Doc. 300.1.2

Higher Education Institution's Response

Date: 06/06/2024

- **Higher Education Institution:**
  University of Cyprus
- **Town: Nicosia**
- **Programme of study**
  Name (Duration, ECTS, Cycle)

  In Greek:

  Πτυχίο Μηχανολόγου Μηχανικού (8 εξάμηνο, 240 πμ)

  In English:

  B.Sc. in Mechanical Engineering (8 semester, 240 ECTS)
- **Language(s) of instruction:** Greek
- **Programme's status:** Currently Operating
- **Concentrations (if any):**

  In Greek: Concentrations
  In English: Concentrations

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. 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.300.1.1 or 300.1.1/1 or 300.1.1/2 or 300.1.1/3 or 300.1.1/4) must justify whether actions have been taken in improving the quality of the programme of study in each assessment area. The answers' documentation should be brief and accurate and supported by the relevant documentation. Referral to annexes should be made only when necessary.*

- *In particular, under each assessment area and by using the 2nd column of each table, the HEI must respond on the following:*

    - *the areas of improvement and recommendations of the EEC*
    - *the conclusions and final remarks noted by the EEC*

- *The institution should respond to the EEC comments, in the designated area next each comment. The comments of the EEC should be copied from the EEC report **without any interference** in the content.*

- *In case of annexes, those should be attached and sent on separate document(s). Each document should be in *.pdf format and named as annex1, annex2, etc.*

1. Study programme and study programme's design and development
(ESG 1.1, 1.2, 1.7, 1.8, 1.9)

Areas of improvement and recommendations **by EEC**	Actions Taken by the Institution	For Official Use ONLY
Formalized procedures for quality assurance at the department level should be elaborated and made publicly available.	Formalized procedures for quality assurance at the departmental level include the following: • Students' involvement in the improvement of the educational procedures, the undergraduate curriculum, etc. is realized *via* their representatives (5 in total – elected through student elections and may include both undergraduate and postgraduate students) in the Departmental Council where all the decisions related to the undergraduate curriculum are taken. • For further participation and involvement in the improvement of the educational process on a fundamental level thus enhancing its efficacy, the Undergraduate Studies Committee organizes an annual meeting with the undergraduate students from all years and discusses possible issues that need the Department's attention so as to improve the educational process. The next meeting is planned for September 2024. • The undergraduate studies committee organizes meetings with the Teaching Assistants at the beginning of each semester and applies procedures for their evaluation. The latter is also included in the students' evaluation reports. • The departmental council at its 08/2024 meeting that was held on the 16th of May 2024, has unanimously decided that (with the support of the Centre of Teaching and Learning, University of Cyprus, https://www.ucy.ac.cy/ctl/?lang=en), the failure statistics (per course – presented in a Table eliminating course codes), statistical analysis of the final marks (per course) and analysis of the students' evaluations (per course and per question - – presented in a Table eliminating course codes) will be made available within the Department (Faculty Members) and will be assessed annually. Drop-outs will be evaluated every 2 years. It is noteworthy to mention that most B.Sc. student dropout (>80% of total) happens during the first 2 years of their studies. The aim of the assessment is to identify any unusually high dropout or failure rates, as well as an excessive number of students achieving unusually high grades. Corrective measures to address any of these issues will be taken by the head of the department in collaboration with the instructors. Furthermore, at the end of each semester, the Head of the Department has access to the students' evaluations and in the cases where high failure rates and/or negative evaluation reports are systematically observed, he/she discusses the evaluation outcome with the corresponding Academic(s)/Instructor(s). • Academic personnel have been actively involved in shaping the MME strategy. More precisely, at the at the 09/2020 departmental meeting that was held on the 23rd of September 2020, the department's academic personnel worked effectively and collaboratively on the	Choose level of compliance:

	finalization of the 2021-2025 Departmental Strategic Plan that was drafted by the members of the Strategic Plan Committee. For the continuous monitoring and periodic revisions (once per year) of the departmental goals set in the Strategic Plan related to its mission and vision, the Department at its 08/2024 meeting that was held on the 26th of May 2024, re-appointed the Strategic Plan Committee (consisting of 4 faculty members) (https://www.ucy.ac.cy/mme/home/the-department/?lang=en). • The Department is also in the process of forming an External Advisory Board with members from the local industry and academics from abroad (decision reached at the 08/2024 meeting, that was held on the 16th of May 2024, where 11 names were proposed). The Board will meet bi-annually to internally assess the Department and suggest actions in order to meet the goals of the Department's Strategic Plan. The Board will also serve as the means to support the relations with the local industry. It is expected that this Action will be completed by September 2024. • In 2023, the MME Undergraduate Studies committee evaluated the outcome of the **Study Program evaluation results.** Based on that, a document on the implementation of improvement actions in the B.Sc. program of study was prepared and submitted to the **Internal Quality Assurance Committee** after being approved by the Departmental Council (08/2023, November 8 2023). • Concerning plagiarism, the antiplagiarism online tools *SafeAssign* and Turnitin are available through Blackboard (https://help.blackboard.com/SafeAssign/Instructor/Language_Support; https://help.blackboard.com/Learn/Instructor/Ultra/Grade/Turnitin), which are 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. Also, in case of plagiarism the students are reported to the "Disciplinary Committee for Student Issues" where the case is thoroughly investigated. Penalties include the following: (a) Verbal reprimand; (b) Written reprimand; (c) Graded penalties for offenses related to exams or assignments. They may include zeroing in lesson. (d) Work of a social nature (unpaid) inside at the University. The duration can range up to 50 hours. (e) Suspension of rights/privileges, except rights that affect learning. (f) Imposition of a fine for partial or total compensation for damage caused to equipment or the buildings or any other property of the University (g) Expulsion from the University for a period one or two semesters. (h) Removal from Student Register. (i) Combination of the aforementioned penalties. The non-compliance with a penalty is a disciplinary offence. Students who have not fulfilled any sentence imposed on them do not receive a degree.	

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

Areas of improvement and recommendations **by EEC**	Actions Taken by the Institution	For Official Use ONLY
The planning of all educational programmes and the integration of theory and practice can be improved, e.g. through the introduction of hands-on projects and activities with practical outcomes within existing courses. This could be facilitated by exploiting the new buildings and by introducing recommended specialization study streams for students.	The Department recognizes the importance of integrating theory and practice within the undergraduate curriculum. This is demonstrated by the fact that the department has set a strategic plan for the continuous monitoring and further investment in equipment, prioritizing upgrading of existing and purchasing of new teaching equipment. More precisely, the Department has put into force a strategic plan for the significant improvement of all teaching labs, but with emphasis to laboratories linked to fluid mechanics, thermodynamics and solid mechanics. For the development of the teaching laboratories, the Department has secured a total funding of €722,000, targeting 60 new laboratory exercises as follows: 9 for thermodynamics (MME 215 & MME 318) 8 for fluid dynamics (MME 216 & MME 316) 2 for heat transfer, MME 217 1 for thermal engines, MME 318 4 for strength of materials, MME 256 & MME 257 36 in all other courses We have already purchased the equipment for the implementation of most of the above laboratories which are taught. In addition, the exposure of our undergraduate students to the local industry through visits, joined diploma thesis projects, etc. introduces further mechanisms that reinforce hands-on activities with practical outcomes within existing undergraduate courses. Moreover, project-oriented learning is offered through the support of student teams such as the Formula Racing Team UCY (FRTUCY). https://www.ucy.ac.cy/frtucy/?lang=en and participation of our students in international and national competitions (e.g. NASA Space Apps Challenge - Global People's Choice Global Winner 2017, Robotex Cyprus, etc.)	Choose level of compliance:

3. Teaching staff

(ESG 1.5)

Areas of improvement and recommendations **by EEC**	Actions Taken by the Institution	For Official Use ONLY
The EEC found that professional development for the teaching staff would benefit from the implementation of a mentorship programme in the Department to facilitate the academic promotion procedures.	Informally faculty seeks mentoring from other faculty members on a voluntary basis. Moreover, the Department Chair ensures that new faculty members have accurate information on academic personnel processes, obligations related to teaching, research and administration and clear guidelines on promotion procedures. As far as teaching mentoring is concerned, the Centre for Teaching and Learning is working towards the implementation of the UCY policy for Quality Assurance in Teaching, has under Area II: "Initial training, ongoing faculty professional development, and networking" in Action: B. "Ongoing professional development for faculty and teaching staff", developed a "Mentors" policy. The policy was approved by the Senate (16/2019/ΣΥΓΚΛΗΤΟΣ) to be applied on a voluntary basis. More information can be found under: https://www.ucy.ac.cy/ctl/mentors/?lang=en.	Choose level of compliance:

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

Areas of improvement and recommendations **by EEC**	Actions Taken by the Institution	For Official Use ONLY
Not applicable.	Click or tap here to enter text.	Choose level of compliance:

5. Learning resources and student support

(ESG 1.6)

Areas of improvement and recommendations **by EEC**	Actions Taken by the Institution	For Official Use ONLY
Recommended literature on some courses needs to be revised regularly. Physical resources for teaching will benefit from consolidating facilities in the new premises on one campus.	The literature provided in undergraduate courses is indicative. The instructors systematically monitor new editions and enrich the bibliography with new valuable books (Examples are provided in **Annex I**).	Choose level of compliance:

6. Additional for doctoral programmes

(ALL ESG)

Areas of improvement and recommendations **by EEC**	Actions Taken by the Institution	For Official Use ONLY
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7. Eligibility (Joint programme)

(ALL ESG)

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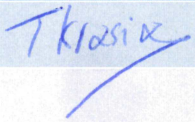
B. Conclusions and final remarks

Conclusions and final remarks **by EEC**	Actions Taken by the Institution	For Official Use ONLY
The EEC found that the academic personnel carry the skills necessary for good teaching and research. Recent investments in consolidating all available facilities and infrastructure within one campus is expected to give a major boost to the coherence of all the programmes under evaluation and will significantly improves student experience. In general, EEC found all the programmes under evaluation mostly compliant with regulations, while improvements at varying levels of importance are recommended to address specific partially compliant aspects. Education quality assurance system exists at university level, and MME nominally adopts this. However, EEC could not find in the application and presentation materials coherent formalized procedures at MME level that regularly assess quality and continuously improve student experience in the courses. Formalized procedures for quality assurance at the department level should be elaborated and made publicly available. Some elements of procedures are stated in the application materials, but it remains unclear how the system actually works. For example, it is unclear how information flows from course evaluation forms to relevant committees and further acted on for improvement of failure and dropout rates. The committee also fully appreciates intolerance to plagiarism, but penalties in the form of social work appear non-compliant and outdated. The BSc programme has consistent policies for admission. This programme fulfils all the requirements for professional registration with local authorities, ETEK. Students feel generally well supported by the department personnel, lecture halls and library.	The points appearing in Conclusions and final remarks have already been addressed in previous sections.	Choose level of compliance:

C. Higher Education Institution academic representatives

Name	*Position*	*Signature*
Theodora Krasia	Chairperson	
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Date: June 6 2024

ANNEX I

Undergraduate Courses		
Course Code - Course Name	**Existing Bibliography**	**Updated Bibliography**
MME347 Design and Manufacturing	Kalpakjian & Schmid (2014) Manufacturing Engineering and Technology, 7th SI Edition Groover, M.P., (2015) Fundamentals of Modern Manufacturing: Materials, Processes and Systems (6th Edition). Wiley.	Kalpakjian & Schmid (2020) Manufacturing Engineering and Technology, 8th edition Groover, M.P., (2019) Fundamentals of Modern Manufacturing: Materials, Processes and Systems (7th Edition). Wiley
MME145 Computer Aided Drafting	D. Gladfelter, *AutoCAD 2014 and AutoCAD LT 2014: no experience required*, ISBN 9781118757710 (e-book). W. Howard and J. Musto, *Introduction to Solid Modeling using SolidWorks* 2020, 16th Edition, McGraw-Hill 2020. ISBN 1260254135.	Willis & Dogra (2023) Autocad 2023: A power guide for beginners and intermediate users. 8th Ed. Autodesk. W. Howard and J. Musto, *Introduction to Solid Modeling using SolidWorks* 2023, 19th Edition, McGraw-Hill 2020. ISBN 1266666605.
MME216 Fluid Mechanics I	Frank White, Fluid Mechanics, 8th Edition, McGraw-Hill 2015. Munson, Young and Okiishi, Fundamentals of Fluid Mechanics 8th edition, Wiley 2016.	Frank White, Fluid Mechanics, 9th Edition, McGraw-Hill 2021. Munson, Young and Okiishi, Fundamentals of Fluid Mechanics 9th edition, Wiley 2021. Άγγελος Παπαϊωάννου, Μηχανική των Ρευστών, 3η έκδοση, εκδόσεις "σοφία", 2020.
MME208 Computer Programming & Numerical Methods	Lecture notes / Slideshow of MME208 material (*available on UCY's Blackboard platform*). Γ. Γεωργίου, Χ. Ξενοφώντος. Εισαγωγή στη Matlab. http://www.mas.ucy.ac.cy/~xenophon/courses/mas191/pdf/matlab_notes.pdf (*in Greek*) Μ. Βάβαλη, Τ. Κατελανή. Ξεκινώντας με το MATLAB. http://www.mas.ucy.ac.cy/~xenophon/misc/GreekMatlab.pdf (*in Greek*) C.S. Chapra. Applied numerical methods with MATLAB: for Engineers & Scientists. McGraw-Hill. Σ. Σταματιάδης. Εισαγωγή στην Αριθμητική Ανάλυση - Σημειώσεις Διαλέξεων και Εργαστηρίων. https://www.materials.uoc.gr/el/undergrad/courses/ETY213/notes.pdf (*in Greek*)	Lecture notes / Slideshow of MME208 material (*available on UCY's Blackboard platform*). Γ. Γεωργίου, Χ. Ξενοφώντος. Εισαγωγή στη Matlab. http://www.mas.ucy.ac.cy/~xenophon/courses/mas191/pdf/matlab_notes.pdf (*in Greek*) C.S. Chapra. Applied numerical methods with MATLAB: for Engineers & Scientists. McGraw-Hill. MathWorks®: Getting Started with MATLAB. https://www.mathworks.com/help/releases/R2017a/matlab/getting-started-with-matlab.html Σ. Σταματιάδης. Εισαγωγή στην Αριθμητική Ανάλυση - Σημειώσεις Διαλέξεων και Εργαστηρίων. https://www.materials.uoc.gr/el/undergrad/courses/ETY213/notes.pdf (*in Greek*)
MME256 Solid Mechanics	H.W. Morrow, R.P. Kokernak. Statics and strength of materials. Prentice Hall L. Spiegel, G.F. Limbrunner. Applied statics and strength of materials. Prentice Hall Pytel, J. Kiusalaas. Mechanics of Materials. Thomson Brooks/Cole B.J. Goodno, J.M. Gere. Mechanics of Materials. Thomson Brooks/Cole G. Thomas Mase, George E. Mase. Continuum Mechanics for Engineers. CRC Press W.A. Nash. Schaum's outline of theory and problems of strength of materials. McGraw-Hill	F.P. Beer, E.R. Johnston Jr., J.T. DeWolf, D.F. Mazunek. Μηχανική των Υλικών. Εκδόσεις Τζιόλα (*Greek edition*) B.J. Goodno, J.M. Gere. Mechanics of Materials. Thomson Brooks/Cole G. Thomas Mase, George E. Mase. Continuum Mechanics for Engineers. CRC Press R.C. Hibbeler. Mechanics of Materials. 8th Edition. Prentice Hall W.A. Nash. Schaum's outline of theory and problems of strength of materials. McGraw-Hill

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MME451 Linear Elastostatic & Dynamic Finite Element Analysis	D.L. Logan. A First Course in the Finite Element Method. ISBN-13: 978-0495668251 T.J.R. Hughes. The Finite Element Method: Linear Static and Dynamic Finite Element Analysis. ISBN-13: 978-0486411811 K.-J. Bathe. Finite Element Procedures. ISBN-13: 978-0979004957 J. Bonet, R.D. Wood. Nonlinear continuum mechanics for finite element analysis. ISBN-13: 978-0521838702	D.L. Logan. A First Course in the Finite Element Method. ISBN-13: 978-0495668251 Jacob Fish, Ted Belytschko. A First Course in Finite Elements. ISBN-13: 978-0470035801 Young W. Kwon, Hyochoong Bang. The Finite Element Method Using MATLAB. ISBN: 9780849300967 K.-J. Bathe. Finite Element Procedures. ISBN-13: 978-0979004957
MME215 & MME218 Engineering Thermodynamics I &Thermodynamics II	Printed notes in Greek (S. Kassinos)	Class Notes (print form) in English by S. Kassinos ChatGPT "Thermo Guru" Assistant by S. Kassinos William Reynolds - Thermodynamic Properties in Si (1979) Yunus Çengel, Michael Boles – Thermodynamics, an Engineering Approach, https://www.mheducation.com/highered/product/thermodynamics-engineering-approach-boles-cengel/M9781266664489.html William Reynolds, Piero Colonna - Thermodynamics Fundamentals & Engineering Applications (2018), https://www.cambridge.org/highereducation/books/thermodynamics/4F53402087B26F32BC8DC00DEE5ED068#overview