
 - *the findings, strengths, areas of improvement and recommendations of the EEC*
 - *the deficiencies noted under the quality indicators (criteria)*
 - *the conclusions and final remarks noted by the EEC*
- *The HEI's response must follow below the EEC's comments, which must be copied from the external evaluation report (Doc. 300.3.1).*
- *In case of annexes, those should be attached and sent on a separate document.*

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

All areas marked as compliant

Areas of improvement and recommendations

- a. *An annual review and development procedures at the MSc programme level would be useful. The review should consider aspects such as technology changes (for example the current trends of the 4th Industrial Revolution), students' feedback, and the changing market requirements for graduates. The review should consider aspects such as: programme specification, forward planning budget, and resource provision. Inputs should be solicited from external stakeholders and the alumni of the programme, for example by performing a market study including: demand for graduates, skill set requested by potential employers, competing programs, both national (Cyprus + Greece) and international.*

Department's Response:

The Internal Quality Committee of the University has developed and applies the Quality Assurance Policy of the University, which also applies for the MSc Programme. The Internal Quality Policy concerns the following four broad areas: (a) its programs of study and teaching, (b) the research output and the creation of new knowledge, (c) the management of the University and the administrative services and (d) the connection with the society and the social contribution.

At the program level, the Internal Quality Committee Policy requires the submission of the Program Self Evaluation annual report to the Department and the Internal Quality Committee. This report present and comments on information collected among others from the students, through feedback from students' questionnaires and meetings with student focus groups, from the stakeholders such as graduates and employers through meetings with graduate and employers focus groups, and whenever applicable with related professional bodies.

The program is reviewed following the process specified in the "Regulations for Review of a Program of Study" of the University. Changes in the programs of study are decided by the Council of the Department following the suggestions of an ad-hoc committee set by the Council of the Department for this purpose. This committee is chaired by the Program Coordinator, while the students are represented with one of the Program's student, appointed by the Students' Council. For the revision of the Program the committee considers (a) the findings and suggestions from the Program Self-Evaluation Report, including suggestions of the students, the academics and the focus groups (students, graduates and employers), (b) the current developments in the fields related to the Program, (c) suggestions from the Internal Quality Committee, the external evaluation teams, professional bodies, such as the Cyprus Scientific and Technical Chamber (ETEK).

- b. *It would be useful to initiate specific work placement events to introduce students to potential employers, in collaboration with relevant industry (in Cyprus and abroad), and government agencies.*

Department's Response:

The Careers office of the University provides career guidance with its Liaison Office. This office operates under the Research and Interconnection Service of the University. The purpose of this office is to provide services to the students related to work placement courses, internships and employment, as well to the departments and the academic/research personnel concerning their cooperation with the industry and the business world.

- c. *A well prepared internship program with relevant industry (in Cyprus and abroad), interested employers and government agencies would be very beneficial for both students and faculty as it would have the potential to lead to industry-oriented Master projects for students and research and/or consulting projects for faculty.*

Department's Response:

Internship is already applied to all undergraduate programmes of the University, It's in the strategic goals of the University and the Department to expand the internship to postgraduate studies as well.

Following the above recommendation of the EEC, the Department will investigate the development of the necessary schemes that will lead to industry-oriented Master projects and thus exploit the benefits for both the students and the faculty.

2. Student – centred learning, teaching and assessment

(ESG 1.3)

All areas marked as compliant

Areas of improvement and recommendations

- a. *We recommend inclusion of regular assessment of the so called “soft skills” of the students throughout the programme, e.g. within courses, in the form of the exams, with the aid of modern educational technologies etc*

Department’s Response:

The development of soft skills by students is an essential aspect of the Program and such skills are clearly specified in the program learning outcomes and in the learning outcomes as well. The assessment of the development of such skills by the students is done indirectly through the assessment methods and criteria applied for the assessment of each course, since these skills are essential for the development of the program/discipline specific learning outcomes which are directly assessed.

Following the above recommendation of the EEC, the Department will work on the including in the assessment system the direct assessment of soft skills.

3. Teaching staff

(ESG 1.5)

All areas marked as compliant

Areas of improvement and recommendations

- a. *After the virtual visit and the interviews it seems that there **are not many problems detected**. Some general points to be considered at an appropriate point of time (and when and where applicable): The Department can consider a joint points system for teaching and participation in administrative tasks*

Department's Response:

The majority of the academic personnel is employed in administrative tasks through their participations in bodies such as the Department's Council, as well as in other optional bodies and committees. Significant administrative duties are observed in the case of Program Coordinators and the Department Chair, where significant support is provided by the department secretary service, while a teaching load reduction is applied. The University is on on-going process of increasing and improving the secretarial/administrative support services provided to the departments.

- b. *The Department can consider retaining a fixed ratio of students registered in a class per number of lecturers and apply that rule even to courses where a large number of students attends the course because of resits.*

Department's Response:

In order to ensure the quality of teaching and learning, there is a minimum and a maximum number of students registered in a course. For Master level courses the minimum number of students in a course is 5 students. This is in accordance to the CYQAA guidelines ([link](#)). The maximum number of students registered in a course is 30, while the actual number is typically less than 20. Students who have failed a course, must repeat it by registering in the course in a later semester. In such a case, these students are considered in the calculation of the students in the course, the same way as the students who register for the first time in the course.

c. *Involvement of visiting staff in the teaching of the courses*

Department's Response:

At this point, following visiting personnel is employed in the programme:

1. Prof. Agis Papadopoulos (Professor, Aristotle University of Thessaloniki, [CV](#))
2. Aikaterini Meresi (MEE500, Fundamentals of Energy Engineering)
3. Nicholas Drousiotis (MEER506, Managing Risks and Crises in the Energy Industry)
4. Angeliki Kylili (MEER503/ MEEB503, Energy and Environmental Policies)
5. Joseph Georgiou (MEEB505, Building Environmental Design Tools – Building Information Modelling)
6. Funda Zaim (MEE520, Sustainable Built Environment)
7. Flouris Xeni (MEEB504, Energy Design of Buildings and Energy Audits)
8. Andreas Pentaliotis (MEER505, LNG Processing, Storage, Transport and Distribution)

The colleagues, who are regularly involved on the teaching activities of the programme, possess unique expertise in their fields, and constitute one of the cornerstones of the programme.

a. *Providing pedagogical training of the teaching staff including training in the use of innovative teaching methods*

Department's Response:

One of the main pillars of Frederick University is the support of the staff and the development of the skills and abilities of the members of our University community.

Specifically:

By decision of the 91st Senate (2017) of Frederick University, the Center of Excellence in Teaching and Learning is established with the main objectives of:

- a) Adoption by the teaching staff of best teaching practices, which are judged, documented, as effective for higher education and which are proposed or indicated by European or other standards or criteria of quality of teaching and learning.

- b) Systematic monitoring and documentation of teaching practices followed by teaching staff, in order to facilitate their improvement.

As part of the activities of the Center of Excellence in Teaching and Learning, before the beginning of each academic semester, training seminars are conducted by experienced faculty members of the University and with the participation of external collaborators and experts. The seminars are aimed at both new and existing academic staff (full-time and part-time) for living study programs, as well as Collaborating Teaching Staff (SEP) for distance learning programs. These seminars aim at (a) developing the skills and teaching of Academic Staff Members, (b) acquainting them with innovative teaching approaches that, based on research, have proven effective in higher education, (c) in educating academic staff in and achieve learning outcomes (d) in developing their knowledge of the institutional framework of teaching at Frederick University, as well as supporting them in their efforts to make the most of all available learning resources.

In addition, during the COVID-19 pandemic, the Center for Excellence in Teaching and Learning has conducted specialized training seminars for both staff and students regarding teaching and training in both distance learning and hybrid methodologies.

Furthermore, the University Council, having identified that there is a further need for systematic communication and staff training on a wide variety of topics, establishes the Professional and Personal Development at Frederick (PDF) Center, which is responsible for policy development ([Link](#)) and staff training and professional development schedule. The Center of Excellence in Teaching and Learning, is integrated in the Center for Professional Development.

As part of the action of the Professional Development Center, the following staff training workshops / seminars have been carried out so far:

- Assessment and Grading
- Networking Skills Development for Academics and Researchers, Research and Innovation Networking (R&D)
- Proposal Budgeting Principles & RIF Bridge Proposal Budgets
- Unconscious Bias Training
- Improving Teaching in Online Times
- Online Assessment Methods and Skills
- Orientation for new Faculty members in conventional and distance learning programs



- New Staff and Faculty Orientation and Induction Material
- Frederick University & Sustainable Development Goals: Re-imagining the future
- Mental Health and Wellbeing

In addition, so far, the following seminars for the next academic year have been launched:

- Customer Service & Service Excellence
- Excel Training



4. Student admission, progression, recognition and certification

(ESG 1.4)

All areas marked as compliant

Areas of improvement and recommendations

a. *The system seems working in an efficient manner on that matter*

Department's Response:

We would like to thank the EEC for their positive remarks.

5. Learning resources and student support

(ESG 1.6)

All areas marked as compliant

Areas of improvement and recommendations

- a. *One recommendation for potential future improvements could be the development of Massive Open Online Courses (MOOC), which might be great resource in current efforts with regard to digital education that would further strengthen the current offer of distance learning.*

Department's Response:

The University is working towards achieving that goal. The Distance Learning Committee (DLC) in collaboration with the Centre for Professional and Personal Development of Frederick University (PDF) have already developed a professional development course for the DL newcomer instructors based on the grounds of MOOCs. The course is offered in house and it has been offered twice. FU's experience will contribute towards achieving the suggested improvement. Specifically, there is experienced gained for successfully offering DL programs for the past 10 years, the participation in educational projects for the development of MOOCs in collaboration with the Ministry of Education, Sports and Culture and the Pedagogical Institute, as well as the experience derived from EKEK (FU's training center) in offering blended and online professional development training courses. The DLC, the PDF and EKEK is closely working in designing and delivering MOOCs in the near future.



6. Additional for doctoral programmes

(ALL ESG)

N/A

7. Conclusions and final remarks

The members of the EEC committee found the BSc programme in Mechanical Engineering, the MSc programme in Energy Engineering and the PhD programme in Mechanical Engineering to be compliant in all examined aspects. Overall, the programmes have been successful in attracting and motivating students. The existing course offerings provide a balance between fundamentals and practice including several activities that demonstrate effective practices of active learning, which is an important element of contemporary education. Moreover, the existing teaching laboratories and department facilities are of high quality in general.

A thorough revision of a broad range of examples on MSc/PhD dissertations demonstrates the complementary activities of academic staff in various emerging areas in Mechanical Engineering. This is particularly interesting because former graduates have been absorbed in high-profile industries or they hold academic positions in various institutions.

With regard to teaching, formal procedures have been established so as student feedback is seen in a constructive manner for the further tailoring of existing coursework, which follows the state-of-the-art. The ratio of a number of students-per-lecturer appears to be rather low, which can be considered an advantage. With regard to admission requirements, formal control points have been established so as high-calibre students enter the university at all levels. Moreover, doctoral student supervising/mentoring follows the same standards and practices of well recognised academic institutions. PhD candidates have adequate opportunities to present and disseminate their research findings at high-profile scientific meetings and national/international conferences. Most faculty and graduate students publish their scientific results in international high-impact peer-reviewed journals in the field of discipline based on numerous examples presented to the EEC committee.

Some recommendations for further improvements would include the following:

- Potential use of more digital resources in education (e.g., Massive Open Online Courses) as well as considerations in the graduate and post-graduate programmes.

- Consideration of emerging technological trends, such as the ones related to the 4th Industrial Revolution in the educational programmes.

The **evaluated graduate programmes are found useful** for addressing the needs of local industrial sectors and related business activities.

Project-based learning is a real asset because it allows students to experience real-world collaboration and to apply the learning from courses immediately in an applied project.

The **teaching staff is well qualified** to achieve the objectives and planned learning outcomes and to ensure quality and sustainability of the teaching and learning in the study programme.

The management of the University should take permanent care of keeping a **well-balanced and appropriate number of staff** in the programme.

The **students are in general very satisfied** with their accomplishments in the programme.

Generally, there is an **excellent availability of accessible resources** for achieving the objectives of the evaluated programmes

Department's Response:

Concluding we would like to thank the EEC for their hard work and candid discussions held throughout the rigorous process of the evaluation. The University and the Department has adopted all suggestions made the EEC as shown in the answer in sections 1-6. We are particularly pleased and gain much needed strength from the overall positive remarks and will strive to further improve and achieve our strategic goals in the near future.



B. Higher Education Institution academic representatives

<i>Name</i>	<i>Position</i>	<i>Signature</i>
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Date: [Click to enter date](#)

