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Date: 19.03.2023

External Evaluation Report (Conventional-face-to-face programme of study)

- **Higher Education Institution:**
Frederick Institute of Technology
- **Town:** Nicosia
- **School/Faculty (if applicable):** School/Faculty
- **Department/ Sector:** Technical Professions
- **Programme of study- Name (Duration, ECTS, Cycle)**

In Greek:

Τεχνικός Μηχανολογικών Εγκαταστάσεων (2 ακαδημαϊκά έτη,
120 ECTS, Δίπλωμα)

In English:

Mechanical Installation Technician (2 academic years, 120
ECTS, Diploma)

- **Language(s) of instruction:** Greek
- **Programme's status:** Currently Operating
- **Concentrations (if any):**

In Greek: (1) Μηχανολογικών Εγκαταστάσεων Κτιρίων,
(2) Μεταλλικών Κατασκευών

In English: (1) Mechanical Systems in Buildings,
(2) Metal Structures



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 External Evaluation Committee (EEC), which was established following an invitation from the competent Cyprus Agency of Quality Assurance and Accreditation in Higher Education, thoroughly studied the information contained in the Application for Evaluation – Accreditation of Programme of Study submitted by the educational institution "Frederick Institute of Technology" of Cyprus regarding the programme "Mechanical Installations Technician".

In the application, reference is made to the details of the programme (name, title and duration of studies).

The main part of the application follows, in which the content of the programme is presented in detail.

First, extensive reference is made to the purpose and objectives and the intended learning outcomes of the programme and the language of instruction it will be offered.

An extensive description follows in the form of tables, regarding the structure of the programme and the curriculum per semester, and for each course a detailed description of the content, its objectives and the proposed teaching method is given. A list of resources and aids recommended for use by students is also provided.

Then, the admission criteria of the candidate students to the programme are mentioned and the careers and qualifications of the teaching personnel are briefly presented, whose detailed CVs are contained in an Annex to the Application.

Following is information on the administrative structure of the programme and its position within the School, the regulations that must be followed to ensure the quality of the programme, the research activity of the teaching staff and a feasibility study with the proposed number of students and the employability prospects of the programme's graduates.

Finally, there is an extensive reference to the student welfare mechanisms and student support procedures available at the Frederick Institute of Technology, the infrastructure and spaces that will be used (rooms, laboratories, libraries), the tuition fees and other financial resources of the programme. In particular, the laboratory infrastructures available for the needs of the programme are detailed in an Annex of the Application.

On 17/03/2023, the EEC carried out a site visit to the premises of the Frederick Institute of Technology, where it had the opportunity to meet with the programme managers, the coordinator, faculty members, members of the technical and support staff of the laboratories, as well as with students following the programme under evaluation. During the visit, the committee members had the opportunity to get a first-hand view of the infrastructure and the functions and operations of the various installations available to the students of the programme, which greatly helped the evaluation of the programme.



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CYPRUS AGENCY OF QUALITY ASSURANCE AND ACCREDITATION IN HIGHER EDUCATION



B. External Evaluation Committee (EEC)

<i>Name</i>	<i>Position</i>	<i>University</i>
Nicolas Moussiopoulos	Professor	Aristotle University Thessaloniki, Greece
Dmytro Orlov	Professor	Lund University, Sweden
Dimitrios Kyritsis	Professor	Swiss Federal Institute of Technology Lausanne, Switzerland
Dimitris Hadjiconstantis	Student	University of Cyprus, Cyprus
Name	Position	University
Name	Position	University

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*

In order to ensure the quality of the curriculum, an Internal Quality Committee has been appointed by the Council of the Institute, in which academic staff, administrative staff and one student are represented. The Internal Evaluation Procedure includes the following activities:

- Annual reporting by all academic and administrative bodies to the Internal Quality Committee.
- The Internal Quality Committee discusses its findings with relevant bodies and reports back with comments and suggestions for improvement.
- The Internal Quality Committee submits its bi-yearly report to the Council.

There is also a defined course and teacher evaluation process by students at each semester, as well as the process of internal evaluation of the programme by professors in order to improve it using four Quality Standards Reports:

- IQC_100: Student Questionnaire
- IQC_101: Faculty Course Evaluation
- IQC_104: Programme Self Evaluation
- IQC_105: Faculty Activity Report

In order to achieve a continuous quality improvement of the educational programme, identify weaknesses and employ measures for improvement, provide accountability and promote a Quality Culture, in order to keep up with current developments and the requirements Required by national legislation Recommended by European QA bodies – ESG and the Bologna Process, the Institute takes into account the opinion of the Internal Quality Committee and opinions coming from various sources, internal and external, such as:

- The Cyprus Agency of Quality Assurance and Accreditation in Higher Education
- Department of Electrical And Mechanical Services of Cyprus, all
- Technical Engineering Programs
- Nortest Inspection and Certification Centre, Diploma of Mechanical Infrastructure and Oil & Natural Gas Technician
- Department of Environment, Diploma of Mechanical Installation Technician

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*

The programme is evaluated by means of both qualitative and quantitative assessment tools, (questionnaires and interviews) and involves both the staff and the students. In addition, there is consultation with the industry, professionals and academic institutions related to the programme of study.

The purpose of the programme's evaluation and review is its continuous improvement and upgrading, according to the international trends, and emerging local needs. The target is to ensure the programme's quality and effectiveness. In order to succeed in their effort, the Supervisor and staff of the programme receive and employ messages from internal and external sources like:

- The data collected during the internal evaluation of the programme. The evaluation of the programme is performed annually, according to the rules and regulations of Frederick Institute of Technology.
- The suggestions of Evaluation Committees of the Agency of Quality Assurance and Accreditation in Higher Education.
- The suggestions of the Internal Quality Committee of the Institution.
- The suggestions of the higher personnel of the industry with whom the programme cooperates.
- The contemporary bibliography and the results of different local and international meetings related to the programme of study.
- The current trends of similar programs regionally and globally.

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*

The general purpose of the Programme of Study Mechanical Installations Technician: A. Mechanical Systems in Buildings, B. Metal Structures (two years diploma) is to provide its candidates the required knowledge and experience to obtain a full-time position in the field of mechanical installations.

The programme supports its candidates to become gradually familiar with the disciplines of A. Mechanical Installations and maintenance in the construction industry, such as heating, ventilation and air conditioning, plumbing, renewable energy technologies and lifts, and B. Metal Structures which will support its candidates to progressively become acquainted with manufacturing techniques that involve processing of metal components

using metalworking machinery and processes, such as cutting, welding, lathe and milling, and installing metal components as parts of an assembly process, structural elements and gas pipelines applied to production, processing and transportation networks of natural gas.

The intended learning outcomes of the programme in **Mechanical Installations Technician with specialization in Mechanical Systems in Buildings** are:

1. To become familiar with the actual environment of the mechanical installations technician, who will be employed in the building or the industrial sector.
2. To become acquainted with basic physics and chemistry concepts with emphasis on thermodynamics, fluid mechanics and combustion. The chemical composition, the combustion process, the properties and the behaviour of the natural gas as a fluid in transportation and storage networks will be analysed as a more specific application.
3. To acquire the necessary theoretical knowledge and practical skills for installation and maintenance of buildings and industrial mechanical services.
4. To acquire the skills required (technical and administrative) for the installation and maintenance of mechanical services, which includes hydraulics, heating, ventilation and air-conditioning equipment, renewable energy technologies, including small-scale biomass boilers and stoves, solar thermal systems, shallow geothermal systems and heat pumps, and lifting systems, in building and industrial applications.
5. To understand basic engineering drawings and acquire reading skills of mechanical installation drawings.
6. To use basic knowledge of mathematics to solve simple technical problems of mechanical installations.
7. To use basic knowledge of computers for solving simple technical problems of mechanical installations.
8. To use basic knowledge of mechanical measurement methods for solving simple technical problems of mechanical installations.
9. To use basic knowledge of materials machining for solving simple technical problems of mechanical installations.
10. To be aware of the legislation governing health and safety at construction sites regarding mechanical installations and be able to apply it.
11. To effectively handle the machinery and hardware required for the preparation, installation and maintenance of mechanical systems, fittings and pipes used in plumbing, heating and air-conditioning units, as well as renewable energy systems and lifting equipment.
12. To acquire the necessary skills to deliver feasibility studies for the structuring and operation of a mechanical installations workshop.
13. To know the basic principles of electrotechnics and to be able to calculate basic electrical quantities in electrical circuits related to the working environment of mechanical installations technician.
14. To be able to recognise fundamental electrical components and conduct primary electrical measurements in electrical circuits related to the working environment of mechanical installations technician.
15. To apply the necessary safety standards to electrical devices and circuits related to the working environment of mechanical installations technician.

16. To apply the necessary safety and protection measures against electrocution.
17. To be able to continue their studies in other educational institutions to obtain higher qualifications.

The intended learning outcomes of the programme **Mechanical Installations Technician with the specialization of Metal Structures** are:

1. To become familiar with the actual environment of the manufacturer, welder, machining technician and installer, who will be employed in a workshop or a construction site.
2. To become acquainted with basic physics and chemistry concepts with emphasis on thermodynamics, fluid mechanics and combustion. The chemical composition, the combustion process, the properties and the behaviour of the natural gas as a fluid in transportation and storage networks will be analysed as a more specific application.
3. To acquire the necessary theoretical knowledge and practical skills to apply the widely used welding, machining, assembly and dismantle techniques on components.
4. To acquire the skills required (technical and administrative) for the execution of welding works and the machining, application, assembly and maintenance of metal elements.
5. To understand basic engineering drawings and acquire reading skills of mechanical installation and manufacturing drawings.
6. To use basic knowledge of mathematics to solve simple technical problems that might arise during welding structures, machining, application, assembly and maintenance of metal elements.
7. To use basic knowledge of computers for solving simple technical problems of Metal Structures.
8. To use basic knowledge of mechanical measurement methods for solving simple technical problems of Metal Structures.
9. To use basic knowledge of materials machining for solving simple technical problems of Metal Structures.
10. To be aware of the legislation governing health and safety at construction sites regarding manufacturing and installation of metal elements and be able to apply it.
11. To effectively handle welding equipment, machining tools and mechanical equipment needed to prepare the parts to be welded, machined and assembled.
12. To acquire the necessary skills to deliver feasibility studies for the structuring and operation of welding and machining workshops and construction sites.
13. To know the basic principles of electrotechnics and to be able to calculate basic electrical quantities in electrical circuits related to the working environment of metal structures technician.
14. To be able to recognise fundamental electrical components and conduct primary electrical measurements in electrical circuits related to the working environment of metal structures technician.
15. To apply the necessary safety standards to electrical devices and circuits related to the working environment of metal structures technician.
16. To apply the necessary safety and protection measures against electrocution.
17. To be able to continue their studies in other educational institutions to obtain higher qualifications.

In order to achieve the above outcomes the Institute offers a complete programme of 13 Compulsory Courses of a total of 61 ECTS, a list of 6 courses for the Specialisation of Mechanical Systems in Buildings of a total of 54 ECTS and a list of another 6 courses for the Specialisation of Metal Structures.

The courses are taught by highly qualified permanent and adjunct personnel of the Institute and facilitated by the Institutes infrastructure including well equipped classrooms, state-of-the-art equipped laboratories, ICT based learning facilities and a rich library of printed and electronic books.

The performance of the students is regularly assessed by periodic and final exams following internationally established standards. Students with special needs are assisted in their academic duties by the academic staff and qualified personnel of dedicated services.

The students are accompanied and assisted in all phases and steps of their studies by high quality well established services and qualified personnel in their academic life, in the administrative procedures, as well as in their social life, including personal needs.

There is special care of students with financial needs.

The responsible Institute services follow the needs of the markets in the area of the programme and regularly inform and assist students about employment perspectives and opportunities.

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.*

According to the feasibility study recently performed by the Institute, the Mechanical Installations sector in Cyprus is a professional field which has become very active the past few years. This sector includes both mechanical installations in the building sector as well as in the industry in general. Especially in the building sector, vocational training of specialized technicians in installations such as the plumber, air-conditioning technician, boiler and central heating technician, installation technician of Renewable Energy Sources

(RES), elevator technician and the machining, manufacturing and installation technician of metal elements comprise a constant need for more than 110 companies in Cyprus involved in mechanical services installations.

A study prepared by the Human Resource Development Authority of Cyprus suggested that 47,731 technicians are expected to be employed by 2027, in comparison to the 40,000 technicians that are employed in the field today (which is an increase of almost 20%).

Since all the graduates of the programme thus far are already employed in the field and due to the comparative advantages provided by the proposed programme, it is believed that there is a potential for a further market penetration. In addition, the curriculum is already supported ominously by academics in collaboration with Frederick University, which provides substantial perspective and upgrades for the students.

Having said the above and given the capacities of the Institute, the objective is to attract annually 15-20 students in the following years of operation of this programme including international students.

Candidates are considered for admission on the basis of their academic qualifications, regardless of sex, race, national origin, colour or religion.

Candidates of diploma curriculums should submit a school leaving certificate from a recognised six-year secondary school (high school) with an average grade of 75% (Greek Cypriot secondary schools) or a grade of "C" for other equivalent secondary schools), or equivalent qualifications.

Candidates who submit a six-year secondary school leaving certificate but do not meet the above grade requirements may be admitted on a probationary status and take reduced load until they achieve satisfactory academic performance, or they will be admitted with full load if during their interview with the Programme Coordinator they prove to have technical, professional or other academic skills that will counterbalance their low secondary school grade.

Students enrolled in the Frederick Institute of Technology to obtain a diploma may be full or part-time students.

So far, students are succeeding their studies at 100% and all managed to be employed in the places they would like to be.

During the interviews of the EEC with current students of the programme, all expressed their high satisfaction in all aspects of their academic and so far initial employment life and the support that are receiving by their teacher and the Institute services so far.

With regard to employment perspectives and career paths opened to the graduates of the programme, according to the above mentioned feasibility study, the programme graduates will gain significant technical professional experiences and skills to be instantly employed in the following fields:

- Construction sector (building services)
- Energy (including RES systems such as installation of biomass boilers and stoves, solar thermal systems, shallow geothermal systems and heat pumps)
- HVAC (Heating, Ventilation and Air-Conditioning)
- Plumbing and water distribution systems (including swimming pool and irrigation systems)
- Lifting equipment such as lifts

- Machining, manufacturing and installation of metal elements (specialised welders and machining technicians that are excellent users of metal cutting and processing machines such as lathes and milling machines)

You may also consider the following questions:

- *What is the procedure for quality assurance of the programme and who is involved?*
- *Who is involved in the study programme's design and development (launching, changing, internal evaluation) and what is taken into account (strategies, the needs of society, etc.)?*
- *How/to what extent are students themselves involved in the development of the content of their studies?*
- *Please evaluate a) whether the study programme remains current and consistent with developments in society (labour market, digital technologies, etc.), and b) whether the content and objectives of the study programme are in accordance with each other?*
- *Do the content and the delivery of the programme correspond to the European Qualifications Framework (EQF)?*
- *How is coherence of the study programme ensured, i.e., logical sequence and coherence of courses? How are substantial overlaps between courses avoided? How is it ensured that the teaching staff is aware of the content and outputs of their colleagues' work within the same study programme?*
- *How does the study programme support development of the learners' general competencies (including digital literacy, foreign language skills, entrepreneurship, communication and teamwork skills)?*
- *What are the scope and objectives of the foundation courses in the study programme (where appropriate)? What are the pass rates?*
- *How long does it take a student on average to graduate? Is the graduation rate for the study programme analogous to other European programmes with similar content? What is the pass rate per course/semester?*



- ***How is it ensured that the actual student workload is in accordance with the workload expressed by ECTS?***
- *What are the opportunities for international students to participate in the study programme (courses/modules taught in a foreign language)?*
- *Is information related to the programme of study publicly available?*
- *How is the HEI evaluating the success of its graduates in the labor market? What is the feedback from graduates of the study programme on their employment and/or continuation of studies?*
- *Have the results of student feedback been analysed and taken into account, and how (e.g., when planning in-service training for the teaching staff)?*
- *What are the reasons for dropping out (voluntary withdrawal)? What has been done to reduce the number of such students?*

Findings

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

The Frederick Institute of Technology offers high-quality training programmes in the specialisations under evaluations.

The programmes have been designed and regularly updated by highly qualified teaching staff at all levels.

The students are selected according to the standards and requirements of the state of Cyprus.

The quality assessment procedures are well defined and followed.

The infrastructure, facilities and services of the Institute are of the required quality for the needs of the programme under evaluation.

Strengths

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

The students of the programme are highly motivated.

There are excellent relations between the teaching staff and the students.

The employability of the graduates is high.

The Institute has a wide network of company contacts and helps the students to find their first employment position in a company, in most cases already during their studies.

The students are involved in motivating academic competition programs.

The teaching staff is composed of highly qualified and motivated professionals.

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 programme under evaluation should be better advertised and promoted in markets of interest where seems to be a strong need for professionals qualified and graduated by the programme.

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



Sub-area		<i>Non-compliant/ Partially Compliant/Compliant</i>
1.1	Policy for quality assurance	Compliant
1.2	Design, approval, on-going monitoring and review	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.*

The teaching methodology followed by the programme is a combination of theoretical lectures in class and state-of-the-art laboratory sessions which are adequate for the qualifications set by the objectives of the programme.

The infrastructure and facilities provided by the Institute to the programme are according to the current quality standards and appreciated by both the students and the teachers.

The teaching methods, tools and educational materials used by the teaching staff are following the state-of-the-art and appreciated by the students.

The Institute has established a set of procedures that are followed in case of problems in the teaching/learning practice.

The students are given the opportunity, with the support of the Institute, to go abroad with the Erasmus+ programme in order to enlarge their experiences.

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.*

Because of the nature and the objectives of the programme, practical training has an important key role at the centre of the curriculum and its whole educational and pedagogical approach. The content of the practical training is well organized with respect to the needs of the students, who are all employed, and delivered by highly motivated and qualified professionals. The students are highly satisfied with their practical training experiences.

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.*

The assessment of the performance of the students is done according to well internationally adopted academic practices.

The assessment of the practical training is done according to the requirements and practices of recognised professional bodies.

The teaching staff is paying particular attention to provide on time feedback to the students.

Students are informed about office hours of their teachers from the very beginning and are encouraged to contact them when need is.

Well defined procedures for all known types of academic issues are formally established by the Institute and students are invited to follow them in case of need.

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.

According to the opinion of the EEC made after the presentations, the interviews with staff and students and the visits of the facilities of the Institute, the situation of the Institute is healthy and sustainable.

Strengths

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

The high level of satisfaction and motivation of the teaching and administrative staff and the students as it was expressed during the sessions and the interviews is, may be, the most important strength of the Institute to keep in mind.

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 situation is healthy and the need is to keep it continuously up to date to the internationally evolving quality standards.

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

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

10 among the 17 teachers of the programme have a PhD degree and most of them are also professors at Frederick University in corresponding four-year study programs, which ensures the required qualifications and experience required by the programme under evaluation.

Furthermore, 4 recognised Visiting Lecturers are contributing to the teaching needs of the programme.

All teachers and trainers have qualifications higher than the level of the diploma corresponding to the level of the Study Programme they teach.

The teaching quality and performance of the teaching staff is given particular attention by the Direction of the Institute, it is assessed by regular student evaluations, and it is taken into account in their promotion.

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.*

The teaching staff provided for the programme consists of 13 Full Time (FT) and 4 Part Time (PT) Visiting Lecturers. Among the 13 FT teachers, 1 of them is Professor, 3 are Associate Professors, 2 are Assistant Professors, 2 are Senior Lecturers, 4 are Lecturers and 1 is Special Technical Staff (and Director of the Laboratory).

The above identified variety of qualifications of the teaching staff is another factor that contributes to maintain and further improve the quality of the programme of study.

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.*

The teaching staff of the programme, by its involvement in funded research activities, both in national Cypriot and European Research programs where Frederick University is involved and which are related to the content of the programme, is becoming aware of new developments in related areas. Consequently, the teaching staff integrates in teaching practices contemporary trends as they arise through the evolution of technology. The academics among the teaching staff of the programme have an appreciated record of publications, a good number of them being in the area of the programme. Moreover, students of the programme are involved in student competition international programmes, for example in the construction of a race car designed and realised by students with the support of motivated teachers and supported by a good number of local sponsor companies.

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.

The teaching staff confirmed being highly satisfied by what they are doing and highly motivated to contribute to the further success of this programme.

Some of the results of research performed by the academics involved in the programme find their appropriate way to the content of the programme under evaluation.

The teachers are regularly evaluated by the students who look highly satisfied by their interactions with their teachers.

Strengths

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

Good balance between theoretical and practical content.

Technical laboratories follow professional certification standards and adopt appropriate state-of-the-art safety procedures.

Involvement in activities initiated and carried out by students (i.e. race car).

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 Institute is encouraged to support the teachers to advertise their work in professional networks and markets.

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

Sub-area		<i>Non-compliant/ Partially Compliant/Compliant</i>
3.1	Teaching staff recruitment and development	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.*

As stated in the application, candidates are considered for admission at the Frederick Institute of Technology on the basis of their academic qualifications, regardless of sex, race, national origin, colour or religion.

Candidates of diploma curriculums should submit a school leaving certificate from a recognised six-year secondary school (high school) with an average grade of 75% (Greek Cypriot secondary schools) or a grade of "C" for other equivalent secondary schools), or equivalent qualifications.

Candidates who submit a six-year secondary school leaving certificate but do not meet the above grade requirements may be admitted on a probationary status and take reduced load until they achieve satisfactory academic performance, or they will be admitted with full load if during their interview with the Programme Coordinator they prove to have technical, professional or other academic skills that will counterbalance their low secondary school grade.

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.*

Academic advising plays an important role in a student's registration and academic performance at Frederick Institute of Technology. Each student receives planning and academic advice from the supervisor and academic advisor. The academic

officer/advisor assists students in registration and counsels them with regard to the student's schedule and possible personal issues. The students are also informed about the office hours of their teachers, during which they can meet them to discuss educational or other problems.

At the beginning of each semester, the newly-registered students participate in an orientation programme designed to familiarise them with the available curriculums of study, student services and campus facilities, such as teaching classes, labs, library and other services offered by the college.

The programme coordinator and the staff members inform the students of the programme syllabus and the timetable. A personal interview with the students identifies their potential and interest in the programme, discusses issues related to their entire studies at the college, provides information about the academic advisor and the academics' office hours, during which they will be able to meet them and accept their mentoring and assistance concerning any educational and personal issues.

Students enrolled in the Frederick Institute of Technology to obtain a diploma may be full-time or part-time students.

Frederick Institute of Technology provides services to students through the Office of Studies and Student Affairs. The aim of the Service is to contribute to the creation of an academic environment that promotes constructive learning, academic success and socialization of students. The Service includes the following offices: Study Office, Registration Office, Mobility Office, Career and Interconnection Office, Alumni Office, Academic Support Office, Counseling Centre (Social and Psychological Support), Sports Office, Housing and Accommodation Office.

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*

Students efforts and achievements are recognised according to current standards, regulations and practices. Students wishing to change their Programme of Study must notify the Department of Academic Affairs in writing at the latest before the deadline for adding a course - changing majors. The European Credit Units (ECTS) that can be

transferred from one programme to the other are decided by the Programme Coordinator in which the transfer will take place.

Students who have graduated from a recognised six-form secondary school, and have completed college level work in an accredited programme at an institution other than FIT, are eligible to apply for transfer admission according to a transparent process.

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.*

The programme under evaluation delivers two certificates at the level of “Diploma” upon successful completion of the programme under the responsibility of the Registrar’s office that is responsible for the organisation and maintenance of student records and the preparation of academic certificates according to a transparent established procedure.

The two Diplomas that are highly recognised and appreciated in related market sectors in Cyprus are the following:

- **DIPLOMA IN MECHANICAL INSTALLATIONS TECHNICIAN - SPECIALIZATION: MECHANICAL SYSTEMS IN BUILDINGS**
- **DIPLOMA IN MECHANICAL INSTALLATIONS TECHNICIAN - SPECIALIZATION: METAL STRUCTURES**

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.

All the procedures related to student affairs are well established, documented and followed.

This allows students to identify quite early opportunities to change orientation and move or transfer to higher end programs such as the BSc in Mechanical Engineering.

On the other hand, this transparency of student recognition together with the employability of the two-year diploma students allows to transfer their ECTS and move from the BSc programme to the programme under evaluation.

Strengths

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

Good and smooth collaboration with local industry to educate and prepare the students with the right qualifications for their professional life.

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 related procedures seem to run smoothly so far, no major issues identified.

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

Sub-area		<i>Non-compliant/ Partially Compliant/Compliant</i>
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.*

Good quality teaching and learning resources are provided to the students that are more than adequate for the number of the students registered to the programme and allow for various modes of teaching/learning.

They seem also to be adequate for more than the double of the registered students.

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.*

A rich environment of physical resources is available to the students with the following:

Teaching rooms

A significant number of classrooms are available, which are quite spacious and well-equipped. In the rooms there are ceiling projectors connected to PCs. Every room has internet access.

The EEC was impressed by the clean environment of all teaching spaces.

Library

There is sufficient material, which exceeds the needs of the specific programme. There is also subscription to reputable databases and journals.

Laboratories

The laboratory infrastructure for the practical part of the "Mechanical Installations Technician" study programme provides for the following laboratories:

A. In the privately owned building of the Institute in Nicosia:

- Design studio
- Computer lab
- Electrical Engineering Laboratory
- Laboratory of Electric Machines and RES

B. In the premises of the Laboratories of the Faculty of Mechanical Engineering of the FU (Nicosia)

- Welding Laboratory
- Machine shop
- Electrical Engineering Laboratory
- Materials Strength Laboratory
- Laboratory of Hydraulic Systems
- Laboratory of Fluid Mechanics
- Quality Control Laboratory
- Refrigeration Systems Laboratory
- Laboratory of Thermohydraulic Systems
- Laboratory of Thermal Installations

For the practical training of the students, collaboration with mechanical installation companies contracted with the Institute is foreseen and running smoothly and expanded. From the on-site visit, it was found that the laboratory infrastructure exceeds the needs of the programme, as it absolutely ensures the students' practice in modern technologies.

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.*

Students are supported in their learning activities with the following mechanisms:

- (a) Orientation, Information and Adjustment Programme
- (b) Faculty Office Hours
- (d) Peer Tutoring Centre
- (e) Student Advocate

All of the above are described in detail in the application and are widely appropriate and according to the current practices of recognized institutions.

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.*

Students are also supported in all aspects in their life as students with the following services:

- (a) Registrar's Office
- (b) Studies Office
- (c) Student Life and the Sports Office
- (d) Support and Counselling Office.
- (e) Careers Office

In addition to the above the Institute provides the following Personal Development and Support Services:

- (f) General Services including Mentoring student clubs and societies, campaigns and other activities that aim to raise awareness of students on social issues, individual or group counselling on the development of social and academic skills, referrals to community resources
- (g) Supporting students with Learning Difficulties or Disabilities
- (h) Sports

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.

The teaching resources available to the programme are more than adequate for the number of students registered.

Strengths

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

Very good ratio of teachers per student that contributes to achieve high quality outcomes.

Thanks to the good experiences with the collaborating companies, many of them are encouraging and supporting their workforce to consider joining this programme.

Areas of improvement and recommendations

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

Try to better and more promote and advertise the programme in order to attract more students since the available resources allow for it.

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

Sub-area		<i>Non-compliant/ Partially Compliant/Compliant</i>
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*

NA

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.*

NA

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.*

NA

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.

NA

Strengths

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

NA

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.

NA

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

Sub-area	<i>Non-compliant/ Partially Compliant/Compliant</i>
----------	---------------------------------------------------------

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.

From the examination of the information contained in the Evaluation Application, from the study of the material that accompanies it, and from the on-site visit, the EEC concludes that the study programme under evaluation entitled "Mechanical Installations Technician" fully satisfies current internationally applicable standards for a programme of this level.

In addition, the proposed programme satisfies to a significant level the evaluation criteria set. The EEC got the impression that the programme under evaluation is in a very good shape in order to be further promoted and advertised in concerned industrial sectors and in the wider society in order to attract more students and so satisfy the identified need for more qualified professionals in the area in the coming years.

It is concluded that the proposed programme is particularly robust, coherent and ambitious, in terms of the intended goals and its implementation process, and is complete and harmonised with the international relevant good practices.

The fact that the relevant four-year programme in "MECHANICAL ENGINEERING" already exists at Frederick University is positive, because:

- The sequence of the courses offered has been carefully considered, in order to greatly facilitate and effectively support the educational process.
- The programme has the required infrastructure and human resources in terms of main and auxiliary teaching and technical staff.
- There is the necessary experience in terms of organization, administration, etc.
- The required physical infrastructure is in place to support the programme, i.e. laboratories, equipment, classrooms and library.
- There is already the required interface with technical companies of mechanical installations to support the practical training as well as the technical training of the students.

E. Signatures of the EEC

<i>Name</i>	<i>Signature</i>
Nicolas Moussiopoulos	
Dmytro Orlov	
Dimitrios Kyritsis	
Dimitris Hadjiconstantis	
Click to enter Name	
Click to enter Name	

Date: 19/03/2023