Doc. 300.1.1

Date: 19/06/2023

External Evaluation Report

(Conventional-face-to-face programme of study)

- **Higher Education Institution:**
  University of Cyprus
- **Town: Nicosia**
- **School/Faculty (if applicable): School of Engineering**
- **Department/ Sector: Civil and environmental engineering**
- **Programme of study- Name (Duration, ECTS, Cycle)**

  In Greek:

  Programme Name

  In English:

  Master on Natural Gas in Energy Transition
- **Language(s) of instruction: English**
- **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. Introduction

This part includes basic information regarding the onsite visit.

The on-site visit took place on 14/06/2023 at the University Campus Aglantzia in Nicosia. The purpose of the visit was to evaluate the Master's program on Natural Gas in Energy Transition (MEng), which has a duration of 1.5 years and is worth 90 ECTS credits.

The External Evaluation Committee (EEC) conducted the visit according to a scheduled plan. The committee members, including Chair Professor Ida Fabricius from the Technical University of Denmark, Member Dr Christos Kolympiris from the University of Warwick, Member Dr Roozbeh Rafati from the University of Aberdeen and Student Member Eleni Charilaou from CUT University, were introduced at the beginning of the visit.

The first meeting of the day was with the Vice Rector for Academic Affairs, Professor Tatiana Eleni Synodinou, who also served as the Chairwoman of the Internal QA Committee of the University. During this meeting, the institution's representatives provided a short presentation of the University of Cyprus and engaged in discussions regarding the Master's program being evaluated.

Following the meeting with the Vice Rector, the External Evaluation Committee had a meeting with the Head of the relevant department and the program coordinator. This meeting included a brief presentation of the structure of the School/Department responsible for the Master's program on Natural Gas in Energy Transition.

The External Evaluation Committee also visited the university library during the site visit. The library was observed to be well-equipped, providing comprehensive resources and materials relevant to the field of study. The availability of a well-stocked and up-to-date library is crucial for supporting the learning and research needs of students enrolled in the program. The library also provided study rooms. These study rooms are beneficial for students who require a quiet and focused space for collaborative work or individual study.

Throughout the site visit, the External Evaluation Committee made important observations regarding the program. They checked the quality and relevance of the curriculum, the teaching methods employed, the resources available to support the program, the assessment and evaluation procedures, and the overall alignment of the program with the objectives and requirements of the field of study.

As this document presents in detail in the following sections, the EEC has a generally positive assessment of the program while noting that there is some space for improvement on selected areas.

B. External Evaluation Committee (EEC)

Name	*Position*	*University*
Ida Fabricius	Chair, professor	Technical University of Denmark (DTU)
Christos Kolympiris	Member, associate professor	University of Warwick
Roozbeh Rafati	Member, associate professor	University of Aberdeen
Eleni Charilaou	Member, student	Cyprus University of Technology

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 the 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.)?*
  Teaching team and industry experts. The need of society to train
- *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.

The University of Cyprus offers a Master's program in Natural Gas in Energy Transition, which is designed to build and accelerate the development of national workforces for recruitment by local authorities, national subsidiaries, and international operating companies in the upstream oil and gas industry. The program specifically addresses the complex technical challenges in geosciences and petroleum engineering, with a focus on deep-water exploration and development. The primary objective of the program is to provide students with integrated knowledge of the upstream oil and gas industry within the context of energy transition. It emphasizes interdisciplinary collaborations, the adoption of innovative concepts and technologies, the development of critical thinking skills, and continuous professional development. The program adheres to the guidelines of the University of Cyprus and the European Common Transfer System. It requires the completion of 90 ECTS (European Credit Transfer and Accumulation System) credits, with 72 ECTS allocated for coursework, 2 ECTS for scientific seminars, and 16 ECTS for a final project. The program is designed to be completed in a calendar year for full-time students, including the summer months.

Admission to the program requires a B.Sc. degree in Engineering. Candidates from other scientific fields may be considered if they fulfil prerequisite courses in applied mathematics, computational methods, solid mechanics, and fluid mechanics. Proficiency in English is also a requirement, and applicants must demonstrate competitive academic standards and top grades in English language proficiency tests such as IELTS or TOEFL.

The selection of students is based on their academic records and achievements in undergraduate and postgraduate studies, as well as their potential for a professional and academic career in petroleum engineering. The evaluation of applications is conducted by the Hydrocarbon Committee, which provides suggestions to the Departmental Board for final approval.

Strengths

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

-Well-structured program: The program is thoughtfully designed, providing a clear and logical progression of courses, ensuring students acquire comprehensive knowledge in the field of petroleum/natural gas engineering.

-Industry expert involvement: Courses are designed and taught by experienced academics and industry experts, bringing real-world experience and practical insights into the classroom. This ensures that students receive up-to-date and relevant knowledge.

-Comprehensive curriculum: The program covers a wide range of topics. This broad coverage equips students with a strong foundation in key aspects of the oil and gas industry.

-Innovative concepts and technologies: The program introduces and adopts innovative concepts, ideas, technologies, and methods, reflecting the dynamic nature of the oil and gas industry and preparing students to navigate future challenges.

-Development of critical thinking: The program fosters the development of critical thinking skills, enabling students to analyze complex problems, evaluate different perspectives, and propose innovative solutions.

-Field Development Planning course: The students integrate what they have learned in other courses and gain in-depth knowledge and practical skills required to develop effective field development plans. They are equipped to analyse reservoir data, assess various development strategies, optimize well placement, evaluate economic viability, and consider environmental sustainability, preparing them for key roles in field development and reservoir engineering within the oil and gas industry.

Practical learning environment: The presence of motivated professionals with extensive practical experiences and knowledge in the sector enriches the learning environment, providing students with valuable insights and industry connections.

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.

After a thorough evaluation of the program, we have identified certain areas that, in the EEC's assessment, would benefit from improvement. Please find below our observations and recommendations:

- Lack of standalone PVT and project management courses in the course structure:

It came to our attention that the current curriculum lacks dedicated standalone courses on PVT analysis and project management. We would like to suggest considering the incorporation of these essential components into the program. By introducing standalone courses on PVT analysis, students will gain a comprehensive understanding of fluid behaviour in petroleum systems. Additionally, project management courses would equip students with crucial skills in planning, scheduling, and budgeting, enhancing their ability to execute projects successfully.

The geological courses seem to focus on the large (seismic -basin) scale. For petrophysical interpretation and rockphysics, the students also needs introduction to geology on the micrometer to cm scale, so that they understand porespace geometry, wettability and the role of diagenesis.

-Absence of a final year research project:

We noticed the absence of a final year research project in the program structure. Providing students with opportunities to engage in independent research is paramount to their growth as future professionals. Therefore, we would like to recommend establishing a structured framework for final year research projects. This would enable students to explore practical challenges and propose innovative solutions related to natural gas and energy transition. Collaborating with industry partners could further enrich these research projects, providing students with real-world experience and valuable industry connections.

-Insufficient energy transition elements in the program:

It appears that the current program lacks a comprehensive focus on energy transition, which could be addressed by incorporating relevant courses. To further justify the program's name: "Master on Natural Gas in Energy Transition," it would be beneficial to introduce at least two standalone courses that delve into energy transition topics. Consider offering courses such as carbon capture and storage, hydrogen production and storage, energy conversion and

storage, or sustainable energy systems. Additionally, exploring partnerships with experts and organizations in the energy transition field could enrich the program's offerings and provide students with practical insights into emerging technologies. Alternatively, you can also remove the ''energy transition'' from the programme name.

-Lack of enough foundation courses for students coming from other backgrounds such as electrical engineering, etc.

In conclusion, we believe that addressing these areas of improvement and implementing the recommendations outlined above would greatly enhance the quality and relevance of the program. By doing so, you would better prepare students for the evolving energy landscape and future industry demands.

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

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

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 the 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.

In the EEC's assessment, the university has demonstrated commendable efforts in implementing student-centred teaching methodologies and maintaining high standards in practical training and student assessment.

It is evident that the staff at the University of Cyprus actively engage in discussions and effectively incorporate their research into the teaching process. This approach enriches the learning experience for students, providing them with up-to-date knowledge and exposing them to cutting-edge research within their field of study. By integrating research into teaching, the staff demonstrates a deep commitment to fostering a culture of inquiry and encouraging critical thinking among students. This practice enhances the relevance and applicability of the curriculum, ensuring that students are exposed to current trends, developments, and challenges in their respective fields.

The promotion of discussions within the teaching environment was also noticeable. Our observations confirmed the staff's commitment to creating a dynamic and interactive learning environment that fostered the exchange of ideas, stimulated critical thinking, and enhanced student engagement. Through their encouragement of discussions, the staff can empower students to express their thoughts, engage in collaborative learning, and develop a deeper understanding of the subject matter. These discussions provide a platform for students to explore different perspectives, challenge assumptions, and broaden their intellectual horizons. The active participation of the staff in these discussions further enhances the learning experience and serves as a source of inspiration for students.

The EEC also noted that students are not allocated a personal tutor. This may be considered a point of attention.

Strengths

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

-It was observed that the department monitors the teaching staff's adherence to objectives and intended learning outcomes through regular curriculum reviews, internal quality assurance processes, and course evaluations. These mechanisms ensure that teaching and assessment methods align with the desired outcomes.

-Our observation indicates that the department supports the development of students' general competencies, including digital skills, through the integration of such skills into educational activities. They utilize digital tools, resources, and dedicated courses or modules to foster the acquisition of digital competencies.

- Based on our observation, the department successfully interconnects theory and practice in teaching and learning. They integrate practical components such as hands-on activities, case studies, simulations and industry collaborations. The application of theoretical concepts in real-world contexts was evident, providing students with practical skills and experiences.

- It was observed that the department places emphasis on providing supportive feedback to students on their academic progress. They have established procedures to choose appropriate assessment methods that align with the intended learning outcomes. Students receive timely and constructive feedback on their assessments, aiding their understanding of strengths and areas for improvement.

-It was found that the department ensures objectivity and relevance in student assessment. The assessment criteria are clearly defined and communicated in advance, ensuring transparency and fairness.

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.

-Limited access to software: To improve students' access to software tools like Aspen HYSYS and ANSYS, the department should explore options to include the necessary software packages on fluid properties and providing remote access. This will enable students to enhance their digital skills in fluid properties and phase behavior of reservoir fluids, particularly natural gases.

-Lack of anonymous interim feedback: Implementing an anonymous interim feedback system is crucial. The department should develop a feedback form that allows students to provide anonymous feedback during the semester. By analyzing the students' responses, the department can gain valuable insights and take appropriate actions to address concerns and suggestions.

-Encouraging innovative teaching methods and learning environments: Faculty members should be encouraged to participate in continuous professional development programs to explore and incorporate innovative teaching methods and learning aids.

-Review and Scrutiny Process: Establish a comprehensive review process for exam papers that combines both internal and external scrutiny. This process should involve subject matter experts, professors, and curriculum designers internally reviewing the exam structure and contents to identify errors, inconsistencies, and biases. Additionally, seek external input from peers in the field to provide an unbiased perspective and ensure the exams align with internationally recognized standards. This dual scrutiny approach will enhance the accuracy, validity, and credibility of the exam papers.

- Sample exam papers: It would be useful to make at least one sample of past exam papers available to students for each course. These sample papers should reflect the assessment components and expected types of questions. Access to sample papers will familiarize students with the exam format, style, and expectations, leading to better preparedness and performance during actual exams.

-Design projects like FDP course: make sure that students are both assessed individually and as part of the group. Double anonymous marking is in place for the larger components of the assessment. Use a consistent approach for checking student engagement throughout the semester without penalising the students.

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

Sub-area		***Non-compliant/ Partially Compliant/Compliant***
2.1	Process of teaching and learning and student-centred teaching methodology	Partially compliant
2.2	Practical training	Compliant
2.3	Student assessment	Partially 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.

During the evaluation, it was observed that the institution places a strong emphasis on the recruitment and development of its teaching staff. Fair, transparent, and clear processes are in place to ensure the competence of the teaching staff, and their qualifications are deemed adequate to achieve the desired objectives and learning outcomes of the study programs. In terms of teaching staff numbers and status, the institution has been found to maintain an appropriate balance. The number of teaching staff is considered sufficient to support the study programs effectively.

Strengths

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

-Strong Competence: The teaching staff demonstrates a high level of competence in their respective fields, showcasing their expertise and knowledge.

-Excellent Educational Qualifications: The teaching staff possesses very good educational qualifications, which are deemed appropriate to achieve the objectives and learning outcomes of the study programs.

-Research Background and Capabilities: The teaching staff exhibits a strong research background, engaging in scholarly activities that contribute to the advancement of knowledge in their disciplines.

- Collaboration with industry: The teaching staff collaborates with industry in their fields,

-Research Publications and Contributions: The teaching staff actively publishes research papers and contributes to scholarly publications within their respective disciplines, showcasing their dedication to advancing knowledge and sharing their expertise.

- Mentorship and Guidance: The teaching staff provides effective mentorship and guidance to students, supporting their academic and personal development throughout their educational journey.

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.

-Lack of Full-time Staff with Petroleum Engineering Educational Background: The University of Cyprus faces a challenge in the availability of full-time staff members with a petroleum engineering educational background. This gap can potentially impact the quality and depth of instruction in this field. To address this issue: Develop a targeted recruitment strategy to attract qualified full-time staff members with a petroleum engineering educational background.

-Limited Collaboration with Other Institutions in Cyprus: Limited collaboration with other institutions in Cyprus hinders opportunities for interdisciplinary learning, research collaborations, and the sharing of resources and best practices. To enhance collaboration: Actively pursue the establishment of Memorandums of Understanding (MoUs) with other institutions, fostering collaboration in areas of mutual interest. These agreements can facilitate faculty exchanges, joint research projects, and the sharing of academic resources. Develop interdisciplinary programs that involve collaboration with other institutions, promoting the exchange of knowledge and expertise across various fields of study.

- Innovative Teaching Methods and Teacher Training: While the teaching staff at the University of Cyprus appears to demonstrate competence, there may be room for improvement in the implementation of innovative teaching methods and ongoing teacher training. To promote innovation and professional growth: Organize regular professional development programs for the teaching staff, focusing on innovative teaching methods, incorporating new technologies, and adopting learner-centred approaches. These programs can be conducted by internal faculty experts or external trainers specialized in pedagogy. Encourage the formation of learning communities or peer networks among teaching staff to foster collaboration, share best practices, and promote the adoption of innovative teaching methods. Organize regular workshops, seminars, and discussions dedicated to exploring and implementing effective pedagogical approaches. Establish a mentorship program where experienced faculty members mentor and provide guidance to newer or less-experienced teaching staff, sharing their expertise and insights into effective teaching practices.

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

Sub-area		***Non-compliant/ Partially Compliant/Compliant***
3.1	Teaching staff recruitment and development	Partially compliant
3.2	Teaching staff number and status	Compliant
3.3	Synergies of teaching and research	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.

The EEC conducted an on-campus meeting with five students from the Oil and Gas Engineering MEng programme. During the meeting, the EEC engaged with the students to gather their experiences and perspectives on various aspects of the programme.

The students expressed a positive sentiment regarding their studies and the programme they were enrolled in. They particularly appreciated the substantial support they received from the programme coordinator and the lecturers. The students emphasized that the programme coordinator and lecturers were readily available and provided valuable guidance and assistance throughout their academic journey.

Furthermore, it is worth mentioning that the admission requirements for the MEng programme were designed to be appropriate and aligned with the institution's standards. The students in the programme were carefully selected, constituting a strong cohort of individuals who demonstrated exceptional qualifications and abilities.

Strengths

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

-Strong Support System: The programme coordinator and lecturers are readily available and provide substantial support to the students throughout their academic journey. Their availability, guidance, and assistance contribute to a positive learning experience.

-Cohort Selection: The admission process for the programme ensures a strong cohort of students. These students have been handpicked based on exceptional qualifications and abilities, resulting in a high-caliber group of individuals pursuing their studies together.

-Integration of Industry-Relevant Content: The programme incorporates industry-relevant content and practices, ensuring that students acquire the necessary knowledge and skills to thrive in the oil and gas engineering field. This integration enhances the practical applicability of their learning.

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 student SPE chapter was not so active in comparison with other institutions in Cyprus

-The programme needs to be advertised to a wider community of the students

-Gender balance and international diversity are low. There is room for improvement in the programme by attracting and admission of more female students.

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

Sub-area		***Non-compliant/ Partially Compliant/Compliant***
4.1	Student admission, processes and criteria	Compliant
4.2	Student progression	Compliant
4.3	Student recognition	Compliant
4.4	Student certification	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.

ECC members have observed that the University of Cyprus has sufficient teaching and learning resources. The institution has made efforts to ensure that students have access to an adequate range of resources to support their studies. This includes a well-equipped library with a variety of materials such as textbooks, reference books, research journals, and other relevant academic resources. The presence of these resources in the library indicates that the University of Cyprus recognizes the importance of providing students with the necessary tools to achieve the objectives of their study programs. Students can make use of these resources to enhance their understanding of course materials, conduct research, and develop their knowledge and skills. Having enough study rooms further demonstrates the university's commitment to creating a conducive learning environment. These study rooms offer students dedicated spaces where they can engage in individual study or collaborate with their peers. This flexibility in learning spaces allows students to choose the mode of learning that best suits their needs and preferences.

Strengths

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

-Well-Equipped Library: The University of Cyprus has a well-equipped library with a diverse collection of resources, including textbooks, reference materials, research journals, and other academic resources. This ensures that students have access to a wide range of materials to support their studies and research.

-Research Excellence: The University has achieved notable success in research, with faculty members and research teams making significant contributions in various fields.

-Research Labs: The University's research labs are equipped with advanced technologies and specialized equipment. This enables faculty members and students to conduct high quality research, contributing to advancements in their respective fields.

-Computer Labs: The University provides well-equipped computer labs with up-to-date hardware and software resources. These labs cater to the needs of the discipline, offering students access to specialized software and tools required for their coursework and research projects.

-Virtual blackboard: The use of a virtual blackboard was evident as a valuable resource for students at the University of Cyprus. This digital tool was very useful for effective communication between instructors and students, facilitating the sharing of lecture notes, assignments, and other course materials.

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.

-More software packages and lab facilities for PVT and phase behaviour of petroleum fluids: The University of Cyprus can further enhance its lab facilities by expanding the availability of software packages and resources specifically tailored to PVT (Pressure-Volume-Temperature) and phase behaviour studies of petroleum fluids. These additions would provide students with valuable tools to explore and analyze the complex behaviours of hydrocarbon systems, furthering their understanding of the field and preparing them for careers in the petroleum industry.

-Safety measures and procedures: Although the lab facilities were not inspected during the evaluation, it is strongly recommended that the University of Cyprus ensures proper safety measures and procedures are in place and followed by students working in the labs. This includes providing safety equipment, conducting regular safety

training sessions, and implementing protocols for handling hazardous materials. Prioritizing safety in lab environments is crucial to safeguarding the well-being of students and maintaining a secure learning environment.

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

Sub-area		***Compliant***
5.1	Teaching and Learning resources	Compliant
5.2	Physical resources	Compliant
5.3	Human support resources	Compliant
5.4	Student support	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.

N/A

Strengths

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

N/A

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.

N/A

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

Sub-area		***Non-compliant/ Partially Compliant/Compliant***
6.1	Selection criteria and requirements	Not applicable
6.2	Proposal and dissertation	Not applicable
6.3	Supervision and committees	Not applicable

D. Conclusions and final remarks

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

In conclusion, the Master's program in Natural Gas in Energy Transition offered by the University of Cyprus is of very good level. It exhibits several positive aspects that contribute to its overall quality and effectiveness. The program's structure is well-organized, providing a clear and logical progression of courses, ensuring students acquire comprehensive knowledge in the field of petroleum and natural gas engineering. The involvement of industry experts in designing and teaching the courses adds real-world experience and practical insights, keeping students updated with current industry practices. The comprehensive curriculum covers a wide range of topics, equipping students with a strong foundation in key aspects of the oil and gas industry. Additionally, the program emphasizes innovative concepts, technologies, and interdisciplinary collaborations, preparing students to navigate future challenges in the field.

However, certain areas require attention and improvement. The program should consider incorporating standalone courses on PVT analysis and project management to enhance students' understanding of fluid behaviour and project execution skills, also pore and sample scale geology needs to be promoted in order for the students to understand petrophysical data and rock physics. Moreover, the absence of a final year research project limits students' opportunities for independent research and practical application of their knowledge.

Another aspect that warrants improvement is the program's focus on energy transition. Incorporating relevant courses on energy transition topics would align the program more closely with its name and better prepare students for the evolving energy landscape. Furthermore, the program should address the challenge of providing sufficient foundation courses for students coming from other backgrounds, such as electrical engineering.

In terms of teaching methodologies, the University of Cyprus demonstrates a commitment to student-centred approaches, practical training, and assessment. However, there is room for improvement in adopting innovative teaching methods and creating a dynamic learning environment. Encouraging faculty participation in continuous professional development programs.

The department should also establish a comprehensive review process for exam papers, combining internal and external scrutiny. This process should involve subject matter experts and external input to ensure exam papers align with internationally recognized standards. Making sample exam papers available to students for each course would familiarize them with the exam format and expectations, leading to better preparedness and performance.

Regarding the teaching staff, the University of Cyprus demonstrates a strong commitment to maintaining a competent and qualified faculty. However, addressing the lack of full-time staff members with a petroleum engineering educational background is crucial to maintaining the quality and depth of instruction in this field. Implementing targeted recruitment strategies to attract qualified staff members would address this challenge.

The EEC would like to thank all involved in the University of Cyprus for the high engagement throughout the evaluation process - and for providing a rich set of supporting documents and videos before and during the site visit.

Finally, we would like to express our gratitude to CYQAA and to Mr. Avramis Despotis particularly, for organising and facilitating the evaluation process.

E. Signatures of the EEC

Name	*Signature*
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Roozbeh Rafati	
Christos Kolympiris	
Eleni Charilaou	
Click to enter Name	
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Date: 19/06/2023