

# Cyprus Agency of Quality Assurance and Accreditation in Higher Education

## Republic of Cyprus

### External Evaluation Report

### Program of Study

**Institution:** C.D.A COLLEGE

**District:** LIMASSOL

**Name of the Program of Study in Greek:**

«Τεχνολογία Πληροφορικής και Επικοινωνίας», (2 Χρόνια, Συν Προαιρετικό  
Προπαρασκευαστικό Έτος, Δίπλωμα)

**Name of the Program of Study in English:**

Information and Communication Technology (2 Years, Plus an Optional Foundation  
Year, Diploma)

**Department:** Department of Information and Communication Technology

**Language/s of instruction:** English

**Faculty:** .....

- New Program of Study: ✓
- Currently operation Program of Study:
  - Registered but not evaluated
  - Evaluated and accredited by SEKAP
  - Evaluated by the Cy.Q.A.A. and did not get accreditation

**Program Category (check ✓ where applicable):**

- Conventional ✓
- Distance Learning
- Inter-university (Name of collaborating university/ies)

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## **INSTRUCTIONS:**

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 2016” [N. 136 (I)/2015].

**The document is duly completed by the External Evaluation Committee for each program of study. The ANNEX (Doc. Number 300.1) constitutes an integral part of the external evaluation report for the external evaluation accreditation of a program of study.**

**EXTERNAL EVALUATION COMMITTEE:**

<b>NAME</b>	<b>TITLE AND RANK</b>	<b>UNIVERSITY / INSTITUTION</b>
Philippe BONNET	Professor	IT University of Copenhagen
Schahram DUSTDAR	Professor	TU Vienna
Yehuda AFEK	Professor	Tel Aviv University

## INTRODUCTION:

### I. The External Evaluation procedure

The documents that we studied include:

- The application form with tables describing the structure of the program, the list of courses (mandatory and elective) per semester, the course distribution per semester, the course distribution per teacher, the teacher load;
- Annexes with course descriptions, the CV of teachers, a description of the infrastructure at CDA (campus, library, classrooms, etc), quality assurance, evaluation forms, faculty development among others in 25 appendices;
- A self-evaluation based on the accreditation form, where all criteria are marked as 5 with some explanations.

**Visit:** In the onsite visit we met the chairman of CDA, the quality assurance committee, as well as the head of the program Mrs Olga Peleganou. We met with four members of the IT related teaching staff. A presentation of the program was given by Olga Pelekanou. Furthermore, we interviewed administrative staff as well as five students, including two from Cyprus.

**Infrastructure:** We visited the CDA infrastructure relevant for the evaluation such as teaching classrooms, library, and computer labs. We ate in the cafeteria. We visited two computer labs.

### II. The Internal Evaluation procedure

We have carefully read the documents that have been provided to us, and discussed at great detail the situation with the staff of the CDA College, the academic staff, management, administration and students. In addition, we toured the facilities, class rooms and cafeteria.

The CDA team did a very careful job in preparing the documents, and have discussed with us their situation in a very sincere and productive way. We found the atmosphere among the staff members to be very good, open, and collaborative. While we think the ongoing program is reasonable and may continue, some modifications are required. At a high level the areas of improvement are:

**Documents verification:** While it is apparent that the CDA team where careful to prepare a detailed application addressing all necessary points, they missed and failed on one significant issue. This relates to verifying and making sure that all the information is consistent with what appears on the web, and is correct and up to date. Specifically, the curriculum vitae of Dr. Pavlos Panayi lists three publications, two of which are just one (that appears twice in exactly the same way, looks like a copy and paste failure, but a too gross one for a typo). While we were able to find and verify these publications on the web and in the mentioned journals, they appear to have been published by a different set of authors. Pavlos Panayi is not listed as one of the authors of either publication as recorded by these journals. This must be explained or corrected. In the same way, all other information provided in all documents must be verified.

**Program and syllabi update.** On the one hand there are too much math courses (three) for this diploma program, and on the other hand, there are some critical courses that should be added to the curriculum. One basic math and statistic course should be enough. Courses that should be added or updated are introduction to Machine Learning, cloud services/computing, and modern developments in computer science. In one or two years there could be yet newer technologies that it might be necessary to teach (e.g., perhaps Blockchain, privacy issues).

**General comments** to the Agency of Quality Assurance and Accreditation in Higher Education. First the balance between teaching material freedom and the level of control and monitoring is way too far towards the control. A mechanism by which the content is controlled with some degrees of freedom should be thought and implemented. Second, a related point, with computer technology new technologies develop so fast that a five to ten-year turnaround is by far too slow a pace to keep up and update these programs. A second mechanism by which the teaching staff can update and introduce new topics should be designed and implemented. In addition, teachers must go on seminars and professional conferences to absorb the new developments. Perhaps in some more advance courses (2<sup>nd</sup> year) allow teaches to update and change 15% of the material (2 week worth of material) and in addition have one course on modern new technologies whose content will change every two to three years as necessary.

## **FINDINGS:**

### **1. EFFECTIVENESS OF TEACHING WORK – AVAILABLE RESOURCES**

The student admission requirements to the program of study, are based on specific regulations. Based on what we were shown, we conclude that the number of students in each class allows for constructive teaching and communication, and it compares positively to the current international standards and/or practices. The organization of the educational process safeguards the quality implementation of the program's purpose and objectives and the achievement of the learning outcomes. The implementation of the specific academic calendar and its timely publication is achieved. The disclosure of the program's curricula to the students, and their implementation by the teaching personnel is achieved.

The individual course webpages are based on Moodle.

The procedures for the fulfillment of the diploma requirements are clearly defined.

The procedures for the conduct and the format of the examinations and for student assessment could be verified in the discussions with the teaching staff as well as with the administrative staff.

Moderate learning resources are available to the students, including the facilities such as the library, the general infrastructure. There is significant support for student welfare, and academic mentoring.

A written policy for regular and effective communication, between the teaching personnel and the students is applied. As far as we can see, the teaching personnel, for each course, provide timely and effective feedback to the students. Statutory mechanisms for the support of students and the communication with the teaching personnel are effective. Control mechanisms for student performance are effective. Support mechanisms for students with problematic academic performance are in

place mainly via utilizing the office hours of the teachers. Students, who have issues, contact the individual teachers and/or the head of the respective departments during the office hours. Students talked about the good support for slow learners.

The area of academic mentoring processes is not considered for the calculation of academic workload.

The system “Turnitin” is used for the prevention and detection of plagiarism, especially in English language courses. The program of study provides satisfactory mechanisms for complaint management and for dispute resolution.

## **2. PROGRAM OF STUDY AND HIGHER EDUCATION QUALIFICATIONS**

The purpose and objectives of the program of study are formulated in terms of expected learning outcomes. They are consistent with the mission and the strategy of a vocational program.

The purpose and objectives of the program and the learning outcomes are utilized as a guide for the design of the program of study.

The methods of assessment, the teaching materials and the equipment, lead to the achievement of the program’s purpose and objectives and ensure the expected learning outcomes. In its current form, the syllabus of most courses is formulated in a very detailed way, which does not give teachers the ability to adapt to fast changing developments in the field. We recommend that title and the syllabus of all courses are raised in the level of abstraction (e.g., Visual Basic could be Visual Programming, the syllabus for Introduction to Java Programming could be role model for other courses). This allows updating the content of each course.

In addition, there are three math related courses that could be replaced with technology related courses, e.g., Statistics could be gradually transformed into a Machine Learning course. Python could be used as an introductory programming language. A seminar could be added to enable students to read and communicate and present a technical topic. Teachers could leverage online resources for their lectures.

The expected learning outcomes of the program are clearly formulated. The learning process is properly designed to achieve the expected learning outcomes, which are appropriate for a 2-year diploma program.

The European Credit Transfer System (ECTS) is applied and there is appropriate correspondence between credits and workload overall. The program of study is structured in a consistent manner and in sequence, to ensure progression.

The program includes an adequate number of general education courses and significant focus on getting all students up to speed with the English language.

The number and the content of the program’s courses are appropriate for the achievement of the program’s learning outcomes.

The content of the program’s courses does not fully reflect the latest achievements / developments in science, arts, research and technology. For example, there are no classes on cloud technology, big data, privacy-by design, IoT or Machine Learning.

Our discussion with management and teaching staff made it clear that there is room for improvement regarding the process for updating course syllabus and courses provided in general.

The arrangements regarding the program's quality assurance define clear competencies and procedures. The quality assurance process constitutes an academic process and it is not restricted by non-academic factors. Our on-site demonstrated the engagement of the quality assurance committee.

The program's management and development process is an academic process with minimal non-academic interventions.

A Diploma Supplement is awarded to graduates on completion of the program.

The recognition and transfer of credit units from previous studies is regulated by procedures and regulations which are described in the document.

CDA has established Erasmus and international agreements with European universities. The nature of this two-year vocational program naturally limits the visibility and the opportunity for interactions with academic institutions.

According to the feasibility study, indicators for the employability of graduates are satisfactory. Benefits, for the Cypriot society, deriving from the program are limited due to the small number of students and the high percentage of international students.

### **3. RESEARCH WORK AND SYNERGIES WITH TEACHING**

Research or research-based teaching cannot be expected from this program, due to its vocational nature.

### **4. ADMINISTRATION SERVICES, STUDENT WELFARE AND SUPPORT OF TEACHING WORK**

We met with the person responsible for Student Welfare Services. Statutory administrative mechanisms for monitoring and supporting students are appropriate.

There is a library with dedicated staff. Moodle is used as online learning platform. The facilities are moderately adequate in number and size. The equipment used in teaching and learning (laboratory and electronic equipment, consumables etc.) are quantitatively and qualitatively adequate but not state-of-the-art.

Teaching materials (books, manuals, scientific journals, databases) are accessible to students. We discussed the opportunity for teaching personnel to attend seminars and workshops.

The allocation of financial resources as regards to academic matters, is the responsibility of the chairman.

We cannot verify if the remuneration of academic and other personnel is analogous to the remuneration of academic and other personnel of the respective institutions in Cyprus. Salaries for various grades are presented in the document.

Student tuition and fees are consistent to the tuition and fees of other respective institutions. This is due to the fact that the upper bound of the tuition fees is set by the ministry.

### **5. DISTANCE LEARNING PROGRAMS**

Not applicable.

### **6. DOCTORAL PROGRAMS OF STUDY**

Not applicable.

## CONCLUSIONS AND SUGGESTIONS OF THE EXTERNAL EVALUATION COMMITTEE<sup>1</sup>

Following our report and visit where we have carefully read the documents that have been given to us, and discussed at great detail the status with the staff of the CDA College, the academic staff, management, administration and students. In addition, we toured the facilities, class rooms and cafeteria.

Clearly the CDA team made a very careful job in preparing the documents and meetings. The CDA team have discussed with us their situation in a very sincere and productive way. We found the atmosphere among the staff members to be very good, open, and collaborative.

While the presented program does not have significant weaknesses, a number of modifications might be beneficial and must be implemented in order for the program to maintain its quality.

**Program and syllabi update.** On the one hand there is too much math courses (3) for this diploma program, and on the other hand there are some critical courses that should be added to the curriculum. One basic math and statistic math course should be enough, more than that is not absorbed by the students of this program. Courses that should be added or updated in place of the extra math courses (or not in place) are introduction to Machine Learning and cloud services/computing, and modern developments in computer science. In a year or two there could be yet newer technologies that it may be necessary to teach (e.g., perhaps Blockchain, cryptocurrency, privacy issues, GDPR, IoT devices, etc.).

**Online methods and material:** teachers should use the internet/web to adopt and use teaching material that is freely available on the internet by superb institutions such as Stanford, Berkeley, and many others. These could be an easy and very effective way for the courses to improve and be up to date.

**General comments** to the Agency of Quality Assurance and Accreditation in Higher Education. First the balance between teaching material content freedom (at CDA) and the level of control and monitoring applied is way too far towards the control. A mechanism by which the content is controlled with some degrees of freedom should be thought and implemented. Teacher should be freer to introduce new materials. Second, a related point, with computer technology new technologies develop so fast that a five to ten-year turnaround is by far too slow a pace to keep up and update these programs. A second mechanism by which the teaching staff can update and introduce new topics should be designed and implemented. In addition, teachers must participate in seminars and professional conferences to absorb the new developments. Perhaps in some more advance courses (2<sup>nd</sup> year) allow teachers to update and change 15% of the material (2 week worth of material) and in addition

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<sup>1</sup> It is highlighted, at this point, that the External Evaluation Committee is expected to justify its findings and its suggestions on the basis of the Document num.: 300.1. The External Evaluation Committee is not expected to submit a suggestion for the approval or the rejection of the program of study under evaluation. This decision falls under the competencies of the Council of the Agency of Quality Assurance and Accreditation of higher education.



have one course on modern new technologies whose content will change every two to three years as necessary.

Doc. Number: 300.1

## Quality Standards and Indicators

### External Evaluation of a Program of Study

Institution: .....

Program of Study: .....

Duration of the Program of Study: .....

Evaluation Date:.....

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The document describes the quality standards and indicators, which will be applied for the external evaluation of programs of study of institutions of higher education, by the External Evaluation Committee.

**DIRECTIONS:** Note what is applicable for each quality standard/indicator.

1. Poor
2. To an unsatisfactory degree
3. To a satisfactory degree
4. Best practice
5. Excellent

**It is pointed out that, in the case of standards and indicators that cannot be applied due to the status of the institution and/or of the program of study, N/A (= Not Applicable) should be noted and a detailed explanation should be provided on the institution’s corresponding policy regarding the specific quality standard or indicator.**

### Members of the External Evaluation Committee

NAME	TITLE AND RANK	UNIVERSITY / INSTITUTION
Philippe BONNET	Professor	IT University of Copenhagen
Schahram DUSTDAR	Professor	TU Vienna
Yehuda AFEK	Professor	Tel Aviv University

**Date and Time of the On-Site Visit:** March 4<sup>th</sup> 9:30am-3:30pm

**Duration of the On-Site Visit:** 5 hours

1. EFFECTIVENESS OF TEACHING WORK – AVAILABLE RESOURCES						
1.1	Organization of teaching work	1	2	3	4	5
1.1.1	The student admission requirements to the program of study, are based on specific regulations which are adhered to in a consistent manner.				X	
1.1.2	The number of students in each class allows for constructive teaching and communication, and it compares positively to the current international standards and/or practices.				X	
1.1.3	The organization of the educational process safeguards the quality implementation of the program's purpose and objectives and the achievement of the learning outcomes. Particularly, the following are taken into consideration:					
1.1.3.1	The implementation of a specific academic calendar and its timely publication.				X	
1.1.3.2	The disclosure of the program's curricula to the students, and their implementation by the teaching personnel			X		
1.1.3.3	The course web-pages, updated with the relevant supplementary material			X		
1.1.3.4	The procedures for the fulfillment of undergraduate and postgraduate assignments / practical training			X		
1.1.3.5	The procedures for the conduct and the format of the examinations and for student assessment			X		
1.1.3.6	The effective provision of information to the students and the enhancement of their participation in the procedures for the improvement of the educational process.			X		
1.1.4	Adequate and modern learning resources, are available to the students, including the following:					
1.1.4.1	facilities			X		
1.1.4.2	Library			X		
1.1.4.3	Infrastructure			X		
1.1.4.4	student welfare				X	

	1.1.4.5	academic mentoring			X		
1.1.5	A policy for regular and effective communication, between the teaching personnel and the students, is applied.					X	
1.1.6	The teaching personnel, for each course, provide timely and effective feedback to the students.					X	
1.1.7	Statutory mechanisms, for the support of students and the communication with the teaching personnel, are effective.					X	
1.1.8	Control mechanisms for student performance are effective.				X		
1.1.9	Support mechanisms for students with problematic academic performance are effective.					X	
1.1.10	Academic mentoring processes are transparent and effective for undergraduate and postgraduate programs and are taken into consideration for the calculation of academic work load.			X			
1.1.11	The program of study applies an effective policy for the prevention and detection of plagiarism.					X	
1.1.12	The program of study provides satisfactory mechanisms for complaint management and for dispute resolution.					X	
<p>See section 1 above</p> <p>There are about 60% of international students. We met students from Nigeria, Bangladesh and Cyprus. The program is budgeted for 20 students, which is also the maximum capacity. The Cypriot students told us that there are currently 6 students in the first year.</p>							
<b>1.2</b>	<b>Teaching</b>		<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>
1.2.1	The methodology utilized in each course is suitable for achieving the course's purpose and objectives and those of the individual modules.				X		
1.2.2	The methodology of each course is suitable for adults.				X		
1.2.3	Continuous-formative assessment and feedback are provided to the students regularly.				X		
1.2.4	The assessment system and criteria regarding student course performance, are clear, adequate, and known to the students.					X	
1.2.5	Educational activities which encourage students' active			X			

	participation in the learning process, are implemented.					
1.2.6	Teaching incorporates the use of modern educational technologies that are consistent with international standards, including a platform for the electronic support of learning.			X		
1.2.7	Teaching materials (books, manuals, journals, databases, and teaching notes) meet the requirements set by the methodology of the program's individual courses, and are updated regularly.		X			
See Section 1 above.						
<b>1.3</b>	<b>Teaching Personnel</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>
1.3.1	The number of full-time academic personnel, occupied exclusively at the institution, and their fields of expertise, adequately support the program of study.			X		
1.3.2	The members of teaching personnel for each course have the relevant formal and fundamental qualifications for teaching the course, as described by the legislation, including the following:					
1.3.2.1	Subject specialization, preferably with a doctorate, in the discipline.			X		
1.3.2.2	Publications within the discipline.		X			
1.3.3	The specializations of Visiting Professors adequately support the program of study.					
1.3.4	Special Teaching Personnel and Special Scientists have the necessary qualifications, adequate work experience and specialization to teach a limited number of courses in the program of study.					
1.3.5	In every program of study the Special Teaching Personnel does not exceed 30% of the Teaching Research Personnel.					
1.3.6	The teaching personnel of each private institution of tertiary education, to a percentage of at least 70%, has recognized academic qualification, by one level higher than that of the program of study in which he/she teaches.					

1.3.7	In the program of study, the ratio of the number of courses taught by full-time personnel, occupied exclusively at the institution, to the number of courses taught by part-time personnel, ensures the quality of the program of study.			X		
1.3.8	The ratio of the number of students to the total number of teaching personnel is adequate for the support and safeguarding of the program's quality.			X		
1.3.9	The academic personnel's teaching load does not limit the conduct of research, writing, and contribution to the society.					
1.3.10	Future redundancies / retirements, expected recruitment and promotions of academic personnel safeguard the unimpeded implementation of the program of study within a five-year span.			X		
1.3.11	The program's Coordinator has the qualifications and experience to efficiently coordinate the program of study.			X		
<p>1.3.3-1.3.6 is not applicable because there are no Special Teaching Personnel. 1.3.9 is not applicable due to the vocational nature of the program.</p>						

<b>2. PROGRAM OF STUDY AND HIGHER EDUCATION QUALIFICATIONS</b>						
<b>2.1</b>	<b>Purpose and Objectives and learning outcomes of the Program of Study</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>
2.1.1	The purpose and objectives of the program of study are formulated in terms of expected learning outcomes and are consistent with the mission and the strategy of the institution.				X	
2.1.2	The purpose and objectives of the program and the learning outcomes are utilized as a guide for the design of the program of study.				X	
2.1.3	The higher education qualification and the program of study conform to the provisions of their corresponding Professional and Vocational Bodies for the purpose of registration to these bodies.			X		
2.1.4	The program's content, the methods of assessment, the teaching materials and the equipment, lead to the achievement of the program's purpose and objectives and ensure the expected learning outcomes.		X			
2.1.5	The expected learning outcomes of the program are known to the students and to the members of the academic and teaching personnel.			X		
2.1.6	The learning process is properly designed to achieve the expected learning outcomes.			X		
2.1.7	The higher education qualification awarded to the students, corresponds to the purpose and objectives and the learning outcomes of the program.			X		
See Section 2 above.						

2.2	Structure and Content of the Program of Study	1	2	3	4	5
2.2.1	The course curricula clearly define the expected learning outcomes, the content, the teaching and learning approaches and the method of assessing student performance.			X		
2.2.2	The European Credit Transfer System (ECTS) is applied and there is true correspondence between credits and workload per course and per semester for the student either he / she studies in a specific program or he/she is registered and studies simultaneously in additional programs of studies according to the European practice in higher education institutions.			X		
2.2.3	The program of study is structured in a consistent manner and in sequence, so that concepts operating as preconditions precede the teaching of other, more complex and cognitively more demanding, concepts.			X		
2.2.4	The higher education qualification awarded, the learning outcomes and the content of the program are consistent.				X	
2.2.5	The program, in addition to the courses focusing on the specific discipline, includes an adequate number of general education courses.			X		
2.2.6	The content of courses and modules, and the corresponding educational activities are suitable for achieving the desired learning outcomes with regards to the knowledge, skills, and abilities which should be acquired by students.			X		
2.2.7	The number and the content of the program's courses are sufficient for the achievement of learning outcomes.		X			
2.2.8	The content of the program's courses reflects the latest achievements / developments in science, arts, research and technology.		X			
2.2.9	Flexible options / adaptable to the personal needs or to the needs of students with special needs, are provided.			X		
See Section 2 above.						

2.3	Quality Assurance of the Program of Study		1	2	3	4	5
2.3.1	The arrangements regarding the program's quality assurance define clear competencies and procedures.				X		
2.3.2	Participation in the processes of the system of quality assurance of the program, is ensured for						
	2.3.2.1	the members of the academic personnel			X		
	2.3.2.2	the members of the administrative personnel			X		
	2.3.2.3	the students.			X		
2.3.3	The guide and / or the regulations for quality assurance, provide detailed information and data for the support and management of the program of study.				X		
2.3.4	The quality assurance process constitutes an academic process and it is not restricted by non-academic factors.				X		
See Section 2 above.							
2.4	Management of the Program of Study		1	2	3	4	5
2.4.1	Effective management of the program of study with regard to its design, its approval, its monitoring and its review, is in place.				X		
2.4.2	It is ensured that learning outcomes may be achieved within the specified timeframe.				X		
2.4.3	It is ensured that the program's management and development process is an academic process which operates without any non-academic interventions.			X			
2.4.4	The academic hierarchy of the institution, (Rector, Vice-Rectors, Deans, Chairs and Programs' Coordinators, academic personnel) have the sole responsibility for academic excellence and the development of the programs of study.			X			
2.4.5	Information relating to the program of study are posted publicly and include:						
	2.4.5.1	The provisions regarding unit credits			X		
	2.4.5.2	The expected learning outcomes			X		
	2.4.5.3	The methodology			X		

	2.4.5.4	Course descriptions			x		
	2.4.5.5	The program's structure			x		
	2.4.5.6	The admission requirements				x	
	2.4.5.7	The format and the procedures for student assessment			x		
2.4.6	The award of the higher education qualification is accompanied by the Diploma Supplement which is in line with the European and international standards.					x	
2.4.7	The effectiveness of the program's evaluation mechanism, by the students, is ensured.				x		
2.4.8	The recognition and transfer of credit units from previous studies is regulated by procedures and regulations which ensure that the majority of credit units is awarded by the institution which awards the higher education qualification.				x		
See Section 2 above.							
<b>2.5</b>	<b>International Dimension of the Program of Study</b>		<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>
2.5.1	The program's collaborations with other institutions are compared positively with corresponding collaborations of other departments / programs of study in Europe and internationally.			x			
2.5.2	The program attracts Visiting professors of recognized academic standing.		x				
2.5.3	Students participate in exchange programs.			x			
2.5.4	The academic profile of the program of study is compatible with corresponding programs of study in Cyprus and internationally.			x			
<b>2.6</b>	<b>Connection with the labor market and the society</b>		<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>
2.6.1	The procedures applied, so that the program conforms to the scientific and professional activities of the graduates, are adequate and effective.				x		
2.6.2	According to the feasibility study, indicators for the employability of graduates are satisfactory.				x		

2.6.3	Benefits, for the society, deriving from the program are significant.	X			
See Section 2 above.					

<b>3. RESEARCH WORK AND SYNERGIES WITH TEACHING</b>						
<b>3.1</b>	<b>Research - Teaching Synergies</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>
3.1.1	It is ensured that teaching and learning have been adequately enlightened by research.					
3.1.2	New research results are embodied in the content of the program of study.					
3.1.3	Adequate and sufficient facilities and equipment are provided to support the research component of the program of study, which are available and accessible to the personnel and the students.					
3.1.4	The results of the academic personnel's research activity are published in international journals with the peer-reviewing system, in international conferences, conference minutes, publications etc.					
3.1.5	External, non-governmental, funding for the academic personnel's research activities, is compared positively to the funding of other institutions in Cyprus and abroad.					
3.1.6	Internal funding, of the academic personnel's research activities, is compared positively to the funding of other institutions in Cyprus and abroad.					
3.1.7	The policy for, indirect or direct, internal funding of the academic personnel's research activity is satisfactory.					
3.1.8	The participation of students, academic, teaching and administrative personnel of the program in research activities and projects is satisfactory.					
3.1.9	Student training in the research process is sufficient.					
3.1.1-3.1.9 are not applicable. See Section 3 above.						

#### 4. ADMINISTRATION SERVICES, STUDENT WELFARE AND SUPPORT OF TEACHING WORK

4.1	Administrative Mechanisms	1	2	3	4	5
4.1.1	There is a Student Welfare Service that supports students with regards to academic and personal problems and difficulties.				x	
4.1.2	Statutory administrative mechanisms for monitoring and supporting students are sufficient.			x		
4.1.3	The efficiency of these mechanisms is assessed on the basis of specific criteria.			x		
See Section 4 above.						
4.2	Infrastructure / Support	1	2	3	4	5
4.2.1	There are suitable books and reputable journals supporting the program.			x		
4.2.2	There is a supportive internal communication platform.				x	
4.2.3	The facilities are adequate in number and size.			x		
4.2.4	The equipment used in teaching and learning (laboratory and electronic equipment, consumables etc) are quantitatively and qualitatively adequate.			x		
4.2.5	Teaching materials (books, manuals, scientific journals, databases) are adequate and accessible to students.			x		
4.2.6	Teaching materials (books, manuals, scientific journals, databases) are updated regularly with the most recent publications.		x			
4.2.7	The teaching personnel are provided with training opportunities in teaching method, in adult education, and in new technologies on the basis of a structured learning framework.		x			
See Section 4 above.						

		1	2	3	4	5
<b>4.3</b>	<b>Financial Resources</b>					
4.3.1	The management and allocation of the financial resources of the program of study, allow for the development of the program and of the academic / teaching personnel.			x		
4.3.2	The allocation of financial resources as regards to academic matters, is the responsibility of the relevant academic departments.		x			
4.3.3	The remuneration of academic and other personnel is analogous to the remuneration of academic and other personnel of the respective institutions in Cyprus.					
4.3.4	Student tuition and fees are consistent to the tuition and fees of other respective institutions.			x		
4.3.3. is not applicable as we do not know about the salary of College teachers in Cyprus.						

**The following criterion applies additionally for distance learning programs of study.**

<b>5.</b>	<b>DISTANCE LEARNING PROGRAMS</b>	1	2	3	4	5
5.1	Feedback processes for teaching personnel with regards to the evaluation of their teaching work, by the students, are satisfactory.					
5.2	The process and the conditions for the recruitment of academic / teaching personnel, ensure that candidates have the necessary skills and experience for long distance					

	education.						
5.3	Through established procedures, appropriate training, guidance and support, are provided to teaching personnel, to enable it to efficiently support the educational process.						
5.4	Student performance monitoring mechanisms are satisfactory.						
5.5	Adequate mentoring by the teaching personnel, is provided to students, through established procedures.						
5.6	The unimpeded long distance communication between the teaching personnel and the students, is ensured to a satisfactory degree.						
5.7	Assessment consistency, its equivalent application to all students, and the compliance with predefined procedures, are ensured.						
5.8	Teaching materials (books, manuals, scientific journals, databases) comply with the requirements provided by the long distance education methodology and are updated regularly.						
5.9	The program of study has the appropriate and adequate infrastructure for the support of learning.						
5.10	The supporting infrastructures are easily accessible.						
5.11	Students are informed and trained with regards to the available educational infrastructure.						
5.12	The procedures for systematic control and improvement of the supportive services are regular and effective.						
5.13	Infrastructure for distance education is comparable to university infrastructure in the European Union and internationally.						
5.14	Electronic library services are provided according to international practice in order to support the needs of the students and of the teaching personnel.						
5.15	The students and the teaching personnel have access to the necessary electronic sources of information, relevant to the program, the level, and the method of teaching.						
5.16	The percentage of teaching personnel who holds a doctorate, in a program of study which is offered long distance, is not less than 75%.						

Not applicable.

**The following criterion applies additionally for doctoral programs of study.**

6.	DOCTORAL PROGRAMS OF STUDY	1	2	3	4	5
6.1	The provision of quality doctoral studies is ensured through Doctoral Studies Regulations.					
6.2	The structure and the content of a doctoral program of study are satisfactory and they ensure the quality provision of doctoral studies.					
6.3	The number of academic personnel, which is going to support the doctoral program of study, is adequate.					
6.4	The doctoral studies' supervisors have the necessary academic qualifications and experience for the supervision of the specific dissertations.					
6.5	The degree of accessibility of all interested parties to the Doctoral Studies Regulations is satisfactory.					
6.6	The number of doctoral students, under the supervision of a member of the academic personnel, is apt for the continuous and effective feedback provided to the students and it complies with the European and international standards.					
6.7	The research interests of academic advisors and supervisors are satisfactory and they adequately cover the thematic areas of research conducted by the doctoral students of the program.					
Not applicable.						



## FINAL REMARKS – SUGGESTIONS

Following our report and visit where we have carefully read the documents that have been given to us, and discussed at great detail the status with the staff of the CDA College, the academic staff, management, administration and students. In addition, we toured the facilities, class rooms and cafeteria.

Clearly the CDA team made a very careful job in preparing the documents and meetings. The CDA team have discussed with us their situation in a very sincere and productive way. We found the atmosphere among the staff members to be very good, open, and collaborative.

While the presented program does not have significant weaknesses, a number of modifications might be beneficial and must be implemented in order for the program to maintain its quality.

**Program and syllabi update.** On the one hand there is too much math courses (3) for this diploma program, and on the other hand there are some critical courses that should be added to the curriculum. One basic math and statistic math course should be enough, more than that is not absorbed by the students of this program. Courses that should be added or updated in place of the extra math courses (or not in place) are introduction to Machine Learning and cloud services/computing, and modern developments in computer science. In a year or two there could be yet newer technologies that it may be necessary to teach (e.g., perhaps Blockchain, cryptocurrency, privacy issues, GDPR, IoT devices, etc.).

**Online methods and material:** teachers should use the internet/web to adopt and use teaching material that is freely available on the internet by superb institutions such as Stanford, Berkeley, and many others. These could be an easy and very effective way for the courses to improve and be up to date.

**General comments** to the Agency of Quality Assurance and Accreditation in Higher Education. First the balance between teaching material content freedom (at CDA) and the level of control and monitoring applied is way too far towards the control. A mechanism by which the content is controlled with some degrees of freedom should be thought and implemented. Teacher should be freer to introduce new materials.

Second, a related point, with computer technology new technologies develop so fast that a five to ten-year turnaround is by far too slow a pace to keep up and update these programs. A second mechanism by which the teaching staff can update and introduce new topics should be designed and implemented. In addition, teachers must participate in seminars and professional conferences to absorb the new developments. Perhaps in some more advance courses (2<sup>nd</sup> year) allow teachers to update and change 15% of the material (2 week worth of material) and in addition have one course on modern new technologies whose content will change every two to three years as necessary.

**Names and Signatures of the Chair and the Members of the External Evaluation Committee:**

Name:	Signature:
Philippe BONNET	
Schahram DUSTDAR	
Yehuda Afek	
Nikolas MIKKANOS	

Date: 7/3/2019