

Doc. 300.3.2

Date: 01/09/2020

# Higher Education Institution's Response

(Departmental)

- **Higher Education Institution:** University of Nicosia
- **Town:** Nicosia
- **School/Faculty:** School of Business
- **Department:** Digital Innovation
- **Programme(s) of study under evaluation**  
**Name (Duration, ECTS, Cycle)**

## Programme 1

### **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, E Learning)

## Programme 2

### **In Greek:**

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

### **In English:**

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



**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.300.3.1) must justify whether actions have been taken in improving the quality of the department 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. 300.3.1).*
- *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 assessment-accreditation of the Department of Digital Innovation, 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 Department 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 programme 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 (4.7 out of 5) and all assessment areas (11 out of 11) were marked as “Compliant”. In particular, from the 95 quality indicators:

- 90 were considered as compliant (70 indicators were marked with 5 and 20 with 4) and
- 5 were considered as partially compliant (marked with 3)

As reported by the members of the EEC, the Department of Digital Innovation offers an innovative program which is internationally competitive that fills a current need on the market. The University of Nicosia is the first academic institution worldwide to offer an educational program in Blockchain and Digital Currency. The academic staff is being engaged in many research projects and collaborations with the ecosystem and the international community and has made UNIC visible at international level. Based on the EEC evaluation report, we are looking forward to the accreditation of the Department of Digital Innovation.

We do appreciate the committee’s recommendations for improvement, which will enhance the quality of our Department 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. Department's academic profile and orientation

We thank the EEC for its positive feedback. According to the evaluation report there is a strong evidence that the Department fills an educational gap in the areas of Blockchain and Digital Currency and that the Departmental strategy is effective. Overall, all quality indicators were assessed as compliant.

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

### 1.1. Findings and Strengths reported by the EEC

#### Findings

- *"The new Department of Digital Innovation at the University of Nicosia has the vision to become a global centre of excellence on the topic of interdisciplinary disruptive digital technologies and their impact on society. The three main pillars of this vision are (1) teaching and development, (2) research and (3) collaborations. A major strength of the Department is the fact that it is already well-known in blockchain research and education. Furthermore, the department members have strong networks with the industry and thus a high visibility in the areas of the proposed Master programs.*
- *The site visit was conducted online on Monday, 20 July 2020 due to the COVID-19 pandemic. It included several presentations from the university as well as talks with faculty members, administrative staff and students.*
- *The EEC has strong evidence that the overall strategy process is effective and that the planned department fills an educational gap in the areas of the two respective programmes. However, we also found some room for improvement, which we will outline in more detail in the sections below."*

#### Strengths

*"The University of Nicosia was one of the first universities worldwide to establish a teaching programme related to cryptocurrencies and blockchain/distributed ledger technology. Being the largest private university in Cyprus with a current enrolment of over 12,000 students, it has experienced a steady growth over recent years. The student population of the university and the existing Master programme in Blockchain and Digital Currency is highly international, which indicates that this programme is attractive for a worldwide student population. Furthermore, the Department has strong connections with the industry, which not only helps to ensure the timeliness of the topics through immediate feedback, but also improves the employment opportunities of the students. Existing collaborations are reinforced through international conferences and events that the Department organizes. Summarizing, the EEC believes that the department is well-organized and well-positioned to compete with similar institutions worldwide."*

## 1.2. Constructive Feedback by the EEC

**1.2.1.** *“Blockchain/DLT is a fast-moving area that is characterised by an ongoing technological change. In order to accommodate for that change, the EEC recommends that formal processes should be established to ensure the continuous improvement of the respective programmes. Currently there seems to be a high dependency on the competencies of a rather small number of faculty members. This also poses a substantial risk since the existing market for university faculty in this teaching and research topic is limited.”*

### Action/Response:

As a Department we have a standard procedure with which we continuously improve the quality of our MSc. Since the beginning of the program, the faculty actively participates in a non-stop process for monitoring the latest developments in Blockchain. This leads to a list of suggestions per course or ideas for the development of new courses. All ideas are discussed during the faculty meetings and improvements that can take place in the existing framework are implemented. Also, at the end of each semester, students assess the courses and provide feedback. Once per year, we ask the opinion of our students who record their suggestions for our MSc (e.g. replace x course with z, add a new course, move this course from compulsory to elective and replace it with that course etc.). The MSc coordinator analyses the results and discusses them with the faculty which makes recommendations. Based on this procedure we revised our MSc program in Blockchain and Digital Currency, in 2019, and submitted it for accreditation.

It should be noted that as members of the European Blockchain Forum and Observatory we conduct research and produce reports for the European Union (EU) with which we provide suggestions and advice about the current and future trends in this area. Almost every single month, we produce a new report for the EU. Information from these reports is taken into consideration too.

As soon as the Department of Digital Innovation is accredited, we will revise/improve the above-mentioned process and send it for approval by the Department.

In regard to the dependence on a small number of faculty, the Department will work on it and will discuss it with the University. As a first action, we have recently hired a new faculty staff who will help us to reduce the dependency on visiting staff or external teaching staff and guaranteeing a high quality of teaching. The new hiring took place after the EEC visit in July 2020.

**1.2.2.** *“Another conclusion that can be drawn from the current market situation is the need to ensure the continuous training of the faculty. This relates to teaching content, but also to motivational factors and teaching skills in general. The measures taken to ensure the future quality of teaching should be made more explicit.”*

### Action/Response:

We thank the members of the EEC for this recommendation and we will further improve the continuous training activities of the faculty. Currently, our faculty continuously extends its knowledge in the area of Blockchain and Digital Currency, in a systematic way which includes attendance of:

- Professional training courses delivered by top industry experts
- Academic and industry conferences (e.g. Consensus, Future Blockchain Summit, Decentralized, Delta Summit, Convergence etc.)
- Webinars organized by industry
- Technical workshops

Additionally, the faculty participates in actions that continuously update and advance its knowledge and skills. For instance, the faculty conducts applied research in collaboration with blockchain vendors and other Universities (like UCL, Cambridge, Berkeley etc.), participates in various research projects, conducts basic research, and supervises PhD students. These activities result in enhanced skills and updated knowledge in the field. Also, the faculty collaborates with the University of Nicosia's E-learning Pedagogical Support Unit (ePSU) and the Technology Enhanced Learning Centre to advance its teaching and learning skills.

## 2. Quality Assurance

We do appreciate the committee's positive assessment and feedback for (a) the system and quality assurance strategy and (b) quality assurance for the programs of study. Section 2.1 presents the findings and strengths reported by the EEC and followed by the committees constructive feedback and our responses.

### 2.1. Findings and Strengths reported by the EEC

#### Findings

*"The Department of Digital Innovation has a dedicated committee for quality assurance consisting of the acting (associate) Head of the Department, one faculty member and one student representative. The goal of the assurance system is to promote a culture of quality that covers teaching and learning, research, connection with the society as well as management and support services.*

*The EEC found that the Quality Assurance Committee (UIQAC) is well-established within the existing organizational structure of the university and that it allows for the participation of teaching staff, administrative staff and students. However, several processes were insufficiently outlined and deserve further attention. Summarising, the department provides sufficient evidence of compliance."*

#### Strengths

*"The current structure of the Quality Assurance Committee (UIQAC) ensures a sufficient participation of different groups from within the university. Several processes are outlined in great detail, which makes it clear for all parties involved how to trigger the respective processes. Two examples are shown in the applications, which relate to the incorporation of feedback from students as well as instructors. Furthermore, the interviews with former students confirmed that the Department takes feedback seriously and has the right processes in place to incorporate it. Furthermore, the Department has strict policies in place to ensure the compliance with international standards and the Rector has the overall responsibility for quality assurance, which helps to guarantee a swift implementation."*

### 2.2. Constructive Feedback by the EEC

**2.2.1.** *"The EEC was not able to assess several areas of quality assurance due to lack of information. This especially pertains to several policies which were not made public. Furthermore, all groups of the university, including research and teaching staff, administrative staff and students, should be included in the discrimination policies. A structured process should also be defined and made public on how to deal with cases of sexual harassment and cyber(bullying). Information about the academic achievements of the Department should also be made available and should be more detailed than is currently the case."*

**Action/Response:**

The information on non- discrimination, the charter, and institutional values are all uploaded on the Website. Also uploaded is a statement on Sexual Harassment



<https://www.unic.ac.cy/useful-resources/student-handbook/safety-and-security/sexual-harassment-policy/>. Pending is a document on bullying and cyber bullying.

It is worth noting, that 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. Moreover, the School of Business organizes a series of workshops on "Handshaking with ICT" with a focus on cybercrime and bullying.

In terms of the Departmental achievements we will fully report them and make them available online as soon as the Department of Digital Innovation is accredited. Yet, the Department does not officially exist. However, faculty members of the Department run the Institute For the Future (IFF) and information about their research, teaching and other activities is available through IFF website at <https://www.unic.ac.cy/iff/>.

### 3. Administration

We thank the members of the EEC for their comments. All sub-areas of this category were considered as compliant. The score of the vast majority of these sub areas (9 out of 10) was 5 and only 1 out of 10 sub areas was marked with 4.

Below are the findings and the strengths reported by the EEC, followed by its recommendations and our response/action.

#### 3.1. Findings and Strengths reported by the EEC

##### Findings

*“The EEC had a very positive impression of the Department’s administrative structure. This assessment is based on the structural and procedural descriptions in the application forms, interviews during the EEC’s online visit as well as the information provided in a video that showed the facilities. Furthermore, the interviews with graduates from the Master programme helped to confirm the effectiveness and efficiency of current operations.”*

##### Strengths

*“The positive assessment of the EEC is based both on an evaluation of the physical facilities as well as the competencies and motivation of the staff members. Further evidence is provided by the fact that the distance learning Master programme has been offered for several years and the overall evaluations (as given to the EEC) confirm a high level of student satisfaction. The operation of the Department’s council appears to be smooth and supports the current processes.”*

#### 3.2. Constructive Feedback by the EEC

**3.2.1.** *“The EEC was not able to fully assess the quality of several administrative processes. This especially pertains to processes that involve plagiarism of staff members (academic conduct), which also includes the use of teaching material, and especially the compliance with GDPR guidelines mainly in the context of using research data. The latter poses a huge challenge for institutions that need to deal with large amounts of personal data and universities are a prime example for that. More detailed information on how personal data is being treated and protected would therefore be advisable.”*

##### Action/Response:

The University of Nicosia is founding member of the European Network for Academic Integrity – ENAI ([academicintegrity.eu](http://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.

In terms of GDPR, the University of Nicosia complies with the national data protection laws of the various Member States, GDPR and other privacy regulations and its privacy policy is reported online at <https://www.unic.ac.cy/el/privacy-policy/>. Its policy includes the following:

## **“A. Data Processing**

### ***Type of personal data held by the University of Nicosia:***

*The University holds information relating to you from different sources. Nevertheless, the information we hold come essentially from the information you personally provide us.*

*Our records contain:*

- *Your contact details*
- *Your biographical and health information*
- *Details of your education*
- *Your personal university identifiers*
- *Details about your family*
- *Socio-financial information relating to you and your family*
- *Your student academic achievements as well as examination scripts and results*
- *Information about your areas of interest*

### **1. Accessing this website and creation of log files**

*Information is collected every time this website is accessed or used. These data and information are stored in log files on the server and can include:*

- *The temporary storage of data and log files is lawful pursuant to Art. 6 (1) General Data Protection Regulation.*
- *The IP address is temporarily stored in the system as it is necessary to provide website access to the User's computer. The IP address is retained while that website is being accessed.*
- *These log files are stored to ensure website functionality, optimize the content of our website, and ensure the security of our IT system.*
- *The data will be deleted when they are no longer needed for the purpose they were collected. For data collected to provide access to the website, this will be at the end of every session.*
- *For log files, this will occur after seven days at the latest. Some data may be preserved for a longer period of time, in which case user IP addresses are deleted or removed, rendering it impossible to link the data to any individual.*

### **2. Cookies**

*Our website uses cookies. Cookies are small data files, created and stored by the Internet browser on your computer's hard drive. Accessing a website may result in a cookie being saved on your operating system. This cookie contains a specific string of characters that allows the browser to be clearly recognized every time the website is accessed.*

*We use cookies to make our website more user-friendly.*

*The processing of personal data based on the use of cookies is lawful pursuant to Art. 6 (1) GDPR.*

*The purpose of these technical cookies is to simplify website use.*

*Cookies are stored on the User's computer and transferred to us. That is why you, as the User, have full control over cookie implementation. You can deactivate or restrict cookies by changing your browser settings. Cookies already stored on your hard drive can be deleted at any time. This can also be done automatically. However, disabling cookies for our website may result in some functions not working correctly.*

### **3. Registration**

*Users can register on the University of Nicosia web pages by providing personal data. All information requested in the online data entry form will be transmitted as part of the registration process.*

*You will be asked to grant your consent for the processing of this data as part of the registration process.*

*These data are processed subsequent to user consent pursuant to Art. 6 (1) GDPR.*

*User registration is necessary to provide specific content and services on our website, including the creation and administration of user accounts, participation in surveys, the administration of applications for admission and placement tests, the organization of examinations, registering for courses, events, examinations, and the administrative tasks associated with them.*

*The data will be deleted when they are no longer needed for the purpose they were collected.*

### **4. Contact form and email contact**

*There are contact forms on University of Nicosia webpages that can be used to communicate electronically. When registering, the data entered by you into the online data entry form will be transmitted. Your consent is required for the processing of this data, and you will be referred to our Privacy Statement and asked to grant your consent when you send the form.*

*Alternatively, contact may be initiated using an email address provided by you. In this case, the personal data provided in the email will be stored. This information will not be passed on to third parties.*

*These data are processed subsequent to user consent pursuant to Art. 6 (1)GDPR.*

*The processing of information received from the sending of an email is lawful under Art. 6 (1) GDPR.*

*These data are only stored for the purposes of processing that communication. The data will be deleted when they are no longer needed for the purpose they were collected.*

## **5. Your reinforced rights:**

*The University of Nicosia has taken appropriate measures to provide any information relating to your rights as well as the exercise of these rights. Under Chapter III of the GDPR you have the following rights:*

### **I. Transparent information, communication and modalities for the exercise of your rights**

*You have the right to be provided with your data freely and in an intelligible and easily accessible form. Following your request, the University of Nicosia shall provide information without undue delay and in any event within one month of receipt of the request. That period may be extended by two further months where necessary, taking into account the complexity and number of requests. In that case, the University of Nicosia will inform you for the reasons of the delay.*

### **II. Information to be provided where personal data are collected from the data subject**

*You have the right to know the contact details of the agent who collects your data, the contact details of the Data Protection Officer ('DPO') that was appointed by the University of Nicosia, the purposes of the processing for which the personal data are intended, the legal basis for the processing, the recipients or categories of recipients of the personal data and where applicable the fact that the controller intends to transfer personal data to a third country.*

### **III. Right of access**

*You have the right to request and receive a copy of your personal data undergoing processing. However, for any further copies requested, the University of Nicosia may charge you a reasonable fee that is based on administrative costs.*

### **IV. Right to rectification**

*You have the right to obtain from the University without undue delay the rectification of inaccurate personal data concerning you.*

### **V. Right to erasure ('right to be forgotten')**

*There is a right to ask for the erasure of your personal data and that they are no longer processed where the personal data are no longer necessary in relation to the purposes for which they are controlled or otherwise processed.*

*Hence, in the cases where the University retains and process personal data in accordance with the provisions of Article of the GDPR, the University may object to such a request and may keep the relevant personal data that are required in order for the University to comply with its legal obligations.*

## **VI. Right to restriction of processing**

*You have the right to restrict processing where the accuracy of the personal data is contested by you, the processing is unlawful and there is pending verification as to whether the legitimate grounds of the University of Nicosia override those of your rights.*

*Therefore, we ensure that the University of Nicosia has in place a procedure where you have the right to restrict the processing of your personal data. Nonetheless, for those personal data that are necessary for compliance with a legal obligation, the University may object to the restriction.*

## **VII. Right to data portability**

*You have the right to receive the personal data concerning you, which you have provided to the University of Nicosia, in a structured, commonly used and machine-readable format and you have the right to transmit those data to another controller without hindrance from the controller to which the personal data have been provided.*

## **VIII. Right to object**

*You have the right to object to the processing of your personal data. However, if the University of Nicosia lawfully processes such data under Article 6(1) (c), the University will still have the right to process the data.*

## **IX. Automated individual decision-making, including profiling**

*You have the right not to be subject to a decision solely on automated processing, including profiling, which produces legal effects concerning you or similarly significantly affects.”*

UNIC has appointed an independent data protection officer (A. & E. C. Emilianides, C. Katsaros & Associates LLC) whose details are reported online at UNIC website.

Further to the above mentioned policy, the University of Nicosia signed the World Economic Forum’s Presidio Principles, focused on Safeguarding User Rights built on Blockchain-based Technologies (<https://www.unic.ac.cy/university-of-nicosia-signs-the-world-economic-forum-s-presidio-principles-focused-on-safeguarding-user-rights-built-on-blockchain-based-technologies/>).

## 4. Learning and Teaching

We thank the EEC for its positive feedback. Section 4.1 reports the findings and strengths reported by the EEC where Section 4.2. summarises the committee's recommendations and our response.

### 4.1. Findings and Strengths reported by the EEC

#### Findings

*“The Department of Digital Innovation builds on a solid organisational structure and previous experience with designing and performing courses related to blockchain/DLT. Given that the distance learning programme in Blockchain and Digital Currency has already existed for a couple of years and has proven to be able to attract a sufficient number of students, the quality indicators of learning and teaching can be assessed in light of the current effectiveness. The EEC found that the processes for the administration of learning and teaching are straightforward and well-structured. Since we do not know the current legislation that is in place as well as all details of current European standards, we did the assessment of the alignment of the processes to the best of our knowledge and based on our own experiences at various international universities.”*

#### Strengths

*“The Department of Digital Innovation suggests an elaborate system for creating and carrying out the programmes. The previous experience with the distance learning programme illustrates that the current system is effective and appealing to a worldwide target population of students. Based on talks with several alumni, the EEC found that students are actively involved in designing the programme and given the opportunity to provide ample feedback, which in turn is used to further improve the programme.*

*The admission criteria can be found on the website and are outlined in great detail. Furthermore, clear guidelines exist on how credit can be transferred. Another strength of the Department is the close relationship with its students, evidenced by frequent communication and feedback. This was confirmed by our discussions with staff members as well as students.”*

### 4.2. Constructive Feedback by the EEC

4.2.1. *“The above assessment of the EEC was done in good faith. Due to our lack of knowledge of existing regulation we cannot fully assess the extent to which the content of the programme, the assignments and the final exams correspond to the European Qualification Framework. More details in the application would have been helpful.”*

#### Action/Response:

The European Qualification Framework defines eight learning outcomes and each of those corresponds to a specific level of knowledge, skills, responsibility and autonomy. The MSc in Blockchain and Digital Currency meets the eight learning outcomes. Below is an example of how courses of our program meet these learning outcomes:

BLOCK-511: Students illustrate basic general knowledge and employ the basic skills required to carry out simple tasks (e.g. how to install and manage a digital currency wallet, send and receive digital currency etc.).

BLOCK-512: In this course, knowledge of facts, principles, processes and general concepts, in the field of Blockchain Systems and Architectures is demonstrated.

BLOCK-513: Students show basic factual knowledge of law and regulations in Blockchain.

BLOCK-514: Theoretical and factual knowledge in emerging topics of Blockchain and Digital Currency is proved by the students. In doing so, students apply their knowledge to develop P2P Blockchain applications.

BLOCK-515: Students demonstrate substantial innovation, autonomy, professional integrity and sustained commitment to the development of new ideas or processes in the areas of Blockchain disruptive innovation and entrepreneurship management. Students introduce innovative business ideas that may contribute to professional knowledge and practice. There are cases where students further investigate the business ideas they develop for this course and end up running their own startups.

BLOCK-516: In this course, critical understanding of theories and principles of Money, Banking and Finance and advanced knowledge of that field is made evident.

BLOCK-528: Students demonstrate comprehensive, specialized, factual and theoretical knowledge within the area of Tokens Economics. Also, they show an awareness of the boundaries of that knowledge and employ a comprehensive range of cognitive and practical skills to develop solutions.

BLOCK-551: Students apply specialised problem-solving skills required in research or innovation to develop new knowledge and procedures and to integrate knowledge from different fields like innovation, management, entrepreneurship, state of the art technologies like AI, IoT, Blockchain etc.

**4.2.2.** *“The EEC also finds that a stronger integration of theory and practice will benefit students. The current programmes mainly focus on applied skills and providing students with skills that allow them to abstract from a given problem will help them to be more flexible in their future workplace. This also corresponds to the current teaching style, which is mainly frontal teaching, and the fact that the Master thesis is voluntary. A compulsory thesis will help students not only to gain academic skills but also to show their ability to design and carry out a comprehensive research project.”*

**Action/Response:**

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

## 5. Teaching Staff

All sub-areas of the category were considered by EEC as compliant and we thank the committee for its positive comments and feedback. Below are the findings and strengths reported by the EEC. Section 5.2 summarises the EEC recommendations and our response/action.

### 5.1. Findings and Strengths reported by the EEC

#### Findings

*“The EEC found that the Department of Digital Innovation has a sufficient number of teaching staff with a broad variety of teaching expertise. Teaching is done by both internal and external instructors, which ensures an inflow of new ideas and best practices from the industry. The teaching staff possesses the needed formal qualifications and, based on talks with previous students and the evaluations shown in the application forms, also the general teaching abilities to transfer content. The frequent involvement of visiting professors ensures a fruitful exchange of ideas with other academic institutions. The Department has managed to gain a solid reputation due to being one of the first institutions worldwide to offer a programme in blockchain/DLT/cryptocurrencies. Given the growing interest and the emergence of competing programmes we recommend keeping a strong focus on integrating an international faculty in the future.”*

#### Strengths

*“The Department of Digital Innovation has demonstrated its flexibility in designing and administering a Master programme in an area which is characterised by the need to constantly update course contents and consequently also the qualifications of the staff members. Given that the current programme has shown its capability to attract a worldwide audience of students, the EEC is positive that this teaching focus will also be successful in the future. The qualifications of the teaching staff play an important role in this process and our assessment in this matter was very positive. The Department has shown its flexibility not only when it comes to updating content but also when dealing with strong fluctuations in student numbers. Numerous external faculty members and prominent scholars may help to further increase the visibility of the programme.”*

### 5.2. Constructive Feedback by the EEC

**5.2.1.** *The biggest threat that the EEC perceives lies in the need to continuously update and improve the skills of the workforce. Furthermore, the reliance on several core faculty members in combination with a relatively small labour market might pose a risk in case there is a change in the workforce.*

**Action/Response:**

We thank the members of the EEC for this comment and we would like to direct them to our response for the subsections 1.2.1. and 1.2.2.

## 6. Research

We do appreciate the committee's assessment and feedback for research. The EEC considers this category and its quality indicators as compliant and finds the research activities of the Department in accordance with the Departments mission. Also the facilities were found as adequate and support the members of the Department to conduct their research activities.

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

### 6.1. Findings and Strengths reported by the EEC

#### Findings

*“The main focus of the Department of Digital Innovation is on teaching. However, it also conducts numerous research activities that include not only publications in academic journals and conference proceedings, but also active service in the academic community and the participation in funded projects. The EEC found that the research activities of the Department are in line with its overall mission and the facilities for carrying out research are adequate.”*

#### Strengths

*“The Department is actively involved in numerous third-party funded activities which not only help to raise money for research activities but also increase international visibility. Upon request from the EEC, the Department reported a total of more than 2 Mio. € that stem from nine international research projects, most of them funded by the European Union. However, information about the annual external research budget was not provided, just the aggregated amount for several years. The acquired research grants illustrate that the University and the Department have the expertise to contribute to international research projects and are active in this vibrant community.”*

### 6.2. Constructive Feedback by the EEC

**6.2.1.** *“A compulsory Master thesis might give the Department the opportunity to actively involve students in their research activities. In the section above we outlined the benefits for students, but this might also be beneficial for the Department since students can be actively involved in research projects. The EEC further recommends that the results from research projects are integrated into teaching and that the Department develops teaching material out of their own research activities. This includes, for example, the development of case studies that show students how blockchain/DLT technology can be used in concrete real-world settings.”*

#### Action/Response:

We welcome the recommendation from the committee for a compulsory master thesis, and we will be considering this in the framework of the national regulations.

We also thank the members of the EEC for the recommendation to integrate our research into teaching material. One of our practices is to integrate our research outcomes into

teaching material. For example, we have developed content for multiple use cases that are taught in our courses. Among others the following use cases were developed from our research outcomes:

- The case of the Block.co for the issuance and verification of the academic diplomas through bitcoin Blockchain. Apart from the use case, we use our solution to issue all the diplomas of the University of Nicosia and thus we combine theory with practice.
- The use case from an applied research project in energy which includes the development of a Peer-to-Peer(P2P) Blockchain solution that: (a) collects energy using solar panels, (b) stores the energy in smart batteries, (c) trades the energy through a P2P Blockchain system and (d) proceeds with the financial settlement using cryptocurrency that is developed for this case. Moreover, the solution focuses on the convergence of Blockchain technology with Internet of Things (IoT) and Artificial Intelligence (AI).
- A use case from healthcare sector where a Blockchain application was developed to: (a) provide secure patients data 24hours a day, (b) improve quality of service, (c) reduce medical errors, (d) convalesce medical diagnosis and (e) enhance decision making.
- Currently teaching material from other research outcomes is prepared and includes cases from: (a) FinTech and banking (project INFINITECH), (b) a second solution from Blockchain in energy (Parity project), (c) various Blockchain applications developed for SMEs (Blockpool project), (d) technical work from UBRI project and (e) a scenario from Blockchain, AI, and Machine Learning application in social media (Eunomia project).

**6.2.2.** *“In order to maintain visibility in the academic world the EEC also recommends a stronger focus on research papers being published in highly ranked academic journals. The numbers provided in the application form and the presentation were fairly aggregated and did not allow for a detailed assessment of individual contributions.”*

**Action/Response:**

We welcome the recommendation and we will soon submit articles to highly ranked academic journals. This is actually in line with our vision and mission. One of the first goals of the Department of Digital Innovation is to support each faculty to submit at least two highly ranked journal articles per annum. Our research projects are in good stage to provide sufficient data for publication. Also, six of our PhD students will soon be in a position to publish their work in collaboration with the advisory committees.

## 7. Resources

We thank the EEC for its comments. Below, the findings and strengths reported by the EEC in its assessment are presented followed by its constructive feedback and our responses/actions. In doing so, we provide a more detailed budget analysis based on the suggestions of the EEC.

### 7.1. Findings and Strengths reported by the EEC

#### Findings

*“The budget is developed at the Department level by the Head of Department, the Programme Coordinators and the faculty and approved by the Dean of School. The process is transparent and involves all relevant stakeholders. The financial information as given to the EEC was on a highly aggregated level. All forecasts indicate that the Department will be able to contribute to the overall success of the University, but a more detailed analysis was not possible due to lack of information.”*

#### Strengths

*“According to the calculations as provided by the Department, the current programmes will be able to yield a surplus, most likely a substantial contribution margin, even in situations of relatively low student enrollments. The rapid growth in demand between 2016/17 and 2017/18 and the subsequent fall between 2017/18 and 2018/19 illustrates the need to be able to cope with a large fluctuation in student numbers. Previous experience has shown that the Department is able to do that and that it will also be able to contribute to the overall profit of the School and the University.”*

### 7.2 Constructive Feedback by the EEC

**7.2.1.** *“The information that was given to the EEC was at a highly aggregated level and further details were missing regarding the assumptions underlying the calculations. Furthermore, a more detailed breakdown of the cost structure would have been useful. This also includes a differentiation between variable and fixed costs as well as between online and offline students who presumably have a different cost structure. Furthermore, a multi-year forecast scenario is needed and information about how often students are taken in. An annualization of the tuition fee is needed, as the approx. 13.000,- Euros are for a 3 semester program, which most likely corresponds to 1.5 years. In line with that, more detailed information on the Department’s development plan would have been useful. This also includes up-to-date information on the number of current applications (if available). This would be useful to forecast growth and plan for further permanent staff to manage better teaching quality and capacity to accommodate more students when going forward.”*

#### Action/Response:

We agree with the EEC that the feasibility study as reported in page 131 of the Departmental application (Table 44) does not reveal details about assumptions underlying the calculations. We have now revised the feasibility study to respond to the comment for a multi-year forecast scenario. The scenario is based on the following assumptions:

1. Tuition fees are the same for both of our MSc programs in Blockchain and Digital Currency (conventional and distance learning) and are €12.960 for a duration of 1,5 years.
2. The Department of Digital Innovation has two intake periods for its distance learning programs and one for its conventional programs.
3. We will offer the E Learning MSc in Blockchain and Digital Currency in Fall and Spring intakes of 2020-2021 where the conventional program will be offered in the Fall intake only.
4. In the next two years, the Department of Digital Innovation will submit for accreditation three new MSc, one BSc and one PhD Programs of Study. Student fees will be €10,000 for the new MSc programs (duration 1,5 years), €40,000 for the BSc program (duration 4 years) and €15,000 for the PhD program (duration 3 years).
5. The BSc, PhD and the one new MSc program will be submitted to CYQAA for accreditation in 2020-21. We expect that these programs will be approved by the first quarter of 2022 and will be offered in Fall 2022.
6. In 2021-2022 we will submit another two MSc programs for accreditation and in case of approval they will be offered in Fall 2023.
7. According to our plan, the Department of Digital Innovation will offer one BSc, five MSc and one PhD program in the next five years.

Table 1 shows the expected average number of students per program for the next five years.

Program	2020-21	2021-22	2022-23	2023-24	2024-25
MSc Blockchain and Digital Currency (E Learning)	120	120	120	120	120
MSc Blockchain and Digital Currency (Conventional)	20	40	45	50	60
New PhD (Conventional) (TBD)	0	0	17	24	35
New BSc (Conventional) (TBD)	0	0	40	60	80
New MSc 1 (TBD)	0	0	30	50	60
New MSc 2 (TBD)	0	0	0	30	60
New MSc 3 (TBD)	0	0	0	30	60
<b>Total number of students per annum</b>	<b>160</b>	<b>160</b>	<b>252</b>	<b>364</b>	<b>475</b>

Table 1: Number of students per program of study per annum

8. So far, 64 students are enrolled for the Fall 2020 intake period and there is plenty of time to bring additional students onboard given that the intake period closes in a month from now and that many students enrol closer to the deadline. In the worst case, we estimate that around 70 students will join our MSc in Blockchain and Digital Currency (E Learning) in September 2020. For Spring 2021 we expect another 45-55 students to enrol which is in accordance with our past data (51 students in Spring 2019 and 50 students in Spring 2020). Overall, we estimate an average of 120 students to join our MSc in Blockchain and Digital Currency (E Learning) in 2020-2021. Also, we are planning to launch our conventional MSc program in Spring 2021 with additional 20 students.
9. The calculation of the revenue is based on the following:
  - BSc program = number of students of current year x €10,000
  - PhD program = number of students of current year x €5,000
  - MSc programs = (number of students of current year x 2/3 of tuition fees) + (number of students of previous year x 1/3 of tuition fees).

- For instance, the fees for the first year (semester 1&2) and the third semester of the MSc programs Blockchain in Digital Currency (E LEARNING & Conventional) is €8640 and €4320 respectively. It is worth noting that 119 students were enrolled in 2019-2020 for our E LEARNING MSc program. As a result, the expected revenue for 2020-21 from this program is the sum of  $(120 \times €8640) + (119 \times €4320) = €1,550,880$
  - Regarding the new MSc programs of study the fees will be €6666,7 for the first year and €333,3 for the third semester.
  - Professional training programs = number of participants per annum  $\times$  €1350. The expected number of participants for years 2021-25 are 100, 200, 300, 400, and 500 respectively.
10. Table 2 presents a more detailed breakdown of the cost structure which is based on average estimations.

Financial Details	Academic Year				
REVENUE	2020-21	2021-22	2022-23	2023-24	2024-25
Tuition Fees MSc Blockchain and Digital Currency DL	1.550.880 €	1.555.200 €	1.555.200 €	1.555.200 €	1.555.200 €
Tuition Fees MSc Blockchain and Digital Currency Conventional	172.800 €	432.000 €	561.600 €	626.400 €	734.400 €
Tuition Fees BSc program (TBD)	0 €	0 €	400.000 €	600.000 €	800.000 €
Tuition Fees New MSc program 1 (TBD)	0 €	0 €	200.010 €	433.349 €	566.685 €
Tuition Fees New MSc program 2 (TBD)	0 €	0 €	0 €	200.010 €	500.019 €
Tuition Fees New MSc program 3 (TBD)	0 €	0 €	0 €	200.010 €	500.019 €
Tuition Fees PhD program (TBD)	0 €	0 €	85.000 €	120.000 €	175.000 €
Corporate scholarships (Ripple, trade.io etc.)	100.000 €	200.000 €	300.000 €	400.000 €	500.000 €
Research funds	400.000 €	500.000 €	600.000 €	750.000 €	900.000 €
Professional Training	135.000 €	270.000 €	405.000 €	540.000 €	675.000 €
<b>Total Revenue</b>	<b>2.358.680 €</b>	<b>2.957.200 €</b>	<b>4.106.810 €</b>	<b>5.424.969 €</b>	<b>6.906.323 €</b>
EXPENDITURE	2020-21	2021-22	2022-23	2023-24	2024-25
Academic Staff Salaries	600.000 €	900.000 €	1.200.000 €	1.750.000 €	2.400.000 €
Visiting Lecturers	100.000 €	150.000 €	190.000 €	350.000 €	250.000 €
Industry Fellows	75.000 €	150.000 €	200.000 €	250.000 €	250.000 €
Teaching Assistants	40.000 €	50.000 €	75.000 €	150.000 €	200.000 €
Marketing - Academic programs	150.000 €	250.000 €	450.000 €	600.000 €	600.000 €
Administration	280.000 €	310.000 €	340.000 €	400.000 €	650.000 €
Travel	100.000 €	100.000 €	150.000 €	200.000 €	200.000 €
Facilities cost	120.000 €	120.000 €	200.000 €	225.000 €	250.000 €
Scholarships (corporate & UNIC)	450.000 €	450.000 €	650.000 €	750.000 €	850.000 €
Other cost	70.000 €	80.000 €	90.000 €	125.000 €	150.000 €
Marketing - Professional training	150.000 €	150.000 €	150.000 €	200.000 €	225.000 €
<b>Total Expenditure</b>	<b>2.135.000 €</b>	<b>2.710.000 €</b>	<b>3.695.000 €</b>	<b>5.000.000 €</b>	<b>6.025.000 €</b>
<b>SURPLUS/(DEFICIT)</b>	<b>223.680 €</b>	<b>247.200 €</b>	<b>411.810 €</b>	<b>424.969 €</b>	<b>881.323 €</b>

Table 2: Cost Structure Breakdown

## B. Conclusions and final remarks

We would like to thank the members of the EEC for the overall evaluation of the Department of Digital Innovation and their constructive comments. Overall, the EEC evaluates the Department as compliant in all categories with an overall high score 4.7 out of 5.

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 programs submitted to CYQAA reflect our efforts to constantly update the content of the MSc program in Blockchain and Digital Currency and continue its successful delivery. The EEC considers the Department of Digital Innovation and its programs of study as innovative that help the University as a whole.

We are satisfied that the members of the EEC provided very positive comments and evaluate the Department 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 by EEC

“The assessment of the Department of Digital Innovation 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 forms for departmental evaluation as well as 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. If appropriate, the EEC noted that it was not able to confirm the compliance with existing legislation.

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 Department needs to be flexible and make sure that it constantly updates its educational content. The calculations, as provided by the Department, are conservative and signal that the programme will be able to withstand fluctuations in demand.

The Department has a highly qualified internal and external faculty and excellent industry connections. Its participation in numerous international programmes ensures a high visibility within the academic community and also among practitioners. In order to maintain its leading position in the area of cryptocurrencies/blockchain/DLT we also recommend a strong focus on high-quality research.

Summarising, the EEC concludes that proposed department as well as the two Master programmes are innovative, internationally competitive and will benefit the University as a whole.”



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CYPRUS AGENCY OF QUALITY ASSURANCE AND ACCREDITATION IN HIGHER EDUCATION



### C. Higher Education Institution academic representatives

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

Date: 01/09/2020

