Doc. 300.1.1

Date: Date.

External Evaluation Report

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

- **Higher Education Institution:** Cyprus University of Technology
- **Town:** Limassol
- **School/Faculty (if applicable):** Management and Economics
- **Department/ Sector**: Department of Finance, Accounting and Management
- **Programme of study- Name (Duration, ECTS, Cycle)**
  In Greek:

  Επιστήμη Δεδομένων με ειδίκευση 1) ΕπιστήμηΔεδομένων, 2) Οικονομικά και Διοίκηση (4 ακαδημαϊκά έτη, 240 ECTS, Πτυχίο(BSc))

  In English:

  Data Science with specialisations: 1) Data Science, 2)Economics and Business (4 academic years, 240 ECTS, Bachelor(BSc))
- **Language(s) of instruction:** Greek
- **Programme's status:** New
- **Concentrations (if any):**
  In Greek: 1) ΕπιστήμηΔεδομένων, 2) Οικονομικά και Διοίκηση
  In English: 1) Data Science, 2)Economics and Business

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 Cyprus Agency for Quality Assurance and Accreditation in Higher Education (CYQAA) charged the External Evaluation Committee (EEC) to conduct an external evaluation-accreditation of the following programme of study: BSc in Data Science with specialisations: 1) Data Science, 2) Economics and Business (4 academic years, 240 ECTS, Bachelor (BSc)) offered by the Department of Finance, Accounting and Management Science of the Cyprus University of Technology.

The process of evaluation included three phases:

1. Before the site visit, the members of the EEC studied the provided reports and material. The EEC had a preliminary remote meeting on May 17, 2024 to discuss the evaluation process, the provided material and to prepare for the site visit, headed by the CYQAA representative, Ms. Kazakaiou.
2. During a one-day site visit on May 22, 2024, the EEC discussed the programme with the head of the department, teaching staff, students and graduates and industry stakeholders. There was an open and lively discussion of strengths, weaknesses, local competition, opportunities and positioning. The meetings were very helpful to gain additional insights about the strategy, operation and future plans of the department, and in particular with respect to the proposed programme.

   The visit on May 22 included the following main points:
   - The Vice Rector of Financial Planning and Development was unavailable and the scheduled meeting did not take place;
   - Meeting with the Internal Evaluation Committee (Zarkada, Gemenis, Koursaros, Patsalidou);
   - Meeting with the head of the department (Savva) and the dean of the School (Kalotychou);
   - Discussion of the proposed Bachelor's Programme with the head of the department (Savva) and the programme coordination committee (Kontoghiorghes, Kalotychou, Koursaros);
   - Meeting with teaching staff (10 from the program's home department and 2 from the "supporting" department of Electrical Engineering and Computer Engineering and Informatics;
   - Meeting with External Stakeholders (Deloitte, Lemissoler Navigation, Central Bank of Cyprus);
   - Meeting with students and graduates (4 current, 4 graduates);
   - Meeting with university administrative staff (IT, Library, Academic Affairs and Student Welfare, Research Services);
   - Exit discussion (Savva, Kontoghiorghes, Koursaros);
   - Visit to university premises (Savva, Kontoghiorghes, Koursaros).

3. After the site visit, the EEC had a final meeting on May 23, 2024 to do a point-by-point discussion and to finalize the writing of the report. We used the information from the application and the visit for this external evaluation report.

As detailed below, we find that the proposed programme under review is compliant with some of the stated criteria and standards and some are only partially met. We provide some recommendations to be considered in the hope of improvement.

B. External Evaluation Committee (EEC)

Name	*Position*	*University*
Efstathia Bura	Professor, Head of Applied Statistics	TU Wien
Konstantinos Stefanidis	Professor, Information Technology and Communication Sciences	Tampere University
Raghava Rao Mukkamala	Associate Professor, Data Science, Business Analytics and Cybersecurity	Copenhagen Business School
Yiannis Zapitis	Professional Body Representative	ETEK
Marilena Lemonari	Ph.D. student in Computer Science	University of Cyprus
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:*
  - *is a part of the strategic management of the program.*
  - *focuses on the achievement of special goals related to the quality assurance of the study program.*
  - *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*
    - *is developed with input from industry leaders and other stakeholders (i.e. industry leaders, professional bodies/associations, social partners, NGO's, governmental agencies) to align with professional standards.*
    - *integrates employer surveys to adapt to evolving workplace demands.*
    - *regularly utilizes alumni feedback for long-term effectiveness assessment.*
    - *is published and implemented by all 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*

- *Aligns course learning outcomes with student assessments using rubrics to ensure objectives are met.*
- *Connects each course's aims and objectives with the programme's overall aims and objectives through mapping, aligning with the institutional strategy.*
- *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*
    - collaborates with industry experts for curriculum development.
    - conducts joint reviews with external academic specialists to maintain academic rigor.
    - performs periodic assessments with external stakeholders to ensure continuous alignment with market needs.
    - establishes collaboration with international educational institutions or/& other relevant international bodies for a global perspective.
    - conducts regular feedback sessions with local community leaders for societal relevance.

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*

In addition, the program has established mechanisms of transparency & communication to ensure that

- Professional bodies validate program descriptions and outcomes.
- Community leaders actively participate in ensuring that the program's public information is relevant and resonates with the local and societal context.
- External auditors review public information for accuracy & consistency vis-à-vis the actual implementation of the program.
- Industry-specific & societal information is regularly updated with expert inputs.
- Alumni testimonials are included for a realistic portrayal of program outcomes.

1.4 Information management

Standards

- *Information for the effective management of the programme of study is collected, monitored and analysed using specific indicators and data i.e.*
  - *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*
  - *industry trend analysis.*
  - *feedback mechanisms from external partners/stakeholders*
  - *data exchanges with professional networks*
  - *employer insights concerning career readiness*

- *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.)?*
- *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?*
- *How and to what extent are external stakeholders involved in the quality assurance process of the program?*
- *How is external stakeholder feedback gathered, analyzed and implemented?*
- *In what ways do external stakeholders assist in making program information publicly available?*
- *How do external stakeholders contribute to evaluating graduate success in the labor market and obtaining feedback on employment 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.

The BSc in Data Science with concentrations (a) Data Science and (b) Economics and Business is a timely adaptation and modernization of the BSc programme of the department according to its new mission after its split from Shipping. The programme aims to offer training in the areas of Business, Economics and Finance enmeshed with Data Science to potential students. The programme is proposed by the Department of Finance, Accounting and Management under the School/Faculty of Management and Economics and the department is solely responsible for the design, development and management of the programme.

The programme is projected to start in the 2025-26 academic year. It consists of 240 ECTS spread over 8 semesters. The first concentration, *Data Science,* is focused on a more technical background, and the second is Economics and Business, primarily focused on graduating students in Business and Economics with data analytics skills. The proposed programme comprises of 41 mandatory courses and 9 electives, which makes it rather rigid. For a degree in data science, it would appear more appropriate to have fewer required and more elective courses.

This programme, especially as it is housed within the Department of Finance, Accounting and Management, would be expected to reflect on-going trends and developments in industry. Yet, in our discussion with industry stakeholders, we did not find that industry input was sought for and taken into account when designing the program.

The overwhelming majority of the existing faculty's research and training is on Finance, Econometrics and Accounting, which seems to be at odds with the proposed program of study unless several new faculty members with the appropriate research profile, such as Machine Learning, AI, natural language processing, optimization, etc., are hired.

Proposed courses in computer science will be offered by the Computer Engineering Department as part of a non-formal agreement between the two departments. There was no information or documentation about formal commitment for collaboration between the two departments in making sure the program runs smoothly.

The EEC examined information regarding the admission criteria, learning outcomes, the delivery method of the courses, and the assessment procedures. Program teaching will be evaluated according to CUT policies. CUT has implemented a comprehensive system of quality assurance. The department is committed to quality assurance processes, provides a clear analysis of internal quality assurance and has put in place mechanisms to detect plagiarism. Drop-out rates are rather low in the existing program.

The program puts more emphasis on developing skills through coursework than teaching students to combine skills with domain knowledge in the context of practical or real-world projects. The design of the

programme is partially aligned with the stated objectives and can be improved upon. We follow up with recommendations in the pertaining section.

Strengths

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

The proposal of the Bachelors programme is timely, in accordance with global trends of increasing demand for data science professionals.

CUT is a public-funded university with a solid reputation. The Department of Finance, Accounting, and Management, which proposed this programme, is also well-established in the domain, especially given its historical ties to the shipping industry.

The potential to appeal to a wide range of Cypriot and Greek students, provided that suitable marketing and advertising strategies are implemented.

The programme is supported by faculty from the Department of Finance, Accounting, and Management, who are active researchers in these areas. Therefore, the Economics and Business concentration will receive good faculty support with an active research background.

The CUT Computer Engineering Department's involvement in teaching computer science courses.

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.

- Alignment of the programme portfolio with industry needs is missing. For example, courses in Natural Language Processing, Generative and ethical AI and LLM.
- There is no clear demarcation of the competency profiles of graduates from the two concentrations; e.g., which industries these graduates will be employed in. It would be beneficial for the programme to clearly define these profiles for the two concentrations so that they can target specific job profiles in the industry.
- The EEC identified a gap in the program's process for collecting regular feedback from industry experts and/or professional bodies. Active involvement of industry and other stakeholders in the design and implementation of the programme is recommended.
- The rigid structure (i.e., with fewer electives) of the programme leaves students little flexibility to choose their desired profiles. For example, Computer Science profile, Data Science, or more business oriented with data science skills. We recommend the programme be redesigned to accommodate a more flexible core and elective structure. The core (maybe the first three semesters) will provide a solid foundation in mathematics, statistics, economics, and finance, which

business analytics students need. The remaining semesters of the programme may offer more electives so that the students will have the flexibility to choose their desired profiles. This will also allow the dynamic updating of the programme in this constantly changing field.

- The BSc thesis is considered a strong point in the structure and delivery of the program, along with the required internship. The thesis/final project in data science is suggested to be mandatory.
- To ensure continuous improvement, the EEC recommends a periodic program review incorporating feedback from academic staff, students, local industry experts, and professional bodies.

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	Partially compliant
1.4	Information management	Partially 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.*
- *Detailed schedules in course materials are included, explicitly stating the expected hours for lectures, self-study, and group projects, ensuring transparency in time allocation.*
- *A system is integrated where each learning activity is assigned a weight proportional to its importance and time requirement, aiding in balanced curriculum design.*

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.*

- *The expected hours for different components of practical training, such as lab work, fieldwork, and internships are clearly documented in the training manuals*
- *A weighting system is applied to various practical training elements, reflecting their significance in the overall learning outcomes and student workload.*

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 time allocation for each assessment task is explicitly stated in course outlines, ensuring students are aware of the expected workload.*
- *A balanced assessment weighting strategy is implemented, considering the complexity and learning objectives of each task, to ensure fair evaluation of student performance.*

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.

Assessment methods are clearly communicated. Different modes of assessment are used which reflect the intended learning outcomes. Students will benefit from the personal academic advice and the low student-to-teacher ratio.

Different modes of assessment are used, including midterm, a final exam and projects. The students reported that the course assessment is mostly based on exam performance and few practical assignments and projects. For example, data analysis assignments are rather basic and no specialized statistical software is taught or used.

Overall, the EEC found that the process of teaching and learning of this program is appropriate to the topics covered by the existing program, and the delivery of the existing program is also appropriate for the expected learning outcomes. The assessment methodology and procedures are overall appropriate. The marking is carried out by staff with no moderator. However, there is some room for improvement especially for the proposed programme. We discuss this point in the recommendation section.

Strengths

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

The student-to-faculty ratio is good and there is evidence from interviewing students that the faculty is friendly and helpful toward students with respect to helping them to achieve learning outcomes. The optional internship program is commended by the EEC for its potential to equip students with industry-relevant skills.

The university is well equipped to support online learning as well.

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.

For the proposed program in Data Science, hands-on experience via projects is highly recommended to be incorporated in all relevant courses. The EEC recommends inclusion of student group work in assignments and projects.

The proposed programme should seek input and interaction with industry in order to foster a dynamic learning environment and adapt the programme to this fast changing area. The practical (optional) training in industry via internships enhances the learning outcome of the programme and supports the goal of acquiring practical industry experience.

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	Compliant
2.2	Practical training	Partially 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.*

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.

There are 10 full time professors at different ranks (4 full, 3 associate, 1 assistant and 2 lecturers) and 3 instructors with contracts of specific time duration. The permanent teaching staff are experienced scholars with a PhD and collaborations with both academia and industry.

The faculty is diverse, including both males and females, senior and young faculty members at different ranks. Questionnaires completed by students are used to assess teaching performance. Staff development discussions related to promotions take place once every 3 or 4 years depending on the rank of the staff. The hiring and promotion processes are clear.

The degrees of most faculty members are in the areas of Finance and Economics. One full professor holds a PhD in Computer Science.

The department faculty are relatively active in research. Little information was provided about sponsored research. Faculty from Computer Engineering were very active in both published and sponsored research.

An important finding is that required expertise to carry out research and teach some of the proposed programme's courses is not present in the current faculty. This refers to areas within Data Science,

Machine Learning and AI. According to the discussions with the faculty members, at least 4 new faculty are needed to successfully run the programme.

Strengths

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

The composition of the tenure track faculty and the contract faculty is appropriate for a research oriented department.

Full time faculty participate to development discussions, including promotion processes. The teaching performance is assessed via feedback questionnaires completed by the students of the programme.

The existing teaching staff includes well experienced researchers. The teaching staff includes males and females, and senior and young faculty members at different ranks. Members of the staff have well established collaborations with both academia and industry, strengthening the visibility of the programme.

The university offers opportunities for internal funding, especially for new faculty members, and a generous sabbatical leave to permanent staff. Currently, one junior faculty member has received start-up funding, and one senior member is on sabbatical leave.

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.

If the new programme is accepted, and given the current workload of the faculty (4 courses for tenure-track and 8 for contract faculty per year), which is heavy enough, new teaching staff is needed for running the programme, especially for topics in data science, machine learning and AI. According to discussions with the faculty members, 4 new faculty are needed to run the programme. In view of the current research profile of the department faculty, this is essential for the successful operation of the proposed programme. In general, there is an imbalance in the research engagement of the teaching staff. Moreover, there are few externally funded research projects. A suggestion to increase the student research engagement in courses is to link projects and assignments with specific research areas of the faculty. Moreover, the EEC suggests a well-defined structure of synergies and collaborations with other relevant departments and researchers within the university and abroad, in particular with Computer Engineering which is already hosting a MSc programme in Data Science.

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	Compliant
3.2	Teaching staff number and status	Partially compliant
3.3	Synergies of teaching and research	Partially 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 student admission process is clearly defined, well-structured and with explicit rules. The HEI admits students to the programme via the standard Pancyprian examination process. The department sets the number of students to enter the programme and those who meet the criteria are admitted. The starting number of admitted students is 15 in each concentration (30 in total), targeting 50 in the future.

A small number of positions can be offered to students who have obtained alternative exams/certifications e.g., Greek High School graduates and mature students; these applications are subject to departmental/ faculty evaluation.

Each student is assigned to an academic advisor. Assessment is based on midterm and final exams, projects and assignments. During the EEC meeting with the students, no concerns were raised about their assessment process. They also expressed their overall satisfaction with the responsiveness of the faculty, and their readiness to address student inquiries.

Regarding working space, the students stated the lack of existing work spaces, in particular concerning the library, and requested additional rooms for group work to facilitate and enhance collaborative work and exchange of ideas and experience. They also communicated issues with the smooth operation of computer labs and requested they be better maintained.

The students elect representatives to attend several departmental and other committees at the university level. Students can participate to committees department-wise and university-wise. Based on both the students and staff interviews, this participation is not active.

During the meeting with alumni of the existing BSc on commerce, finance, and shipping, it was noted that several would have considered applying to the new bachelor's instead, had this been an option; this reveals the potential of this programme to attract a wider pool of applicants.

The EEC finds that regulations and processes are in place regarding recognition of previous studies (transfers) e.g., internal transfers, external transfers, and second degree.

Upon successful completion of the 4-year programme, the HEI awards a BSc in Data Science with specialisation in either pure Data Science, or Economics and Business (240 ECTS). The EEC finds the procedures for student certification appropriate.

The university, via various units, provides high level support and services to students. Via a specialised office, the university provides adequate help to students that have special needs or a personal difficulty. Also, there are services about harassment against students. Student mobility is encouraged and supported by the university through the ERASMUS office.

Strengths

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

The university offers adequate support and services to students. Assistance is also provided through welfare mechanisms and psychological support to students with special needs or disabilities.

The regulations regarding student admission, progression, recognition and certification are in place. Also, the teaching staff is accessible by the students.

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 students have the opportunity to provide feedback about their courses, but according to the interviews with the students, the feedback forms are quite narrow in scope, with a small number of multiple-choice questions without offering an option to add free-form text comments. The EEC suggests the inclusion of such general suggestions/feedback section in the questionnaires, to give all students the chance to communicate their needs.

Student representatives participate in committees including quality assurance. However, as both the students and the staff said, this participation is not active. The students in the meeting commented that the representatives are affiliated with political parties. It is important to encourage and engage students to actively participate to the university processes.

In response to student feedback indicating a desire for more practical learning experiences, the committee recommends incorporating mandatory or optional laboratory sessions. More working spaces are needed, especially rooms that allow collaborative work.

The program does not qualify graduates for accreditation by the Technical Chamber of Cyprus (ETEK), which is the engineering regulatory body in Cyprus. To request ETEK recognition, the program would need to consider strengthening the course curriculum so that the total number of compulsory modules that fall under the IT discipline is significantly increased.

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	Not applicable
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.*
- *Students receive support in research-led teaching through engagement in research projects, mentorship from research-active faculty, and access to resources that enhance their research skills and critical engagement with current studies.*

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.

Teaching material is uploaded on Moodle and is easily and readily accessible to students. The HEI has a dedicated document describing the rules on studies and academic affairs which includes the marking systems and other policies that students can become familiar with. No issue has been detected in terms of obtaining software licences. However, students have mentioned a case where they had to pay themselves to obtain a particular case study's data, needed for one of their courses.

The HEI facilities include a satisfactory number of classrooms for lectures and labs, two computer rooms (Ktisis and Polyxeni Loizia), and two libraries, providing the necessary physical resources to the student population. However, the EEC finds the available study spaces limited, both for individual and group study; this could pose a problem as the number of students increases. With regard to this, we have been informed that the University has plans for acquiring new buildings/land which can mitigate this issue. It is also noted that the library does not have 24h access. Students have also made some complaints about the computer lab equipment, which the IT department representative mentioned would be upgraded in the foreseeable future.

The EEC finds the activities of the Student Development Centre, Academic Affairs and Student Welfare Service satisfactory. Student welfare services can be offered either on campus, or online. The teaching staff have allocated office hours to provide extra support and discuss potential issues with the students. Also, each student is assigned an academic advisor with whom they can arrange meetings to discuss study planning and concerns.

There are several offices for student support e.g., Career Office, Learning Centre, Student welfare office. Also, the HEI has plans for building student residences, which would be helpful especially considering the high accommodation cost in Limassol.

Strengths

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

Generally, the learning resources and student support are at a satisfactory level. Cypriot and EU students do not pay any fees.

CUT provides support for student welfare and special needs.

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 finds that the new programme will be more computationally demanding than existing programmes in the department, e.g., more powerful computers and GPUs. Considering the small size of the IT department

compared to university size, it would be beneficial to set plans in motion to acquire the necessary equipment and resources.

Additional human resources are needed to satisfy the needs of the new programme; e.g., hiring more teaching staff/ faculty.

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

Sub-area		***Non-compliant/ Partially Compliant/Compliant***
5.1	Teaching and Learning resources	Compliant
5.2	Physical resources	Partially compliant
5.3	Human support resources	Partially 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?*
- *Are the criteria reflected in 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.

Click or tap here to enter text.

Strengths

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

Click or tap here to enter text.

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.

Click or tap here to enter text.

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	Choose answer
6.2	Proposal and dissertation	Choose answer
6.3	Supervision and committees	Choose answer

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.

This program has great potential to appeal to students interested in careers in Business and Finance with a Data Science component.

Based on the examination and evaluation of the application material and the site visit, the EEC concludes that some of the required standards are met fully, and some of the required standards are met partially.

The EEC has identified a number of strengths, but has also made concrete recommendations for specific improvements. Rather than summarising or selecting a subset of these recommendations, we prefer to refer the reader to our recommendations in the relevant sections of this report, as we believe that all should be carefully reviewed and taken into account.

E. Signatures of the EEC

Name	*Signature*
Efstathia Bura	
Konstantinos Stefanidis	
Raghava Rao Mukkamala	
Ioannis Zapitis	
Marilena Lemonari	
Click to enter Name	

Date: Click to enter date