



FREDERICK UNIVERSITY

**Annex 01 - Answers on the EEC's External Evaluation
Report for the Program of study:**

**“MSc in Marine Engineering and Management” (14
Months, 90ECTS, Master of Science)**

July 2018

Dear members of the External Evaluation Committee,

After taking into consideration the report by the members of the External Evaluation Committee (EEC) that were appointed by the Cyprus Agency of Quality Assurance and Accreditation in Higher Education, we would like to extend our warm regards and appreciation, to all the members of the EEC, for the insightful feedback provided regarding the Program of Study: “MSc in Marine Engineering and Management” (14 Months, 90 ECTS, Master of Science).

The feedback has been taken into account and after careful consideration all the comments and suggestions implemented in order to improve the quality of the new Program of Study.

Below, we present our answer to the External Evaluation Committee’s report, along with the necessary action taken to implement all of the suggestions.

From the EEC’s report:

1. Pg 7-8: [The proposed program...teaching delivery standards]

We have constructed the courses description (objectives, content, teaching and assessment methods, bibliography). With the program acceptance, academic/teaching staff, before and during the educational process, prepares and adapts educational material in accordance with each course description.

2. Pg 8: [Library is relatively modern...discipline is limited]

As per the EEC’s instructions, new books and magazines specializing in Marine Engineering Management aspects have been ordered in both hardcopy and electronic form (via the University’s subscriptions to various publishers), to enrich the University’s library; see Annex 06 – Books, Journals and eBooks

3. Pg 8: [There are educational activities...in the courses description]

Educational activities encourage the active participation of students in the learning process have been added in the courses description on a special section; see (i) Annex 03 - Course description and (ii) Annex 05 - Collaborations.

4. Pg 9: [However, the committee feels... interaction with the students]

The Coordinator of the Program of Study is Dr. Elias Hatzidouros, who is a full-time staff of Frederick University. CEng Rod Beams holds an advisory role regarding the connection of the program with the labor market due to his extensive professional experience.

5. Pg 9: [However, several academics fall short in publications in scientific journals in specific topics of Marine Engineering]

The proposed program will provide an opportunity to FU academic staff for further development of scientific publications on Marine Engineering and Maritime Management topics. Additionally, to enrich the quality of the program, research has been made and Dr. Marios Mastrokalos has been added in the MSc Teaching Staff. Dr Mastrokalos has teaching experience in Marine Engineering Courses and publications in scientific journals in marine engineering topics; see Annex 04 – CVs of additional Teaching Staff

6. Pg 10: [The committee noted that little evidence provided in most of the staff's CVs concerning teaching experience]

The teaching staff of the program has over 19 years teaching experience in universities in Cyprus and abroad. In order to link the program to the marine engineering and management market needs, the training staff of the program includes shipbuilding executives, managers in maritime market and Marine Engineering scientists. In addition, as mentioned in Note 5, to enrich the quality of the program, research has been made Dr. Marios Mastrokalos has been added in the MSc Teaching Staff. Dr Mastrokalos has teaching experience in Marine Engineering Courses and publications in scientific journals in marine engineering topics; see Annex 04 – CVs of additional Teaching Staff

7. Pg 10: [However, the developed curriculum... level of the proposed program]

*We apprehend and understand the thought process and accept the recommendations of the EEC. Since the program of study is interdepartmental with the collaboration of the Mechanical Engineering and Maritime Studies departments and given the updated curriculum; the engineering courses outweigh the Management courses we propose the updated program of study title to be: “**MSc in Marine Engineering and Management**”; see (i) Annex 02 - Courses per semester, and (ii) Annex 03 - Course description. The new title reflects the management dimension as pointed by the EEC which complements the engineering dimension of the program*

8. Pg 11: [The committee noted... example “Maritime Engineering Management”]

*The updated program title is: “**MSc in Marine Engineering and Management**”; see (i) Annex 02 - Courses per semester, and (ii) Annex 03 - Course description.*

9. Pg 11: [Although requested... should be preferred]

The marking criteria, the progression rules and the provided material during the meetings for the MSc Thesis construction, have been added in MAEN508 - MSc Thesis course description; see Annex 03 - Course description.

Recently published text books, consistent with the courses contents, have been adapted for all courses; see Annex 03 - Course description.

10. Pg 11: [With regard to the proposed program... non-credit course]

The course “Fundamentals of Marine Engineering” is now a pre-course non-credit course; see (i) Annex 02 - Courses per semester and (ii) Annex 03 - Course description. This course should be attended by the applicants for whom it is decided, that this course is required for them due to their lack of knowledge on fundamentals of marine engineering aspects. The decision shall be taken by a committee composed of the two Coordinators, the Head of the Department of Mechanical Engineering and the Head of the Department of Maritime Studies.

11. Pg 11: [Activities including laboratory... electric propulsion etc.]

In the course description of the program courses an additional topic has been adapted describing the recommended activities for the students attending the course; see (i) Annex 03 - Course description and (ii) Annex 05 - Collaborations

The topics overlapping between the courses has been eliminated; see Annex 03 - Course description.

Advanced topics and technologies in the Marine Engineering area have been adapted in course descriptions; Annex 03 - Course description.

12. Pg 11: [Synergies between teaching and research activities should be developed.]

In the course description of the program’s courses, an additional topic has been adapted describing the recommended synergies between teaching and research activities for the course; see Annex 03 - Course description.

13. Pg 11: MAEN501

The course MAEN501 has been revised according to the EEC’s corresponding instructions; see Annex 03 - Course description. Analytically, the below described points have been adapted:

- The MAEN501 (old) course content has been enriched (revised and level reconsidered, delivering in 4 hour per week, formal and consistent terminology has been used) and moved in the new course MAEN500, which is a Pre-Course, Non-Credit Course, i.e. a preparatory course for the MSc Marine Engineering and Management. It is required for those not holding a degree in marine related fields (no background in shipping). This course should be attended by the applicants for whom it is decided, that this course is required for them due to their lack of knowledge on fundamentals of marine engineering aspects. The decision shall be taken by a committee composed of the two Coordinators of the MSc program, the Head of the Department of Mechanical Engineering and the Head of the Department of Maritime Studies.*

- *The MAEN501 (new) course has been constructed, named: “MAEN501 Maritime Safety and regulatory framework”, according to the EEC’s instructions for the MAEN504 and MAEN505 courses revision.*
- *The objectives and learning outcomes of this course have been adapted in order correspond to the characterization “advanced level”, i.e. MSc Program’s level.*
- *Recently published text books, consistent with the courses contents, as well as relevant Journals, have been adapted in the course description.*
- *An additional topic has been adapted describing the recommended activities for the students attending the course.*
- *An additional topic has been adapted describing the recommended laboratory exercises/tests that students could attend in FU laboratories and/or in collaborating ship companies.*
- *An additional topic has been adapted describing the recommended synergies between teaching and research that could provide the students engagement in research activities.*

14. Pg 12: MAEN502

The course MAEN502 has been revised according to the EEC’s corresponding instructions; see Annex 03 - Course description. Analytically, the below described points have been adapted:

- *The course title has been revised. The new course title is “MAEN502 - Ship machinery and Systems”.*
- *The course contents have been reformed. The topic “Gear design” has been removed. Topics related to vibrations, noise, shaft alignment have been added. Topics related to alternative fuels systems and machinery have been also added.*
- *The objectives and learning outcomes of this course have been adapted in order correspond to the characterization “advanced level”, i.e. MSc Program’s level.*
- *Recently published text books, consistent with the courses contents, as well as relevant Journals, have been adapted in the course description.*
- *An additional topic has been adapted describing the recommended activities for the students attending the course.*
- *An additional topic has been adapted describing the recommended software packages that could be used to provide the course learning outcomes.*

- *An additional topic has been adapted describing the recommended laboratory exercises/tests that students could attend in FU laboratories and/or in collaborating ship companies.*
- *An additional topic has been adapted describing the recommended synergies between teaching and research that could provide the students engagement in research activities.*

15. Pg 12: MAEN503

The course MAEN503 has been revised according to the EEC's corresponding instructions; see Annex 03 - Course description. Analytically, the below described points have been adapted:

- *The course title has been revised. The new course title is "MAEN503 Ship electrical systems and components".*
- *A new course named: "MAEN505 - Marine Systems monitoring, automation and control" has been developed; see answer No. 17.*
- *The concerning course MAEN503 contents have been reformed. The coverage of basic knowledge and topics has been removed. Topics related to diesel/DF electric propulsion, hybrid systems, converters and fault current have been added.*
- *The objectives and learning outcomes of this course have been adapted in order correspond to the characterization "advanced level", i.e. MSc Program's level.*
- *Recently published text books, consistent with the courses contents, as well as relevant Journals, have been adapted in the course description.*
- *An additional topic has been adapted describing the recommended activities for the students attending the course.*
- *An additional topic has been adapted describing the recommended software packages that could be used to provide the course learning outcomes.*
- *An additional topic has been adapted describing the recommended laboratory exercises/tests that students could attend in FU laboratories and/or in collaborating ship companies.*
- *An additional topic has been adapted describing the recommended synergies between teaching and research that could provide the students engagement in research activities*

16. Pg 12: MAEN504

The course MAEN504 has been revised according to the EEC's corresponding instructions; see Annex 03 - Course description. Analytically, the below described points have been adapted:

- *The course title has been revised. The new course title is “MAEN504 - Ship performance at sea”.*
- *The Maritime Safety topics, as well as IMO regulations on energy efficiency and emissions and their influence on ship machinery/systems selection and operations, have been included in the reformed course “MAEN501 - Maritime Safety and regulatory framework”; see answer No. 13.*
- *The Naval architecture topics have been reduced and moved to the new pre-course “MAEN500 Fundamentals of naval architecture and marine engineering”; see answer No. 13.*
- *The objectives and learning outcomes of this course have been adapted in order correspond to the characterization “advanced level”, i.e. MSc Program's level.*
- *Recently published text books, consistent with the courses contents, as well as relevant Journals, have been adapted in the course description.*
- *An additional topic has been adapted describing the recommended activities for the students attending the course.*
- *An additional topic has been adapted describing the recommended laboratory exercises/tests that students could attend in FU laboratories and/or in collaborating ship companies.*
- *An additional topic has been adapted describing the recommended synergies between teaching and research that could provide the students engagement in research activities.*

17. Pg 12: MAEN505

The course MAEN505 has been revised according to the EEC's corresponding instructions; see Annex 03 - Course description. Analytically, the below described points have been adapted:

- *The course title has been revised. The new course title is “MAEN505 Marine systems monitoring, automation and control”.*
- *The risk assessment topic has been moved to “MAEN501 Maritime Safety” course.*

- *An additional topic has been adapted describing the recommended software packages that could be used for the modeling in the teaching process.*
- *The objectives and learning outcomes of this course have been adapted in order correspond to the characterization “advanced level”, i.e. MSc Program’s level.*
- *Recently published text books, consistent with the courses contents, as well as relevant Journals, have been adapted in the course description.*
- *An additional topic has been adapted describing the recommended activities for the students attending the course.*
- *An additional topic has been adapted describing the recommended laboratory exercises/tests that students could attend in FU laboratories and/or in collaborating ship companies.*
- *An additional topic has been adapted describing the recommended synergies between teaching and research that could provide the students engagement in research activities.*

18. Pg 12: MAEN507

The course MAEN507 has been revised according to the EEC’s corresponding instructions; see Annex 03 - Course description. Analytically, the below described points have been adapted:

- *Topics concerning academic writing, presentation skills and ethics have been added.*
- *The weights on Final Exam and Course work/presentations have been revised to 20% for Final Exam and 80% for Course work/presentations.*

19. Pg 12: ITSM502

The course ITSM502 has been revised according to the EEC’s corresponding instructions; see Annex 03 - Course description, i.e. the ITSM502 course will be delivered in the 2nd semester of the 1st year. In this way, the 2nd semester’s load is now 30 ECTS.

20. Pg 12: MAEN508

The course MAEN508 has been revised according to the EEC’s corresponding instructions; see Annex 03 - Course description. Analytically, the below described points have been adapted:

- *Journal references have been added reflecting on the contemporary and advanced topics of the Marine Engineering and Management aspects.*

- *The marking criteria, the progression rules and the provided material during the MSc Thesis construction have been added in the course content.*

21. Pg 14-15: [However, the Committee.... must also be encouraged]

In the course description of the program courses an additional topic has been adapted describing the recommended synergies between teaching and research that could provide the students engagement in research activities related with the course content and the latest relevant developments in research and technology; see Annex 03 - Course description.

22. Pg 15: [Laboratory exercises/tests... course (e.g. MAEN503)]

In the course description of the program courses an additional topic has been adapted describing the recommended laboratory exercises/tests that students could attend in FU laboratories and/or in collaborating ship companies; see (i) Annex 03 - Course description and (ii) Annex 05 – Collaborations

23. Pg 16: [Library is relatively modern... SNAME and RINA journals]

As per the EEC's instructions, new books and magazines specializing in Marine Engineering Management aspects have been ordered in both hardcopy and electronic form (via the University's subscriptions to various publishers), to enrich the University's library; see Annex 06 – Books, Journals and eBooks. Journals topic has been adapted in "Bibliography" section, in each course description.

24. Pg 16: Software packages for marine engines and ship systems simulation are recommended to be used in a number of courses and for the student dissertation.

In the course description of the program courses an additional topic has been adapted describing the recommended software packages for marine engines and ship systems simulation that could be used for the study of course content; see (i) Annex 03 – Course Description.

25. Pg 16: The proposed program could, in the future, seek additional financial resources, such as donations from the shipping community, to enhance its laboratory and general infrastructure.

Ship companies have already show interest in cooperation and supply of their facilities for the teaching needs of the program courses; see Annex 05 – Collaborations

26. Pg 17: [The proposed MSc program title...expected learning outcomes]

The updated program title is: "MSc in Marine Engineering and Management"; the curriculum and the courses syllabi have been reformed (according to the EEC's related

instructions) as well as the program objectives and learning outcomes of the courses have been adapted in order correspond to the characterization “advanced level”. The content of the program, the teaching material and equipment have also been adapted in order to achieve the program's aim and ensure the revised expected learning outcomes. See (i) Annex 02 - Courses per semester, and (ii) Annex 03 - Course description.

27. Pg 17: The proposed program coordinator must be a fulltime member of the academic staff of Frederic University and preferably PhD holder.

The Coordinator of the Program of study is Dr Elias Hatzidouros, who is a fulltime staff of Frederick University. CEng Rod Beams holds an advisory role regarding the connection of the program with the labor market, due to his extensive professional experience.

28. Pg 17: The proposed program must be reviewed after the first cohort graduation.

The program coordinator, after the first cohort graduation, will apply to CYQAA for a re-evaluation of the program.

29. Pg 24: 1.3.9, 1.3.10: Evidence of the other teaching/administrative activities was not provided, so that the committee has not sufficient information to answer these questions.

The academic personnel's teaching load, has been listed in (02) Annex 02 – Courses per semester.

In the course description of the program courses an additional topic has been adapted describing the recommended laboratory exercises/tests that students could attend in FU laboratories and/or in collaborating ship companies; see (i) Annex 03 – Course description and (ii) Annex 05 – Collaborations.

30. Pg 25: 2.1.3 Not clear which professional body is involved

There is not any professional body in Cyprus that involves in any registration procedure of the MSc University Programs in Cyprus.

31. Pg 27: 2.3.1 The advanced level of the program is not defined.

The updated program title is: “MSc in Marine Engineering and Management”; the curriculum and the courses syllabi have been reformed (according to the EEC's related instructions) as well as the program objectives and learning outcomes of the courses have been adapted in order correspond to the characterization “advanced level”, i.e. Master's Level. The content of the program, the teaching material and equipment have also been adapted in order to achieve the program's aim and ensure the revised expected learning outcomes. See (i) Annex 02 - Courses per semester, and (ii) Annex 03 - Course description.