



Doc. 300.1.2

Higher Education Institution's Response

Date: 01/09/2020

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

In Greek:

Αλυσίδα Συστοιχιών και Ψηφιακό Νόμισμα (1.5 έτος, 90 ECTS, Μάστερ, Εξ αποστάσεως)

In English:

Blockchain and Digital Currency (1.5 year, 90 ECTS, Master of Science ELearning)

- **Language(s) of instruction:** English
- **Programme's status:** Currently Operating



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 2019” [N. 136 (I)/2015 to N. 35(I)/2019].

A. Guidelines on content and structure of the report

- *The Higher Education Institution (HEI) based on the External Evaluation Committee's (EEC's) evaluation report (Doc.300.1.1) must justify whether actions have been taken in improving the quality of the programme of study in each assessment area.*
- *In particular, under each assessment area, the HEI must respond on without changing the format of the report:*
 - *the findings, strengths, areas of improvement and recommendations of the EEC*
 - *the deficiencies noted under the quality indicators (criteria)*
 - *the conclusions and final remarks noted by the EEC*
- *The HEI's response must follow below the EEC's comments, which must be copied from the external evaluation report (Doc. 300.1.1).*
- *In case of annexes, those should be attached and sent on a separate document.*

0. Introduction and overall assessment

We refer to the report of the External Evaluation Committee (EEC) for the evaluation-accreditation of the program of study: 'Master of Science in Blockchain and Digital Currency - Distance Learning', which was prepared following a virtual visit at the University of Nicosia by the members of the EEC on July 20, 2020.

We would like to thank the EEC members for their professional and thorough work during the evaluation of the MSc in Blockchain and Digital Currency (Distance Learning) programme and their report. We would also like to express our appreciation for the collegial and constructive approach with which they conducted their evaluation. All full-time faculty teaching in the program were present (on-site or on-line) during the evaluation. Part-time faculty and Special Teaching Staff were also present as well as students and graduates of the MSc in Blockchain and Digital Currency.

The EEC report is extremely positive with very high scores and all Sections and categories were marked as "Compliant". In particular, the MSc program in Blockchain and Digital Currency was marked as "Compliant" in 22 out of 22 quality indicators. As reported by the members of the EEC, the program is innovative, internationally competitive, fills a current need on the market and the University of Nicosia is the first academic institution worldwide to offer an educational program in Blockchain and Digital Currency. Based on this report, we are looking forward to the accreditation of the program.

We do appreciate the committee's recommendations for improvement, which will enhance the quality of our program and we will be addressing those in the corresponding section of this response.

In the following sections we break down the comments and suggestions of the committee and we provide our comments (if any) and the actions taken to address the comments. In order to simplify and make this response report easier to read, we state the EEC findings and strengths for each section together and then we summarise the constructive feedback of the committee and our response.

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

We do appreciate the committee's assessment and feedback. In summary the EEC reports that:

- The proposed program is innovative and corresponds to a market need and it is well aligned with the UNIC strategy.
- Students future career perspectives are positively assessed.
- External affiliates is another exceptional feature of the program.
- The teaching workload is clearly defined.
- The University of Nicosia has procedures and mechanisms to guarantee external and internal quality assurance.

Section 1.1 presents the findings and strengths of the category "Study programme and study programme's design and development" as these were reported by the EEC. Section 1.2 summarises the EEC constructive feedback and our response/actions.

1.1. Findings and Strengths reported by the EEC

Findings

- *"UNIC has several mechanisms in place to guarantee internal and external quality assurance. The external procedures follow the respective standards of higher education institutions and especially private universities in Cyprus. According to the information the EEC received, the internal standards follow the European Guidelines and Standards for Quality Assurance (2015) and the Greek Law on Higher Education."*
- *"The given information indicates that the present standards support the organization through the provision of appropriate structures, regulations and processes. When it comes to teaching, the EEC found that the workload of the respective courses (expressed in ECTS) is clearly specified. Furthermore, there are detailed processes for student placement."*

Strengths

- *"The Department of Digital Innovation has policies that are designed to encourage student participation. This is especially important in an area that undergoes constant changes and needs the inflow of information from outside stakeholders, be it students or industry partners. Furthermore, the processes for the programme evaluation are detailed and are designed to ensure its flexibility. All in all, the programmes are well-aligned with the institutional strategy, innovative and designed to correspond to a need on the market. This can also be attributed to the fact that the distance learning programme has been on the market for a while and was already successfully tested."*
- *"The EEC is also very positive in its assessment of students' future career perspectives, which is also a major goal of quality assurance. There is strong evidence in the provided study guides that the course material incorporates recent developments and is well-suited to equip students with the skills currently needed on the labour market. Furthermore, the*

program is flexible in that it enables students to initially choose between an online and a traditional teaching mode and, later in their studies, to choose between a more business-oriented and a technical orientation, which serves the needs of different target groups.”

- *“The external affiliates, namely the high-calibre industry partners are another outstanding feature of the programmes. The close connection with prominent players in the field not only supports the development of the curriculum, but also helps students to already establish important contacts with the industry during their studies.”*

1.2 Constructive Feedback by the EEC

1.2.1: *“To be able to fully assess the extent to which quality can be assured in all relevant areas, more information is needed. This especially pertains to information regarding to drop-out rates and student satisfaction. The latter should be given for each course. Additionally, data on how the satisfaction rates have developed over time would be helpful. To be able to cope with the problem of conducting online exams, trainings for instructors would be helpful to teach them how to identify and deal with plagiarism.”*

Action/Response:

- In terms of the dropout rates, the analysis of our data demonstrates that the average attrition rate for the last five years is 28.1%. The data for the last two years reveal that this rate is around 20% where in the academic year of 2017-18 we had the highest dropout rate of all times (36.1%). The latter is attributed to the fact that in 2017-18 we had an unexpected rise of our students (363 new students in 2017-18) due to the Blockchain hype.
- Compared to 2017-18, the attrition rate of the last two years was reduced by more than 47% due to the following reasons:
 - a) Four new full-time faculty joined the MSc program which resulted in increased quality of service. This is also supported by the improved course evaluation ratings in all courses that this faculty staff teaches.
 - b) There was an internal change in the order of the courses of the first semester. We noticed that there was a high dropout rate at the early stages of Semester 1 which is in line with the literature (Bawa, 2016).
 - c) The analysis of our data revealed that the second course (“Finance and Banking”) of the 1st semester had a high attrition rate equal to the 62.5% of the overall attrition we had in 2017-18. The data were contradicting as students’ evaluations for this course were much improved and the course had the highest satisfaction rate with 4.62 out of 5 for the entire MSc program. We further investigated the issue and realized that students had a different expectation as to what the first courses of the MSc should be. For that reason, we change the order of the courses and since then we offer the course “Blockchain Technology and Applications” before the course “Finance and Banking”. Also, we better explained the structure of the MSc and the nature of our courses to the students. The outcome of this exercise was very useful for our MSc program and dropout rates were reduced.
- A review of the normative literature on the attrition rates indicates that:
 - a) There is a difference in the dropout rates of MBA and Science Technology Engineering and Mathematics (STEM) master programs. A study published by the Council of

Graduates Schools in USA (Allum *et al.*, 2013), reports that MBA programs have an average 14% attrition rate where the MSc programs in STEM 34%. The study analyses data from 9,182 students from various US Universities and concludes that the 40% of the STEM students complete their MSc studies at the end of the 2nd year, 60% at the end of the 3rd year and 66% at the end of the 4th year. The same study reports that the completion rates for MBA are 67% after two years of study, 81% after three years and 86% after four years of study. The above-mentioned rates refer to conventional programs and it is worth noting that attrition rate of the online programs is higher by 10%-20% (Bawa, 2016).

- b) Allum *et al.*, (2013) study reveals that the younger the students are the higher the completion rate it is (e.g. students below 30 years old have much higher completion rates compared to those who are over 30 or 35). Given that our MSc program has a lot of students over 35 years of age, we expect that the attrition rate should be slightly higher than the average values.
- Our MSc program in Blockchain and Digital Currency can be considered as a combination of STEM and MBA program as it includes a mixture of technology-science, management, business, finance and regulation-law courses. Therefore, we assume that the attrition rate for our conventional program should be around 24% and our distance learning program about 39%. Considering the age factor, the expected attrition rates for our conventional and DL programs should be on average 26% and 41%.
 - Based on the above analysis we conclude that the dropout rates of our MSc in Blockchain and Digital Currency (average five year (28.1%), worst case (36.1%) and best case (19,1%)) are better compared to the literature.
 - Student satisfaction per course are summarised in Table 1 (scale 1...5 [1=low...5=high])

Course	Satisfaction rate
Cryptographic Systems Security	4,0
Digital Currencies in the Developing world	4,5
Emerging Topics & Practical Considerations in Blockchains	4,2
International Currency Markets	3,3
Regulation & Digital Currencies	4,2
Blockchain Technology & Applications	4,3
Blockchain Technology & Applications	4,4
Open Financial Systems	4,2
Open Financial Systems	4,4
Money & Banking	4,5
Principles of Disruptive Innovation	4,2
Digital Currency Programming	4,2
International Currency Markets	4,1

Table 1: Satisfaction Rates per Course

- In terms of the comment for conducting online exams we would like to report that the University of Nicosia is founding member of the European Network for Academic Integrity – ENAI (academicintegrity.eu). Faculty members of the School of Business have developed educational material for the data repository of ENAI. Faculty and students are encouraged to visit ENAI repository (<http://www.academicintegrity.eu/wp/all-materials/>) in an effort to learn more and promote academic integrity at large and to compact plagiarism

in particular. The School of Business of the University of Nicosia has also organized a Summer School for postgraduate students and junior faculty in September 2019 with invited speakers from academia and industry.

1.2.2: “The EEC also found insufficient information when it comes to ethical issues, which especially includes the topic of discrimination.”

☑Action/Response:

The University of Nicosia acts as the main contractor for the European Union Agency for Fundamental Rights (FRA) in Cyprus. FRA is one of the EU’s decentralised agencies, acting as a centre of fundamental rights expertise and the Department of Digital Innovation and the MSc in Blockchain and Digital Currency is in line with the UNIC practices for ethical issues and discrimination.

In addition to this, compliance mechanisms with International research ethics are reported in page 118 of the Departmental application.

“Research Ethics Committee

The Research Ethics Committee (REC) is an independent body and is not subject to the administrative control of any academic body, officer, department or national body and has the powers provided by the relevant Republic of Cyprus Laws.

Researchers have responsibilities – to society, to funding agencies, to their institution, and to those taking part in their research. For any research involving human participants, or data relating to identifiable human subjects, researchers are required to obtain ethical approval by the Cyprus National Bioethics Committee (www.bioethics.gov.cy)

Membership of the University Research Ethics Committee

- Vice Rector for Faculty and Research (Chair)
- Two faculty members from each School
- One representative from the Research & Innovation Office

Each School Research Committee will nominate two members for service on the REC. The nominees have to be approved by the University Research Committee (URC). The length of service for each member (except the ex-officio members) will be two years. The members are entitled to an additional consecutive term of service (maximum of two consecutive terms will be allowed). A member is entitled to apply for new membership two years after two consecutive terms end.

Scope of the Research Ethics Committee (REC)

The primary purpose of the REC is to ensure that no research project is permitted to override or outweigh the health, care, dignity, human rights and well-being of the research participants. As the Cyprus National Bioethics Committee (CNBC) is the ultimate authority in regards to research-related ethics approval, the University of Nicosia requests that (i) all faculty and/or administrative members, (ii) postgraduate students, and (iii) PhD students who will conduct research that requires ethical approval, initially apply to the CNBC for approval. Upon receipt, this approval will be forwarded to the Research & Innovation Office.

Applying to the CNBC is mandatory. Furthermore, if there is a need for institutional approval, then the applicant is encouraged to apply to the REC. PhD students should complete the appropriate PhD Ethics Form and submit this to the REC along with the approval obtained from the CNBC.

Informed Consent

For most research informed consent is an ethical requirement. Participants should be provided with appropriate information about the research, how data will be stored and used in the long-term, and how confidentiality, where promised, will be maintained. Further guidance, including a sample Participant Information Sheet and Consent Form can be found at www.bioethics.gov.cy

Special consideration needs to be given to participants who may be vulnerable in any way or who may have a diminished capacity to give informed consent. If you will be working with children or vulnerable adults please refer to the guidelines as issued by the CNBC.”

1.2.3: *“A stronger focus should also be placed on the personal development of students. Strategies on how to achieve this can be incorporated, for example, through diverse teaching methods that foster collaboration. It is especially important to support students in their development of leadership skills. All in all, a structured way of monitoring students’ satisfaction and overall progress is recommended. The optional nature of the Master Thesis is a weak point of the programme as the students who do not take this option will miss the opportunity to be involved in real-world research work. To evaluate this aspect further, data should be provided on how many students opt for a thesis in the current programme.*”

☑Action/Response:

Personal development of students: We thank the members of the EEC for this suggestion. In collaboration with the University of Nicosia’s E-learning Pedagogical Support Unit (ePSU), through the careful design of our courses, we will further enhance our existing practices for the personal and professional development of our students as well as the development of their leadership skills. Most of our courses foster collaboration among students and they include group assignments and teamwork. For example, in the compulsory course BLOC-515 entitled “Blockchain and Entrepreneurship Management”, students submit their innovative ideas in the form of a business plan. This is a group assignment of 3-4 students where students use various communication channels like zoom, WhatsApp, Viber, Skype, MS teams etc. In addition to this, students actively participate, exchange views, and collaborate through the course forum. Students improve and further develop their skills and there are multiple cases where students demonstrated their leadership and entrepreneurship by launching their own startups or having a leading role in their organizations. Examples of them are our graduates Tey El Rjula <https://youtu.be/RotAMwkRNt4> and Bryant Joseph Gilot https://www.youtube.com/watch?v=LLBj0TQ5PHQ&feature=emb_rel_end

Structured way of monitoring students’ satisfaction and progress: The MSc program in Blockchain and Digital Currency has a structured way of monitoring students’ satisfaction and progress. However, there is always room for improvements. Currently we monitor students’ satisfaction and progress through the following:

- Dedicated administrative personnel who interacts with students throughout their studies with the sole purpose of monitoring students’ satisfaction. The communication is based on one to one conversation and includes email exchange, teleconferencing, and

telephone communication. Through this interaction, administrative staff, records students' progress and satisfaction. It is worth noting that this communication increases students' satisfaction.

- Instructors: There are cases where some students are progressing slowly with instructors notifying the dedicated administrative staff during the first weeks of the course. The admin staff interacts with the students to find out what the reason is and to provide additional support. In most of the cases this is a successful approach and assists students to stay on track. In addition to this, instructors continuously assess students during the course by providing constructive feedback and advice which are well received by students.
- Surveys: The DL Unit and the MSc in Blockchain and Digital Currency conducts a survey at the end of each course. Through this survey, students assess courses, instructors and report their satisfaction level.

Optional thesis: We welcome the recommendation from the committee, and we will be considering this in the framework of the national regulations. In the current program, a percentage of 20-25% opt for an MSc thesis.

References

- Allum, J., Kirby, S., Sowell, R. and Gonzales, L. (2013). Completion and Attrition in STEM Master's Programs: Pilot Study Findings. Council of Graduate Schools, Washington, USA.
- Bawa, P. (2016), "Retention in Online Courses: Exploring Issues and Solutions—A Literature Review", SAGE Open, January-March 2016: 1 –11
- Herbert, M. (2006). Staying the course: A study in online student satisfaction and retention. Online Journal of Distance Learning Administration, 9(4). Retrieved from <http://www.westga.edu/~distance/ojdl/winter94/herbert94.htm>
- Smith, D., and Ayers, D. (2006). Culturally responsive pedagogy and online learning: Implications for the globalized community college. Community College Journal of Research and Practice, 30, 401-415. doi:10.1080/10668920500442125

2. Teaching, learning and student assessment (ESG 1.3)

We welcome the positive feedback from the EEC for the teaching, learning and student assessment. Overall, the EEC indicates that the:

- process of teaching and learning and student-centred teaching methodology,
- practical training and
- student assessment, are all compliant.

In addition to this, the EEC reports that:

- There is plenty of teamwork and hands on work,
- The equipment used is modern and
- The grading options are consistent.

The findings and strengths as reported by the EEC in its assessment are presented below, followed by its constructive feedback and our comments/actions.

2.1 Findings and Strengths reported by the EEC

Findings

- *“The processes with which the programme promotes cooperation between students are well-developed, but room for improvement still exists. There appears to be a fair amount of flexibility in the way the programme is carried out, namely by combining frontal teaching with hands-on exercises. Students are encouraged to be active in the learning role. Teamwork among students is encouraged through team assignments and projects-based learning activities. Furthermore, the teaching staff promotes students’ autonomy. Teaching methods at the university make use of modern equipment. The programme appeals to its diverse pool of students. The structure of the courses supports students who have a daytime job. Also, elective courses are available depending on the respective interests of the students.”*
- *“The university's policy makes the lecturers responsible for regularly updating their material. At the beginning of each semester, they are required to (re-)submit the course materials to be available online. Accuracy is maintained through inspection of the materials.”*
- *“Internal evaluation of the teaching and learning process, including assessment methods, is done through the periodic student surveys and the communication between the program coordinator and the lecturers.”*
- *“The programme offers both theoretical and hands-on experience through its variety of courses”*
- *“The assessment consists of regular assignments and a final examination. A committee is in place to account for students’ appeals.”*

Strengths

- *“The Master programme offers a lot of teamwork and hands-on work. Teamwork is expected in numerous project activities.”*
- *“The university has a modern equipment that fulfils the needs of its students. Through the elective courses in the 3rd semester of the programme the students have the chance to pursue their own interests by choosing courses they deem appropriate.”*
- *“The courses have multiple grading options for the students. Overall, the grading processes seem to be consistent.”*

2.2. Constructive Feedback by the EEC

2.2.1: *“The method of teaching could appeal more to students’ individual and social development by applying a larger variety of pedagogical methods.”*

☑Action/Response:

We welcome the recommendation from the members of EEC, and we will employ a larger variety of pedagogical methods. In doing so, the Department of Digital Innovation will collaborate with the University of Nicosia’s E-learning Pedagogical Support Unit (ePSU) to identify and adopt additional pedagogical methods.

2.2.2: *“Promoting leadership skills and active participation of the students in the learning process is key. Having the Master thesis as a compulsory task could assist students grow in that direction. One option would be to combine a Master thesis course with an elective course.”*

☑Action/Response:

We thank the members of the EEC for this recommendation, and we will be considering this in the framework of the national regulations.

2.2.3: *“Instructional seminars in the early stages of the Master programmes can help to bring students of different backgrounds up-to-date with either technological or business-related content.”*

☑Action/Response:

Our course Bloc-511 aims to introduce students of different backgrounds to the area of Blockchain and Digital Currency. The course provides a thorough explanation of business, finance, legal and technical aspects of Blockchain technology and digital currencies to establish a common level of understanding with students appreciating this course a lot. Special emphasis is placed on this course with top industry experts like Andreas Antonopoulos (technical expert) and Antonis Polemitis (business expert) sharing their knowledge and experience.

Furthermore, the Department of Digital Innovation seeks to provide additional introductory short technical seminars at the beginning of each semester to enhance students understanding and technical skills (especially those with non-technical background).

3. Teaching Staff (ESG 1.5)

We do appreciate the committee's assessment and feedback for teaching staff. The EEC reports that:

- Teaching staff recruitment and development,
- Teaching staff number and status and
- Synergies of teaching and research are all compliant.

According to the ECC, the skills of the internal and external teaching faculty are excellent and competitive. In addition, the faculty has attracted external research funding, is involved in international research consortia and it has also attracted a large network of visiting scholars with outstanding teaching and research record.

Below, the findings and strengths reported by the EEC in its assessment are presented followed by its constructive feedback and our responses/actions.

3.1 Findings and Strengths reported by the EEC

Findings

- *“Continuous teaching course and pedagogical training is an important part of constant teaching improvement as well as personal development, well-being, and ultimately retention of teaching faculty. We propose a structured offering of seminars and supervision events where teaching staff can further improve its pedagogical qualifications, learn new teaching methods, or can discuss and give feedback on teaching cases and situations in the team. More scholarly activities should be put in place, such as organised meetings of all teaching staff and external lecturers in the program to discuss changes, issues, new procedures, but most importantly, learn from each other. We propose having a meeting at least once before each semester.”*
- *“The documentation provided elaborates in detail on regulations and rules in place at UNIC for recruiting new teaching personal. However, the documentation falls short on illustrating if there are structured offerings provided by the institution for developing skills and capabilities of existing teaching staff further. Life-long learning and continuous improvement to guarantee high quality of teaching on an ongoing base is essential, and we propose considering the formulation and enactment of dedicated teaching staff development rules and procedures.”*
- *“In line with the previous two bullet points, more scholarly activities should be put in place, such as organised meetings of all teaching staff and external lecturers in the program to discuss changes, issues, new procedures, but most importantly, learn from each other. We propose having a meeting at least once before each semester. While the documentation we received did not provide a conclusive picture, it seems that the allocation of teaching hours and admin hours outweighs the time for research activities. This seems to be not unusual, given that the program is new, and a lot of time is dedicated on teaching and its preparation. However, for the development of academic teaching personnel it is important to give time to*

conduct program-related research, especially for young faculty and their promotion in the future. We propose that explicitly for assistant professors, time should be set aside to conduct their own research that helps to further improve the quality of teaching, e.g., by developing teaching cases. Assistant professors should also not be used too heavily for administrative duties.”

Strengths

- *“We found the educational background, competence level, skills, and knowledge possessed by the teaching staff on the subject matter to be outstanding. The qualification of the teaching staff is excellent and internationally competitive, both regarding the internal as well as external teaching personnel. They command over a broad experience allowing them to cover a broad range of topics necessary for the teaching of the program at hand. The documentation provided reports a well-organized and explained promotion process in place for teaching staff, which is important for teaching staff satisfaction and retention.”*
- *“The faculty at UNIC has been able to attract a large network of external scholars as well as visiting teaching staff which has an excellent track record in teaching and education, being recognized scholars in the field. This is clearly strengthening the teaching staff workforce at UNIC and is allowing for an international exchange of emerging topics in the field. Continuous improvement of teaching style and material is secured via a well-developed and implemented teaching evaluation process has been implemented to assess and evaluate the teaching staff in a sophisticated way.”*
- *“The teaching staff is actively involved at international level in different consortia and research projects, which is reflected by the network of partners, cooperating universities, and different councils’ activities. It is very impressive to see how visible UNIC has made itself on an international level with teaching staff being engaged in different projects, such as the ABC in Austria, or Bloxberg under the patronage of Max Planck Gesellschaft.”*

3.2. Constructive Feedback by the EEC

3.2.1. *“Given the rapidly changing nature of higher education in moving toward online courses or hybrid courses, regular engagement in skills and personnel development courses of the teaching staff is necessary. We propose an institutionalised provisioning of competencies development courses and events for teaching staff. Especially in the area of distant learning, the use of different technologies, teaching methods and techniques, as well as communication channels and platforms, e.g., for allowing students to exchange information in addition to the exchange during courses, is important to provide. We propose to consider the use of a variety of teaching methods as well as latest tools for online teaching, as it is elaborated in more detail in section 6 of this report.”*

Action/Response:

The last couple of years the University of Nicosia has put a lot of effort towards that direction. The University of Nicosia’s E-learning Pedagogical Support Unit (ePSU) delivers a 12-week course for teaching faculty on the use of different teaching methods, technologies, techniques, communication channels and platforms. All faculty members have attended this

course. Moreover, ePSU continuously updates this course by adopting latest technological developments in this area.

In addition to this, the UNIC's Technology Enhanced Learning Centre continuously monitors all distance learning courses and provides feedback and ideas on additional tools and techniques to be used or makes suggestions to improve the delivery of our courses.

3.2.2. *“Conditions of employment seem to recognize the fact that this is a teaching-oriented institution. Given the distribution of work across teaching, research, and administrative tasks, we recommend a policy that provides guidelines for assistant professors different from associate and full professor when it comes to the workload distribution. This is especially important as teaching and administration seems to be heavily on the side of the assistant professors. A more balanced mix of assistant/associate/full professors in teaching as well as taking the different career stages in consideration is recommended. It may be also worth considering to hire more internal teaching staff to reduce the dependency on visiting staff and external teaching staff, to make courses less vulnerable as well as guaranteeing a high quality of teaching over time.”*

☑Action/Response:

We welcome this recommendation by the committee, and we will request from the University authorities to consider this point.

We would like to stress that the MSc in Blockchain and Digital Currency seeks to reduce the dependency on visiting staff or external teaching staff and guaranteeing a high quality of teaching. To this end, we would like to highlight that after the virtual visit of the EEC, in July 2020, the Department of Digital Innovation hired a new academic staff who will assist in achieving its goals.

3.2.3. *“Scholarly education should integrate research and teaching, as well as offer a combination of hands-on exercises such as programming courses and exercises on the application of theory to promote double loop learning and critical analytical thinking. We propose considering mandatory assignments for students such as writing teaching cases where they are supposed to apply analytical insights on problematisations around practical cases. Thereby, research could be better integrated into teaching.”*

☑Action/Response:

We thank the committee for this comment, and we will take this recommendation into account and redesign the assignments (where needed) to reflect upon this point.

4. Students

(ESG 1.4, 1.6, 1.7)

The members of the external evaluation committee assessed this category as compliant. In particular, the sub-areas: (a) student admission, process and criteria, (b) student progression, (c) student recognition and (d) student certification, received positive comments. The EEC also reported that:

- The MSc website provides sufficient information and students can locate all relevant information online and on-time (e.g. academic calendar is available 4 months in advance).
- The Department gets support from the University regarding recruitment.
- The Department provides a mentoring program to guarantee students success and
- Students participate in the internal evaluation procedures.

The findings and strengths of this category as reported by the EEC are set out below followed by the EEC constructive feedback and our response/actions.

4.1 Findings and Strengths reported by the EEC

Findings

- *The EEC found the most important information regarding student admission online. More detailed information regarding the recognition is missing.*
- *The department gets support from the university when it comes to recruiting and supporting students. It also has dedicated centres such as the Centre for Research and Counselling Services (KESY) that supports students in stressful situations.*
- *When it comes to keeping students up-to-date, the most important information can be found in the academic calendar, which is published at least four months in advance and can be accessed online. All in all, the website provides sufficient information about the programme to inform prospective students about the necessary details of their studies. The Department makes a clear commitment to the Bologna Process Declaration.*

Strengths

- *The requirements of the programme from a students' perspective that can be found online are informative and detailed. They contain the necessary information regarding the application process and what is expected from prospective applicants.*
- *The Department has a mentoring program in place that ensures students' success during their studies. Students are assigned to faculty members so that they have personal contacts in case the experience problems during their studies. For example, in case assignments are delayed, faculty members will follow up and try to find solutions. The Department uses various methods and techniques to continuously measures students' progress. The learning outcomes are aligned with the European Qualifications Framework and the Cyprus National Qualifications Framework.*

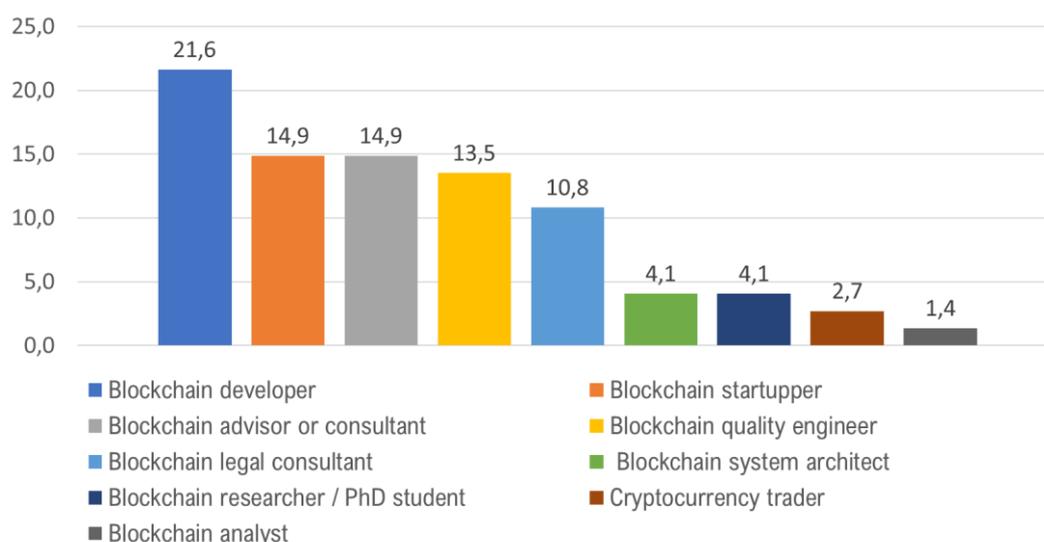
- *The students have the opportunity to provide feedback to the university and to participate in the internal evaluation procedures.*

4.2. Constructive Feedback by the EEC

4.2.1. *More detailed information about students' recognition would be helpful. This also pertains to information about learning outcomes and how specifically they relate to employers' needs.*

Action/Response:

We would like to report that 54% of our graduates change their profession to a more Blockchain related one, during or after their studies. This high percentage depicts the success of the program and demonstrates that the learning outcomes relate to the business needs. In particular, 42% of those who select a Blockchain related profession work in area of blockchain development (e.g. developers, startupers, analysts or architects) which is in line with the current market trends. The figure below shows the distribution of the Blockchain professions carried out by our students which covers a wide range of Blockchain professions.



Some of our graduates work for well-known Blockchain organizations like Coindesk, Coinbase, Coinomi, Block.co. Other well noted cases include but not limited to the Blockchain advisor of the Governor of Florida, the CTO at Cisco, Academic faculty members at the British University of Dubai and the University of the Hauge, CEOs, CIOs, managers, Blockchain, FinTech or RegTech consultants etc.

4.2.2. *Sophisticated analytical tools can be used to track students' progress and performance (see also section 6).*

Action/Response:

We are welcoming this comment, and we are looking forward to evaluating and adopting such tools.

5. Resources

(ESG 1.6)

We thank the EEC for its positive comments. The members of the EEC marked all sub-areas of this category as compliant including:

- Teaching and learning resources,
- Physical resources,
- Human support resources and
- Student support resources

Below the findings and the strengths reported by the EEC are presented followed by the recommendations of the committee and our response to the constructive feedback.

5.1 Findings and Strengths reported by the EEC

Findings

- *“The committee’s findings in regard to the teaching and learning resources of the University of Nicosia were in general terms compliant with the requirements of each sub-area and the standards outlined above.*
- *The lists of the readings and academic material provided to the students as part of the modules taught across the programme were quite comprehensive. These are also included in the module outlines readily available to the students in advance of the course which adds to the transparency and accessibility of the academic resources for the programme.*
- *The platform (Moodle) used to communicate the materials for the courses is also found to be easily accessible, comprehensive and intuitive to use. The material we examined as part of the courses that we were given access to was well-organized in sections and presented nicely with lectures, videos, reading, and assignments being readily accessible. Having said that, some of the feedback we received from the students we talked to highlighted the importance of having a more systematic way to engage with the student body in an organized manner and encourage participants to meet and interact between them in the context of group assignments or course work. According to student testimonies, such engagement was left to the participants to decide the means of communication which may impact student experience.*
- *In terms of the resources being sufficient to deal with changing circumstances (e.g. an increase in student numbers), we found that the high proportion of visiting faculty could compromise coping with higher number of students. There is a case to be made around whether visiting faculty will be readily available to offer more hours in case student numbers go up. Obviously, this is not the case with IT resources as these are scalable but student/staff ratio needs to be adequate when number of students rise.*
- *In terms of the student-centred learning and flexible modes of learning and teaching, we found that the two programs (DL and resident MSc) are both great options for students to choose from based on their flexibility, available time, and familiarity with the topic. Different modes of study are generally welcome and give lots of room for students to decide what is best for them. Also, the committee found that there is a good variety and number of electives and students can choose between business or computer science directions based on their interests and prior knowledge.*

- *The physical resources, i.e. premises, libraries, study facilities, IT infrastructure, were found to be generally of good quality. This was based on the video and description provided through documentation. As the University was established very recently the facilities seemed new which is something that can impact the student experience positively. Unfortunately, there was no way to assess that in person. Because of that it was difficult to also assess the adequacy of resources in case of changing circumstances (e.g. change in student numbers, etc.). More information would be needed to assess that, e.g. the use of classrooms and overall capacity during term times, availability of study facilities and computer labs, etc. More details would also be welcome in terms of the available information to students concerning the services they can access during their studies.*
- *Faculty and teaching support was found to be overall adequate. While there were no details of the specific training opportunities to teaching staff (even though this was mentioned in the documentation and discussions) there seems to be pedagogical support through the e-Learning Pedagogical Support Unit (ePSU) which provides an internal workshop. Its role is to encourage innovative approaches to teaching learning and assessment which would lead to better teaching and learning outcomes. Having said that, the videos and means of student engagement we witnessed for the DL program via the online platform seemed quite conventional, albeit of good quality.*
- *From discussions we had with administrators, they articulated how they support staff as well as respond to student needs. Students we spoke were also happy with the University's response and level of services provided. There was also good communication between teaching staff, tutors/mentors, and administrative staff.*
- *Lastly, we found little or no information regarding student mobility in the context of the MSc we investigated, even though there seemed to be a long list of academic and industry partners."*

Strengths

"Overall strengths in the teaching and learning resources section were:

- *Good amount of choice for students in terms of both modes of study as well as direction and focus of topics. Lots of electives to choose from and a comprehensive curriculum organized and communicated well.*
- *Adequate mechanisms and support are provided to assist students with special needs or disabilities.*
- *Great physical resources and new establishments that add to the student experience and learning.*
- *Very good and responsive support staff to service both teaching faculty as well as students."*

5.2. Constructive Feedback by the EEC

5.2.1. "Provide a platform through which student engagement is more organized and encourage students to interact. The Department could develop this further with technology, provide meet-up functionality for collaborative learning, group work, etc."

Action/Response:

We agree that there is room for further improvement and for that reason our Department is in communication and collaboration with the University's of Nicosia Technology Enhanced Learning Centre and the Distance Learning Unit to advance our services. Decisions regarding changing our platform are taken centrally and affect the University as a whole.

It is worth noting, that the majority of our courses encourage student interaction. For instance, in BLOC-515, students prepare their first assignment individually. This assignment is about introducing an innovative Blockchain idea. In the first live session (after the submission) the students have a one-minute slot to explain their idea to the class. Thereafter, students interact online and discussions and suggestions on how to improve their ideas take place through the course forum. Then, students vote for the most innovative ideas and the best 25% of all submitted make it for the second round which involves the submission of a group assignment (assignment 2). The authors of the best 25% ideas lead their group and they interact with the class to seek for appropriate team members to join. Thus, they explain what skill they have and what skills are looking from the team members. After a week, students are self-organized into groups. If needed, the instructor assigns students that do not belong in a group to an appropriate one. Students then work together by self-organizing their tasks and meetings (through various communication channels) and submit their assignment.

5.2.2. *“We suggest to the University to allow for blended learning between the two programs (distance learning and resident program) and give even more flexibility to students to choose on how to take on their modules. This would give the opportunity to students to spend a term in person at the University and complete their MSc using distance learning from abroad.”*

☑Action/Response:

We welcome the recommendation from the committee, and we will be considering this in the framework of the national regulations.

5.2.3. *“More details would also be welcome in terms of the available information to students concerning the services they can access during their studies. A comprehensive student pack when joining (if it does not already exist) would be a good addition.”*

☑Action/Response:

Information about student services is available online and among others it includes the following: Library and Information Centre, Computing Facilities, Catering / Dining Services, Executive Bookstore, Copy Centre, Cine Studio Cinema, Student Affairs, Accommodation, Events and Activities, Student Clubs and Societies, Academic Societies, Ethnic Societies, Leisure Clubs, Sports Clubs, Orientation Programmes, International Student Support, Careers, Publications and Communication, Additional Services, Student Success Centre, Counselling, Mail, Fax, Bulletin Boards, Lost and Found Items, Sports and Gym Centre and Student Union.

Once the Department of Digital Innovation and our MSc programs in Blockchain and Digital Currency are accredited we will update our student pack and distribute it online.

5.2.4. *“Lastly, improvements could be made on how the Department treats student from diverse backgrounds. At the moment there is not enough information on how the University deals with*

mature participants as opposed to non-experienced students (i.e. having no experience in the industry). There is a good possibility that the full-time resident program will be attended by students with no prior experience and thus they need to have further support or pre-enrolment short courses to bring participants to the same level based on their background and existing knowledge.”

☑Action/Response:

We thank the committee for this comment. We would like to direct the members of EEC to Section 2, subsection 2.2.3. where we responded on how to bring participants to the same level based on their background.

Regarding the suggestion to have students without work experience attending the conventional program, we believe that this may have a negative impact. Our experience demonstrates that both groups of students ((a) mature and (b) students without work experience), enjoy working together. Both groups have significant contribution during courses delivery, and they bring onboard different perspectives, views, and experiences. The interaction of students during the group assignments and forum discussions helps them to collaborate in an efficient way. In many cases, mature students offer job positions to the students with no work experience. In addition, the latter group learns a lot from the former and receives inside information for applied research or ongoing projects or other blockchain developments from industry.

Furthermore, since we have students from more than 70 countries attending our distance learning program, it will be difficult for those with no work experience to attend the conventional program, due to various logistics issues. An action would be to recommend those students to attend the conventional program, but students will have the flexibility to choose the delivery mode for their studies.

6. Additional for distance learning programmes (ALL ESG)

We welcome the EEC comments and we are pleased to see that it considers our Distance Learning unit as a best practice. In the following sections we initially present the findings and strengths reported by the EEC and thereafter we provide our answers to the constructive feedback.

6.1 Findings and Strengths reported by the EEC

Findings

- *“The nature of the programme is compatible with distance learning delivery and the methodology provided is appropriate for the particular programme of study. The university's distance learning quality assurance is evaluated by external and voluntary accreditations, such as EADTU, E-xcellence, QS Stars or EFQUEL.*
- *The university has a Distance Learning (DL) unit responsible for providing pedagogical support for designing, creating, implementing and evaluating online courses. The unit addresses the requirements for study materials, interactive activities and formative and summative assessment in accordance to international standards. The unit also provides a Faculty Handbook with guidelines for the development and delivery of distance learning that establishes the main characteristics a distance learning course should have. It is a good reference that guarantees the quality and homogeneity of the distance learning course. Finally, the unit includes certificated training programs to faculty members in the form of professional development workshops and seminars relevant to distance learning.*
- *The university's learning management system supports online teaching, learning and administrative processes. This is a Moodle installation with all the basic online services available. The platform specifically provides synchronous and asynchronous tools to support the interaction needs of students with the lecturers, the other students and provides access to the materials. The platform also provides e-assessment procedures through quizzes with automatic feedback in order to assess students' knowledge. The provision of more complex forms of e-assessment to assess competences and skills, such as critical thinking and teamwork, was not shown.*
- *The proposed courses have a complete syllabus plus a weekly study guide that includes relevant information: objectives, learning outcomes expected, material to use, activities to perform, discussions to address and complementary bibliographic references. Each course has a minimum of 9 hours of synchronous communication between teacher and students.*
- *Collaboration among teachers and students (and among students) is conducted through the online forums of the subject and other forums that can be created ad-hoc to address special needs. In addition, collaboration among students is promoted by collaborative activities based on project- based learning, though the design, procedure and technical support for these activities was not detailed.*
- *Summative assessment of the courses is based on a mandatory final online exam usually counting up to 60% of the final grade. Summative assessment is completed with a number of online quiz-based assignments during the course counting 40% of the final grade. Optional*

formative (self-assessment) activities are included in the weekly study guides with indicative answers in order to self-evaluate student knowledge and skills of the course.”

Strengths

- *“The DL unit is considered a best practice, due to its structure, its resources, its infrastructures and its services. The EEC believes that it can be a powerful support for guaranteeing and maintaining the quality of the provided teaching. The EEC also believes that continually evaluating the quality assurance of DL by non-mandatory external accreditation organisations is a good practice.*
- *The Faculty Handbook provided by the DL unit is a useful resource that guarantees the quality and homogeneity of the DL courses and provides a good ground to faculty members to face distance learning.*
- *The EEC considers the weekly study guides a best practice to determine the work to be done every week for the students. It would be great if these study guides also included information about the expected dedication time of all the activities, mainly in the graded ones.*
- *The EEC recognizes the many benefits of collaboration among students promoted by collaborative activities organized in online teams of international members following project-based learning, though the procedure, assessment and technical support available for these activities was not detailed.”*

6.2. Constructive Feedback by the EEC

6.2.1. *“The EEC believes that final exams may not be in line with the learning style of online students, and learning models based on continuous assessment during the course should be considered instead. In addition, the use of peer-assessment as well as gamification strategies are encouraged to increase the student levels of motivation and engagement with the e-assessment process.”*

Action/Response:

We fully agree with the EEC and we will adopt its suggestion for continuous assessment. In doing so, all our courses we will be now assessed through continuous assessment.

Additionally, we will increase the levels of engagement and motivation with the e-assessment process.

6.2.2. *“While the EEC emphasises the benefits of any form of collaboration among students, the online synchronous collaboration among students from different time zones was perceived as problematic. It was not clear how the university supports this type of collaboration from the technical and coordination perspective.”*

Action/Response:

Students self-organize their time slots for synchronous collaboration. Instructors take into consideration students' location during groups formation. For example, instructors avoid putting together students from Australia with students from the East coast of Canada, or USA (e.g. New York) as there is a 14 hours' time difference between these areas. When students,

select their group members they consider the location too. From a technical perspective, our distance learning platform, and other collaboration applications used (e.g. skype, zoom, MS Teams, Viber, WhatsApp etc.) are available 24 hours a day, seven days a week.

6.2.3. *“From the documentation provided and the information gathered from the meeting, it was not clear if the formative assessment provides feedback based on rubrics, neither whether these rubrics are shared with students. In addition, more sophisticated forms of feedback based on intelligent tutoring systems and conversational pedagogical agents could be considered to support immediate and automatic feedback to students and self-evaluate their advances.”*

☑Action/Response:

Students are aware of the rubrics and the evaluation criteria used per course and receive feedback about their assignments in writing. We find the suggestion for intelligent tutoring systems and conversational pedagogical agents interesting and we will assess it before taking any action.

6.2.4. *“Even though the online courses include a good variety of learning materials (videos, papers, e-books, etc.) which is good for distance learning, the EEC believes that some considerations should be taken into account to the video materials to be more usable and accessible for students: make them shorter, include the teacher in all the videos to provide non-verbal communication, and add subtitles for accessibility questions.”*

☑Action/Response:

Our standard practice is to upload all live sessions which includes the instructors in all videos. Due to Covid 19 many instructors preferred to save bandwidth by deactivating video. This decision was helpful for many students who experience problems with Internet connection. This is a temporary measurement and soon all courses delivery will return to the pre-pandemic situation.

We thank the EEC for the suggestion to make the videos shorter. We will ask our instructors to organize their live sessions in such a way that satisfies this request. Also, we will consider the suggestion to add subtitles.

6.2.5. *“The university provides learning analytics tools for monitoring student performance based on collecting information from the students with lower grades or with undelivered activities. However, the EEC believes that more sophisticated forms of learning analytics mechanisms based on AI and specifically machine learning could be used to monitor and predict student performance and dropout in order to be able to provide timely corrective measures.”*

☑Action/Response:

We welcome this recommendation we will work towards the enhancement of our existing practices based on the comments of EEC.



7. Additional for doctoral programmes (ALL ESG)

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8. Additional for joint programmes (ALL ESG)

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B. Conclusions and final remarks

We would like to thank the members of the EEC for the overall evaluation of the program and their constructive comments. Overall, the EEC evaluated the program as compliant in all (22 out of 22) categories and sub-areas of assessment.

Blockchain technology and digital currencies have created an evolving market with many new needs and roles. The University of Nicosia realized the potential of Blockchain technology and education since 2013 and has offered a ground breaking, very competitive and multi disciplinary MSc program that fills the market needs. The University of Nicosia was the first University worldwide to launch an MSc in Blockchain and Digital Currency and since then it continuously works to improve the quality of its service. Our revised MSc program submitted to CYQAA reflects our efforts to constantly update the content of the MSc program in Blockchain and Digital Currency and continue its successful delivery.

We are satisfied that the members of the EEC provided very positive comments and evaluate the program as compliant. We are looking forward to the accreditation of the program.

Section B.1. reports the conclusions and the final remarks of the EEC.

B.1 Conclusions and final remarks by the EEC

“The assessment of the MSc in Blockchain and Digital Currency was performed from July 20 until July 22, 2020. The assessment was done based on information given during a virtual visit on July 20 as well as the information provided by the Department in their application form for the evaluation of the programmes of study. Additional information was provided by the Department upon request.

This evaluation was made in good faith that the information provided is correct.

The overall assessment of the EEC is positive. We were impressed by the quality of the existing programme and how it fills a current need on the market. The University was one of the first academic institutions worldwide to realise the power of cryptocurrencies/blockchain/DLT technology and to offer educational programmes in this area. The fact that the MSc in Blockchain and Digital Currency was successfully launched in 2016 and has been in existence ever since, indicates that there is a pending need for education and research in this area. However, the recent decline in student numbers, most likely caused by the end of the blockchain hype in 2017, also shows that in order to be successful, the programme needs to be flexible and make sure that it constantly updates its educational content.

Summarising, the EEC concludes that proposed Master programme is innovative, internationally competitive and will benefit the University as a whole.”

C. Higher Education Institution academic representatives

<i>Name</i>	<i>Position</i>	<i>Signature</i>
Prof Philippos Pouyioutas	Rector	
Prof Panayiotis Angelides	Vice Rector for Academic Affairs	
Prof Angelika Kokkinaki	Dean Business School	
Prof Marinos Themistocleous	Associate Dean Business School and Head of Department	
Dr Klitos Christodoulou	Associate Head of Department and IUQAC	
FullName	Position	

Date: 01/09/2020

