CAN THO UNIVERSITY

SELF-ASSESSMENT REPORT FOR AUN-QA

ASEAN University Network

BACHELOR OF INFORMATION TECHNOLOGY

COLLEGE OF INFORMATION AND COMMUNICATION TECHNOLOGY

2018

Department of Information Technology

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LIST OF ABBREVIATIONS

No	Abbreviation	Full text
1	ACM	Asscocication for Computing Machinery
2	BEIT	Bachelor of Engineering in Information Technology
3	CICT	College of Information and Communication Technology
4	CLOs	Course learning outcomes
5	CTU	Can Tho University
6	DoIT	Department of Information Technology
7	ELOs	Expected Learning Outcomes
8	FTE	full-time-equivalent
9	GIS	Geographic Information Systems
10	GPA	Grade point average
11	HoD	Head of Department
12	ICT	Information and Communication Technology
13	IFI	French Institute of Informatics
14	IRD	Research & Development
15	IT	Information Technology
16	LRC	Learning Resource Center
17	MOET	Ministry of Education and Training
18	MOU	Memorandum Of Understanding
19	NCTU	National Chiao Tung University
20	PO	Program Objective
21	QA	Quality Assurance
22	QAT	Quality Assurance Team
23	QATC	Quality Assurance and Testing Center

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PART 1: INTRODUCTION

1 Can Tho University

Located in the heart of the Mekong Delta in Viet Nam, the Institution of Can Tho (*Vien Dai hoc Can Tho*) was established on March 31, 1966. In its early years, the Institution of Can Tho offered education and training in sciences, law, social sciences, literature, teacher education, and agriculture. After 1975, it was renamed as Can Tho University (CTU) and provided education and training mainly on teacher education and agriculture sectors such as crops production and animal husbandry, and mechanical engineering.

Can Tho University has now become a multi-disciplinary university and a key university in Vietnam, offering 02 college (*cao dang*) programs, 97 university programs, 43 master programs, and 16 doctoral programs (as of June 2017).

The organizational structure of CTU is shown in Figure 0.1.

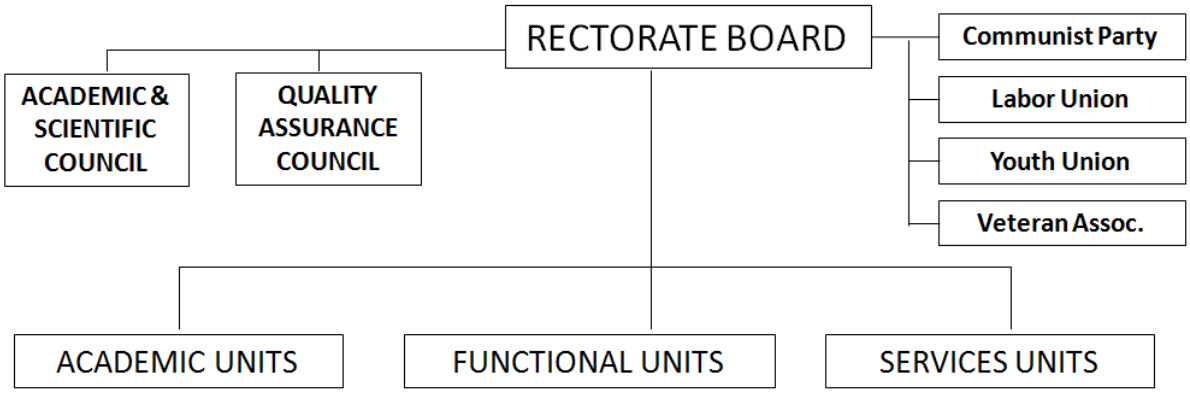


Figure 0.1: The organizational structure of CTU

CTU has set the mission, vision, and core values as follows.

1.1 Mission

The Mission of CTU is to operate its resources to be the leading national institution for education, research and technology transfer, making significant contributions to the development of high quality human resources, fostering the talents and the advancement of science and technology to cater for the regional and national socio-economic development. CTU is the crucial driving force for the development of the Mekong Delta.

1.2 Vision

The Vision of CTU is becoming one of the leading higher education institutions in Vietnam and recognized as one of the top universities in Asia-Pacific in training and research in 2022.

1.3 Core values

The Core values of CTU are Consensus, Devotion, Quality, and Innovation.

[Exh.Intro.01: Decision 1086/QĐ-ĐHCT dated 17/4/2014 on Regulation of Quality Assurance Activities of Can Tho University]

2 College of Information and Communication Technology

The College of Information & Communication Technology (CICT) was established in 1994 on the basis of the Center for Informatics and Electronics. From its inception, CICT was one of the seven key Information & Communication Technology (ICT) faculties in Vietnam and has received considerable assistance thanks to programs and projects such as the National Target Program on Information Technology and the Capacity Building Project in undergraduate and postgraduate training.

2.1 Mission

The main mission of CICT is to offer undergraduate and postgraduate programs and to participate in scientific research and technology transfer in the field of ICT.

2.2 Vision

The vision of CICT towards the year 2020 is to become a well-known ICT research and education institution in Vietnam, which plays a core role in ICT research, education and technology transfer in the Mekong Delta and the Southern Region, and reaches the training standards of the advanced universities in the world.

2.3 Activities

2.3.1 Training activities

The CICT offers educational programs leading to a number of different degrees within various fields and levels as shown in Table 0.1. The number of students per each training level is shown in Table 0.2.

Table 0.1: The number of different degrees within various fields and levels

No	Program levels	Number	Names
1	Doctoral	01	Information Systems
2	Master	02	Information Systems, Computer Science
3	Undergraduate (Bachelor of Engineering)	05	Information Systems, Computer Science, Software Engineering, Communications and Computer Networks, Information Technology

Table 0.2: The number of students per each training level at CICT (as of June 2017)

No	Program levels	Number of students
1	Doctoral	06
2	Master	130
3	Undergraduate (Bachelor of Engineering)	2,501

2.3.2 Research activities

The CICT conducts effective scientific research and education cooperation with multiple partners such as University of Nantes, University of La Rochelle (France), the French Institute for Research & Development (IRD), the French Institute of Informatics (IFI, based in Hanoi), the University of Kemi-Tornio (Finland), etc. Various research projects have been successfully executed. Efforts are made to increase CICT's training scale, to improve the quality of its academic staff, to upgrade the facilities, and to search for more collaboration opportunities.

CICT cooperates with various ICT industrial partners in training ICT professional skills for students and developing ICT products. We also have in-depth cooperation with many provinces and cities in Vietnam in applying ICT in production and daily life, and transferring ICT technology.

The research strengths of CICT include: E-learning and distance education, Geographic Information Systems (GIS), Data mining and pattern recognition, Modeling and simulation, Big data and cloud computing, Network and system security, Mobile communications, to name a few.

2.4 Organizational structure

As of June 2017, the total number of staff is 94 (73 lecturers) with 23 PhD holders (4 associate professors), and 46 masters. The CICT consists of 06 academic departments and 02 supporting units as shown in Figure 0.2.

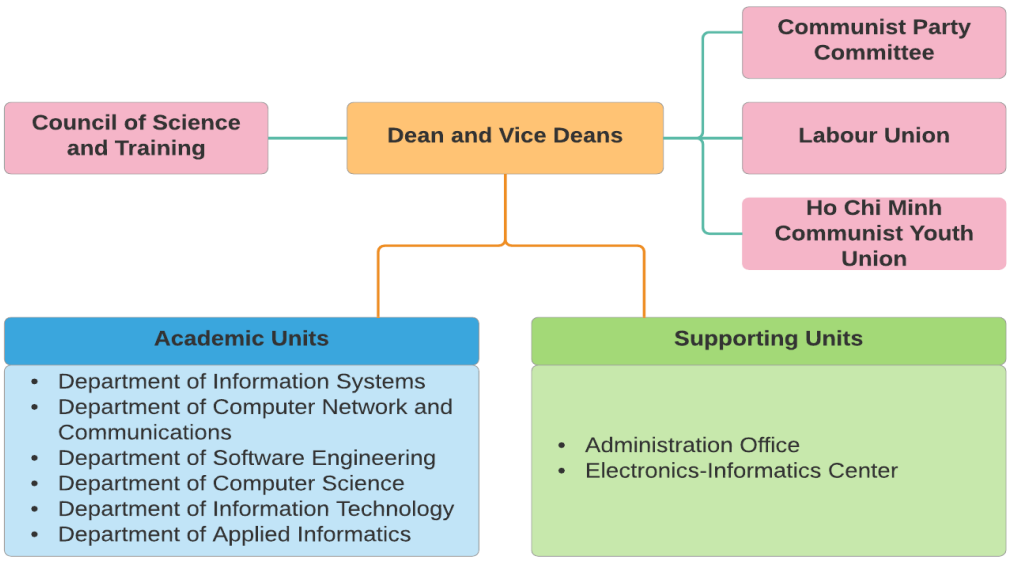


Figure 0.2: Organization of CICT

The functions and tasks of the units in CICT are described as following.

Department of Information Systems: Offers the undergraduate training program in Information Systems and doing research on fundamental issues in the field of information systems such as developing high quality information management systems and management systems for distance learning.

Department of Computer Network and Communications: Offers the undergraduate training program in Computer System and Communication; conducts scientific research and technology transfer in the fields of computer system, networking, and distributed systems, network security, network administration, distributed application programming, distributed system security and distributed database.

Department of Software Engineering: Offers the undergraduate training program in Software Engineering; conducts scientific research and technology transfer in the areas related to software engineering to meet the needs of human resources and the development trend of the industry.

Department of Computer Science: Offers the undergraduate training program in Computer Science; conducts scientific research and technology transfer in the fields of knowledge discovery and data mining, image and multimedia data searching, and modeling and simulation

Department of Information Technology: Offers the undergraduate training program in Information Technology; conducts scientific research and technology transfer in the fields of network security, multimedia data indexing and search, GIS and mobile information systems.

Department of Applied Informatics: Offers the undergraduate training program in Information Technology specialized in Applied Informatics; conducts scientific research and technology transfer in the fields of applied informatics, information systems, data warehousing, decision support system, machine learning, data protection and information security, simulation modeling and analysis, and satellite image processing.

Administration Office: Functions as a consultancy and assisting agency for the College's Management Board in the organization and management of administrative-related affairs, human resource, academic affairs, finance, properties, equipment, facilities, training, research activities, and international relations.

Electronics-Informatics Center: Responsible for the activities of trading and services, training, software development, technology consulting and transfer in the areas of electronics and informatics.

3 Department of Information Technology

The Department of Information Technology (DoIT) was established on September 16th 2013 with 09 lecturers. Among these 09 lecturers are 04 Doctor Degree holders, 03 Master degree holders, 01 PhD student from National Chiao Tung University (NCTU) – Taiwan, 01 PhD student from Victoria University of Wellington – New Zealand.

Armed with such highly qualified lecturers, DoIT is in charge of managing 02 Bachelor of engineering study programs in Information Technology (01 Bachelor of engineering study program in Information Technology taught in Vietnamese, 01 high-quality Bachelor of engineering study program in Information Technology taught in English); participating in the training activities of the postgraduate programs in CICT in the fields of computing and information technology; conducting research; cooperating, supporting, consulting and technology transferring in the field of information technology with partners in the Mekong Delta and the Southern Region of Vietnam.

DoIT's main objective towards the year 2020 is to become a strong department in education, scientific research and technology transfer in Vietnam as well as the Southeast Asia.

4 The brief overview of the Engineering in Information Technology (BEIT) program

Table 0.3: Brief overview of the BEIT program

Program name	Information Technology
Administration unit	College of Information and Communication Technology
Award	Bachelor of Engineering in Information Technology
Opening year	School year 2010-2011
Mode of training	Full-time, Regular
Training time	4.5 years (maximum 9 years)
Eligibility for graduation	Students must complete 155 credits, including 116 compulsory credits and 39 elective credits

The program commenced in academic year 2010-2011 with annual intake of about 50 - 190 students. From intake no.36 to no.39, to be eligible for graduation, students had to complete 120 credits within 3.5 - 4 years and could extend up to 8 years. However, since the intake no.40, new regulation on graduation eligibility has been applied. Accordingly, to be eligible for graduation, students must complete 155 credits.

5 Quality Assurance and Curriculum Self-Assessment

5.1 At the University level

Quality Assurance activities began in 2003. CTU and CICT fulfill a Mission and Vision, so it is necessary to establish an Internal Quality Assurance system at 2 levels. Official documents on the establishment of a quality assurance system include:

- CTU Rector's Decision No. 384/QĐ-ĐHCT, April 12th 2006 about setting up the Quality Assurance and Testing Center (QATC);
- CTU Rector's Decision No. 42/QĐ/ĐBCL-ĐHCT, October 8th 2008 for full autonomous power in Quality Assurance (QA) activities at college level;
- CTU Rector's Decision No. 892/QĐ/ĐBCL-ĐHCT, March 28th 2012 for use of an Internal Quality Assurance System of AUN Model at college/school level;
- CTU Rector's Decision No.192/QĐ/ĐHCT, January 26th 2015 for conducting internal assessment of learning program and self-assessment team including Self-assessment Committee Members of SA Team, Members of SA Consultant Group, Internal Audit Group, Members of Secretary Group, PAP and SAR);
- Letter of CE's QA Director No.69, December 08th 2014 for self-assessment confirmation based on AUN-QA standards and committing an assessment team in 2015.

5.2 At the College level

The College of Information & Communication Technology has paid much attention to improving and developing the quality of education and training programs towards the national standards and the trend toward regional as well as international integration. Hence, the Quality Assurance Team (QAT) of CICT has established processes in order to check and evaluate the quality of education and training programs regularly; and to take responsibility for long-term quality and effective operation.

The QAT of CICT, founded in 2008, is a unit of the QATC of CTU and responsible for QA activities such as course assessment, teaching diary evaluation, and curriculum self-assessment.

The QAT sets the schedule and assigns groups to gather evidence, analyzes data and reports the results. For smooth and effective collaboration, the QAT conducts specific tasks to each staff to help and support the process of collecting evidence and investigating data. Based on the reports from other departments, the QAT evaluates the result and builds the reports.

6 Executive Summary of the Self-Assessment of the Information Technology Program

The Scheme 1524/KH-ĐHCT-ĐBCL&KT on implementing AUN-QA assessment for the Bachelor study program in Information Technology and the Bachelor study program in International Business was approved by CTU's Rector on June 9th 2017, and then CTU issued Decision 2331/QĐ-ĐHCT on July 4th 2017 regarding the establishment the Self-assessment Council, the Secretary Committee, and the Self-assessment Team for the BEIT program.

To formulate this SAR, the Self-assessment Team collects the information and evidence from the documents stored at CTU, CICT, and the DoIT. In addition, the Team collects evidence through interviews, discussions in seminars/workshops and conferences. The Team members then analyze and evaluate the data and evidence, meet to discuss and comment in writing and building up the SAR for BEIT.

Table 0.4: The Self-assessment Team for BEIT

No	Staff ID	Name	Title/Unit	Roles
1	1229	Pham The Phi	Head of Department. (HoD) (DoIT)	Leader
2	1943	Lam Nhut Khang	Lecturer (DoIT)	Secretary
3	0520	Truong Minh Thai	Deputy Head of Department of Software Engineering	Member
4	1533	Tran Cong An	Deputy HoD (DoIT)	Member
5	2742	Nguyen Ngoc My	Lecturer (DoIT)	Member

PART 2: AUN-QA CRITERIA

1 Expected learning outcomes

1.1 The expected learning outcomes have been clearly formulated and aligned with the vision and mission of the university

Based on Vietnam's law on higher education, CTU has developed its missions as in Table 1.1. The BEIT has its objectives aligned with CTU's mission and CICT's mission and vision as illustrated in Table 1.2. In addition, the BEIT program's expected learning outcomes (ELOs) are listed in Table 1.3. The general objectives of the BEIT program are to educate students to become high-quality Information Technology (IT) engineers with good health, ethical behavior, solid knowledge and fluent skills to be able to utilize IT products and solutions, to take on appropriate professional positions in IT and grow into leadership positions or pursue research or graduate studies in the field. Specifically, the BEIT program's gradutes are expected to:

- PO1: Have good health and ethical behavior.
- PO2: Have solid knowledge and state-of-the-art IT solutions.
- PO3: Have fundamental knowledge of mathematics, science and technology appropriate to the discipline.
- PO4: Explain and apply appropriate fundamental knowledge and information technologies to employ appropriate methodologies to help an individual or organization achieve its goals and objectives.
- PO5: Have an ability to communicate in English or French, read and comprehend documents written in English or French.

Table 1.1: The alignment between CTU's mission and the Vietnam higher education regulations

Vietnam higher education regulations	CTU's mission
- To train human resources, raise the people's intellectual level and foster talents; To conduct scientific research and technology to create new knowledge and products in service of socio-economic development, national defense and security and international integration; - To train learners of political and moral qualities; have knowledge, professional practice skills, research and development capacity to apply science and technology commensurate with the level of training; to have a healthy body; creativity and professional responsibility, adapt to the working environment; have a sense of serving the people.	- To operate its resources to be the leading national institution for education, research and technology transfer. - To make significant contributions to the development of high quality human resources, fostering the talents and the advancement of science and technology to cater for the regional and national socio-economic development. - To be the crucial driving force for the development of the Mekong Delta region.

Table 1.2: The alignment between CTU's mission, CICT's mission and vision and BEIT's program objectives

CTU's mission	CICT's mission and vision	BEIT's POs
To operate its resources to be the leading national institution for education, research and technology transfer	The main mission of CICT is to offer undergraduate and postgraduate programs and to participate in scientific research and technology transfer in the field of ICT.	– PO1: Have good health and ethical behavior. – PO2: Have solid knowledge and state-of-the-art IT solutions. – PO3: Have fundamental knowledge of mathematics, science and technology appropriate to the discipline.
To make significant contributions to the development of high quality human resources, fostering the talents and the advancement of science and technology to cater for the regional and national socio-economic development.	The vision of CICT towards the year 2020 is to become a well-known ICT research and education institution in Vietnam, which plays a core role in ICT research, education and technology transfer in the Mekong Delta and the Southern Region, and reaches the training standards of the advanced universities in the world.	– PO4: Explain and apply appropriate fundamental knowledge and information technologies to employ appropriate methodologies to help an individual or organization achieve its goals and objectives. – PO5: Have an ability to communicate in English or French, read and comprehend documents written in English or French
To be the crucial driving force for the development of the Mekong Delta region		

Table 1.3: The BEIT's ELOs

Group	ELOs
Knowledge	
General knowledge	ELO 1: Have good health and politial point of view toward the policies and guidelines to build and defense the country. ELO 2: Have fundamental knowledge of general law, social science and humanities, natural science to be able to acquire further professional knowledge. ELO 3: Have basic English/French. ELO 4: Have advanced knowledge of computer and essential softwares.
Fundamental knowledge	ELO 5: Apply knowledge of computing and mathematics appropriate to the discipline. ELO 6: Have essential knowledge of IT fundamentals, computer architecture, operating systems and current common computer operating systems.

Group	ELOs
	ELO 7: Have fundamental knowledge of databases and database management systems, information system for organizations for bussinesses, system analysis and design. ELO 8: Have fundamental knowledge of data structure, algorithm, structured and object-oriented programming ELO 9: Have essential knowledge of software engineering. ELO 10: Have fundamental knowledge of computer networks.
Specialized knowledge	ELO 11: Have knowledge of integrative programming and technologies. ELO 12: Have essential knowledge of IT system administration and maintenance for an individual or an organization. ELO 13: Have essential knowledge of information assurance and security. ELO 14: Have essential knowledge of current IT solutions and products.
Skills	
Hard skills	ELO 15: Apply knowledge of mathematics and other basic science appropriate to the discipline. ELO 16: Utilize the computer for study, work as well as daily life and develop basic applied informatics application. ELO 17: Administer the IT system in an organization or business. ELO 18: Advise organizations and business on selecting appropriate IT products and solutions. ELO 19: Anticipate the changing direction of IT, evaluate and communicate the likely utility of new technologies to an individual or organization. ELO 20: Program in various software development frameworks and methodologies. ELO 21: Administer various IT systems.
Soft skills	ELO 22: Achieve English/French level B1. ELO 23: Write technical documents, academic articles or project proposals and demonstrations. ELO 24: Work as part of a team, to lead a team, to negotiate, to resolve conflicts, to use supporting tools for teamwork and collaboration, and to evaluate the contributions of a team member.
Attitude and Perception	ELO 25: Show the confidence, enthusiasm, passion, adaptation to changes, the readiness to work with others and the ability to consider and accept other points of view ELO 26: Be aware of and adhere to professional codes of conduct and standards in and beyond their disciplines. ELO 27: Show a professional image at work and in daily behavior. ELO 28: Actively create personal career development plan. ELO 29: Keep knowledge and professional skills up to date in order to have appropriate and effective attitude to and execution of the processing of the changes and updates.

The BEIT program's ELOs are designed to systematically cover three domains of Bloom taxonomy (knowledge, skills and attitudes) at higher order thinking levels. These ELOs cover general as well as specialized knowledge, skills as well as attitudes *[Exh.1.1-01: Program specification; POs, ELOs; curriculum; correlation matrix; sample study plan; curriculum mapping]*. The ELOs reflect program objectives. The alignment between BEIT program's POs and ELOs is illustrated in Table 1.4.

Table 1.4: The alignment between BEIT program's POs and ELOs

POs	ELOs
PO1: Have good health and ethical behavior.	ELOs 1, 2, 25, 26, 27, 28, 29
PO2: Have solid knowledge and state-of-the-art IT solutions.	ELOs 4, 10, 11, 12, 13, 14, 16, 17, 18, 20, 21, 29
PO3: Have fundamental knowledge of mathematics, science and technology appropriate to the discipline.	ELOs 2, 5, 6, 7, 8, 9, 10, 15, 19, 23, 24, 29
PO4: Explain and apply appropriate fundamental knowledge and information technologies to employ appropriate methodologies to help an individual or organization achieve its goals and objectives.	ELOs 4, 11, 12, 13, 14, 16, 17, 18, 19, 20, 21, 23, 24, 28, 29
PO5: Have an ability to communicate in English or French, read and comprehend documents written in English or French.	ELOs 3, 22, 23, 24, 25, 27, 29

The BEIT program's ELOs were formulated according to the following process:

- CTU established CICT's Council of Science and Training [*Exh.1.1-02: The CTU's decision to form CICT's Council of Science and Training*] and BEIT Program Committe *[Exh.1.1-03: CTU's decision to establish the stearing board, the secretary group and the BEIT program adjustment group]*. The BEIT Program Committee, under the supervision of the Council of Science and Training and with the consultation of the education management experts and the lecturers, designed the BEIT program's POs, ELOs and curriculum.
- The BEIT Program Committee has referred to Asscocication for Computing Machinery ACM IT program recommendations *[Exh.1.1-04: ACM IT program recommendations]* and the suggestions from CICT's lecturers during the process of design and update BEIT program *[Exh.1.1-05: Minutes of the meetings for BEIT program improvement]*.
- The BEIT Program Committee has collected feedback from the program graduates to improve the program *[Exh.1.1-06: The feedback from program]*.
- The BEIT Program Committee as refer to several legal documents and international accredited Bachelor of IT programs to design BEIT program *[Exh.1.1-07: References]*.
- The ELOs have been published on CTU's website *[Exh.1.1-08: Webpage https://www.ctu.edu.vn/program.php?mn=5&pr=dh]*.

1.2 The expected learning outcomes cover both subject specific and generic (i.e. transferable) learning outcomes

The BEIT program's ELOs cover both general, core and advanced knowledge, general and professional skills as shown in Table 1.3 and *[Exh.1.1-01]*.

The general knowledge includes mathematics, political and social issues and IT fundamentals. The core knowledge includes programming fundamentals, computing platforms, fundamentals of networking, fundamentals of web systems, fundamentals of information

management, and fundamentals of human-computer interaction. The advanced knowledge includes system administration and maintenance, integrative programming, and information assurance and security.

In terms of the general skills, students are expeted to achieve English/French level B1; to write technical documents, academic articles or project proposals and demonstrations; to work as part of a team, to lead a team, to negotiate, to resolve conflicts, to use supporting tools for teamwork and collaboration, and to evaluate the contributions of a team member. The professional skills expect students to apply knowledge of mathematics and other basic science appropriate to the discipline; to utilize the computer for study, work as well as daily life and develop basic applied informatics application; to administer the IT system in an organization or business; to advise organizations and business on selecting appropriate IT products and solutions; to anticipate the changing direction of IT, evaluate and communicate the likely utility of new technologies to an individual or organization; to program in various software development frameworks and methodologies; and to administer various IT systems.

1.3 The expected learning outcomes clearly reflect the requirements of the stakeholders

The feedback from employers toward BEIT program's ELOs has been regularly collected at opening ceremonies of the school year, commencement ceremonies, the job fair, knowledge discovery days. As regulated, after the minimum of two years these feedbacks together with the changing demands from the labor market can be the indication to update BEIT program *[Exh.1.3-01: Circular 07/2015/TT-BGDĐT]*. As the result, the national and international companies and enterprises highly appreciate the knowledge, professional skills as well as the attitude that BEIT graduates show *[Exh.1.3-02: Feedback from employers]*.

The feedback from lecturers in CICT has been collected to improve the program in general and the ELOs in particular *[Exh.1.1-05]*. CICT's lecturers and deparment's heads mainly required the program to increase the number of credits for each course to cover more general and professional skills, to assign the management of each course to a specific department which has specialists in the field who can help student achieve the course learning outcomes (CLOs), and to ensure that all general and fundamental courses should be shared among CICT's major programs to allow for student's readiness for changes in the IT field and their life-long study. The current BEIT program was designed to meet these requirements.

The feedback from CICT's graduates has been collected and analyzed *[Exh.1.1-06]*. CICT's graduates mainly suggested the college to increase the number of credits for each course focusing on the practical issues such as projects, group assignment, and field study. English skill improvement was also requested. As the result, BEIT's ELOs were adjusted to meet these requirements. In each course, CLOs were adjusted. This leads to the fact that the numbers of theory and practice hours are balanced, more assigments and projects are introduced and more English/French credits are added

2 Program Specification

2.1 The information in the programme specification is comprehensive and up-to-date

The BEIT program is based on the Ministry of Education and Training (MOET)'s regulations and CTU vision. The BEIT program's ELOs are clearly stated in the program. The BEIT program includes 155 credits (116 required credits and 39 optional credits). The program's specification clearly indicates the CTU as a host institution, the Program name, the discipline code, types and duration of training, the College in charge, prospective students,

enrollment criteria, ELOs, and the relevant information. After the approval of CTU, the program specification is made available through different channels: CTU's website *[Exh.1.1-08]*, CICT's website *[Exh.2.1-01: Webpage http://www.cit.ctu.edu.vn/index.php/dao-t-o]*, admission information website *[Exh.2.1-02: Webpage https://tuyensinh.ctu.edu.vn/]*, poster and leaflets delivered on Admission Consultancy Day, Open Day, etc. *[Exh.2.1-03: Poster, leaflet]*

Based on the contributions from faculty members and feedback from companies, enterprises and CICT's graduates, the BEIT program is evaluated and improved every two year in order to be suitable and more adapted to the needs of the labor market. The program has been reviewed regularly (especially in 2012 and 2014). Program improvement is carried out not only internally but also with the involvement of employers and alumni. For further details, please refer to Criteria 10.

2.2 The information in the course specification is comprehensive and up-to-date

The courses in the program are logically and systematically integrated and have contributions to the achievement of ELOs. The course content is updated regularly to meet the requirements of the employers. The lecturers are constantly updating their lectures with new technology and techniques. Experts, guest lecturers introduce new technologies and techniques through seminars and short courses. (The Fresher program in cooperation with FPT Corporation to transfer new technologies to students to be ready for work in IT companies and co-operations.) The ELOs of the courses clearly reflect the ELOs of the program and are clearly indicated in each course's syllabus. Each course in the program has a detailed course description and syllabus, including: Course name, Course code, Credits, Department, Prerequisites, ELOs, Brief description, Syllabus (theory, practice), Teaching methods, Assessment methods, Reference materials, etc. *[Exh.1.1-08]*.

Based on the feedback from stakeholders including employers, alumni, students and teaching staff, the course's content will be reviewed and updated annually. *[Exh.2.2-01: Exhibition of the courses management and improvement]*. In addition, at the beginning of the course, the lecturer will clarify all contents of the course for students. In the course's assessment section, the assessment methods are selected to correspond to the ELOs of the course including: theoretical examination (midterm and final), quiz, practice, homework and group assignment. Each course's syllabus indicates the amount of time for self-study via homework and self-reading *[Exh.1.1-08]*.

2.3 The program and course specifications are communicated and made available to the stakeholders

The information about the training program as well as the corresponding courses are published on CTU's website *[Exh.1.1-08]*, CICT's website *[Exh.2.1-01]*, admission information website *[Exh.2.1-02]*, poster and leaflets delivered on Admission Consultancy Day, Open Day, etc. *[Exh.2.1-03]* The stakeholders may refer to, download the program specification, the course specification as well as the corresponding ELOs. From the above information, lecturers will make their teaching plan; students will refer to and choose the suitable courses; the employers will refer for recruitment; and high school students will know the majors to register for entrance exams.

3 Program Structure and Content

3.1 The curriculum is designed based on constructive alignment with the expected learning outcomes

BEIT's curriculum is designed based on the ELOs. The curriculum is divided into three knowledge blocks: general, fundamental and specialized knowledge which are in line with the program's ELOs to help students achieve ELOs in terms of skills, knowledge and attitudes of IT engineers. General knowledge block helps the students gain the basic knowledge that an engineer in the field of technology needs. The fundamental knowledge block is designed to help students acquire general knowledge and skills related to computer and IT. Specialized knowledge block equips students with the specialized knowledge and skills of the IT field. In each block there are compulsory courses and also optional ones that students can choose to suit their own track. The ELOs of the program are translated into the ELOs of the courses. The course content, teaching and assessment methods are designed in alignment with the program's EOLs as reflected in the correlation matrix. *[Exh.1.1-01]*.

The alignment between the program's curriculum and ELOs is also demonstrated through the assessment methods. Many assessment methods are used to evaluate student study progress. These methods are described in detail in Criterion 05.

3.2 The contribution made by each course to achieve the expected learning outcomes is clear

Each course is carefully designed to help student achieve the CLOs which are aligned with the program ELOs. The correlation matrix indicates the contribution of each course to achieving the ELOs of the program. Once the correlation matrix is contructed, the syllabus for each course is designed to achieve the CLOs of the course itself that also contributes to the completion of the ELOs of the program. *[Exh.1.1-01]*

3.3 The curriculum is logically structured, sequenced, integrated and up-to-date

The BEIT program consists of 155 credits (116 compulsory credits and 39 elective credits), of which 56 credits are in general knowledge block, 46 credits in fundamental knowledge block and 53 credits in specialized knowledge block (10 credits for graduation thesis).

The BEIT program is very flexible. The average training time is 4.5 years. Depending on their own ability and conditions, students can shorten or extend their study time by making their own study plan. Elective credits allow students to pursue different study and research paths in the IT field.

The BEIT program has been appropriately apportioned among general, fundamental and specialized knowledge blocks (Figure 3.1). To achieve the best results, students should make their study plan according to the curriculum mapping *[Exh.1.1-01]*. For example, if a student wants to study Network Programming, he must study Computer Networking first. If he wants to learn Computer Networking, he must study Operating System Principles first ... Graduation thesis (or minor thesis) allows students for demonstrating their knowledge, skills and attitudes and is the final step for a student to graduate from the program.

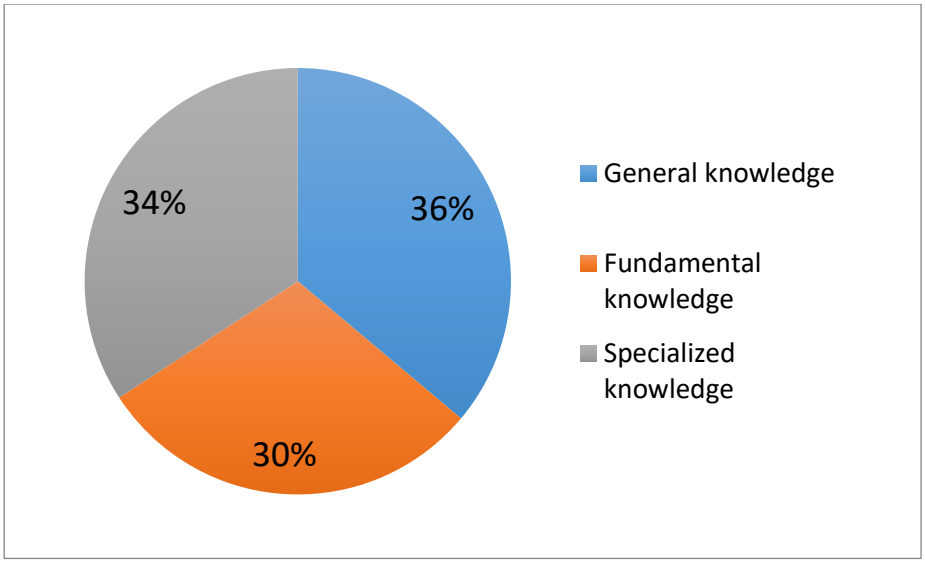


Figure 3.1: The proportion of the knowledge blocks

The BEIT program is designed for 09 semesters and CICT has a pre-designed sample study plan for students to refer to. Based on this sample study plan and their own eligibility, students may adjust this sample study plan to finish early or to extend their study time. In the sample study plan, the courses are divided in the semesters according to the idea of accumulated knowledge acquisition from the general to fundamental and specialized. The general knowledge block helps students to acquire general knowledge as well as allows them to follow the second related major. This is also a demonstration of the flexibility of the program *[Exh.1.1-01]*.

In correspond to the development of science, technology and social requirements, the BEIT program announced in 2013 including 137 credits, and then in 2014 adjusted to 155 credits (Table 3.1).

Table 3.1: Comparison of the number of credits in BEIT program in 2013, 2014

Year	General knowledge	Fundamental knowledge	Specialized knowledge	Total
2014	56 (36%)	46 (30%)	53 (34%)	155 (100%)
2013	55 (40%)	32 (23%)	50 (37%)	137 (100%)

In general, the number of credits in 2014 is in line with the regulations of the MOET and the vision of CTU. Many subjects are added and updated. Some subjects are integrated into each other, soft skills are added and integrated into the courses, without duplication of content between the courses. The BEIT 2014 program focuses on increasing the general and fundamental knowledge to increase the possibility of lifelong learning, interdisciplinary or second major study.

4 Teaching and Learning Approach

4.1 The educational philosophy is well articulated and communicated to all stakeholders

The Education Law of Vietnam issued in 2005 asserts that the goals of education Vietnam are "to train Vietnamese into comprehensively developed persons who possess moral qualities, knowledge, good health, aesthetic sense and profession, and are loyal to the ideology of national independence and socialism; to shape and foster personality, quality and capacity of citizens, satisfying the national construction and defense requirements." One of the basic principle of Vietnamese education is "Educational activities must be conducted on the principles of learning

coupled with practice, education combined with production, theories closely linked to reality, and education at university combined with education in the family and in the society". Resolution No. 29 of the 8th Plenum of the 11th Party Central Committee of 2013 defines the goal of Higher Education as "to concentrate on training high-level human resources, fostering talents, developing qualities and self-learning capacity, enriching knowledge and creativity of learners".

In that context, CTU with its role as a key national higher education institution in the Mekong Delta for undergraduate and graduate training and the center of culture, science and technology of the region has constantly been building and developing teaching and learning approaches for its lecturers and students to meet the goals and new demands of higher education. Since 2007, CTU has implemented the credit-based training model according to the "Regulations on Training according to the Credit-based System at Universities and Colleges" issued by the MOET in 2007 *[Exh.4.1-01: Regulation 43]*. The underlying philosophy of credit-based training system is considering learners as the center of teaching and learning process. This system has been provided to develop learners' autonomy and creativity as well as their self-study and self-research capacities.

"Learner-centeredness" and "training to meet the quality requirements of human resources in the ICT sector" *[Exh.4.1-02: College Development Plan 2012-2017]* are two commitments shared by all staff and students of the CICT. Learner-centered training requires learners to actively learn the lesson themselves under the guidance of lecturers rather than passively acquire the knowledge imparted by the lecturer to the class. This is a positive teaching method in order to promote the activeness, initiative and creativity of the learners towards the activation of learners' cognitive activities. In pursuit of this goal, from the beginning of the school year 2013-2014, CICT has focused on improving the training curriculum in the direction of providing updated knowledge, closely linked to reality, and enhanced practical skills. *[Exh.4.1-03: Summary report of the school year 2013-2014 and working plan for 2014-2015]*. This philosophy is expressed at many different levels. The curriculum design provides the students with the freedom to develop their study plan in accordance with their own capacity and circumstance in each semester. *[Exh.4.1-04: IT Training Program – Cohort 40]*, *[Exh.4.1-05: Notice of adjustment of study plan]*. Each program has a sample study plan for students to refer to *[Exh.4.1-06: Study plan]*. Most of the courses in the IT program have 01 practice credit. The IT curriculum from 2014 has been added with two yearly academic projects (for field-basic and field-specialized knowledge) to enhance students' practical skills. The internship course is compulsory and students must carry out this course full time at a company with a job related to IT *[Exh.4.1-07: Syllabus of Internship (CT450)]*. Each syllabus clearly states the purpose, ELOs, course content, and assessment forms to help learners easily plan and direct their own learning *[Exh.4.1-08: Web page https://www.ctu.edu.vn/program.php?mn=5&pr=dh]*.

When students first enter CTU, the College organizes activities to provide students with the learning strategies to cope with the credit system. *[Exh.4.1-09: Orientation Schedules for the New School year] [Exh.4.1-10: Presentation slides for the Orientation for new students in the New School year]*. At the beginning of each semester, CICT organizes meeting sessions for students to provide them with some notes to be taken into account in studying under the credit system. *[Exh.4.1-11: Announcement of the first semester meeting sessions], [Exh.4.1-12: Slide the first semester session for former students]*. Students can access more details on studying in the credit system through the Regulations on academic affairs *[Exh.4.1-13: Decision No. 2742/QD-DHCT issuing Regulations on academic affairs]*.

In order to implement these teaching strategy, lecturers are trained in pedagogical skills and active teaching methods *[Exh.4.1-14: Registration Form for Teachers Training Classes 2016]*, *[Exh.4.1-15: List of participants for second and first class lecturers in 2016]*.

4.2 Teaching and learning activities are constructively aligned to the achievement of the expected learning outcomes

Lecturers often incorporate a number of active teaching methods depending on the characteristics of each course and the number of students in the class. Some lecturers use lecturing method combined with the use of technological equipment such as computers, projectors; others implement problem-solving teaching method *[Exh.4.2-01: Syllabus for Introductory Course to Software Engineering (CT171)]*. Some courses such as Basic Programming Course are taught in the computer lab *[Exh.4.2-02: Syllabus for Basic Programming Course (CT101)]*. In addition, lecturers also use the Moodle - Elearning Learning Management System *[Exh.4.2-03: Webpage https://elcit.ctu.edu.vn/]* to support the students' self - study process.

Courses with practice sections, thesis and field trips in the curriculum create opportunities for students' learning by doing. Each practice session has clear objectives, controlled-practice exercises, and application exercises *[Exh.4.2-04: Syllabus for Web Technology Course (CT275)]*. Since 2014, each student must conduct two projects and one thesis or minor thesis in the entire study program. Field-based projects aim at linking knowledge of field-based subjects together. Students are required to develop programs or small applications such as Enlgish-Vietnamese dictionary, Math operations for matrix, Minesweeper or Sudoku games *[Exh.4.2-05: List of topics for field-based projects]*. Meanwhile, field-specialized projects address specific issues of the IT discipline and provide the foundation for students to complete their thesis or minor thesis *[Exh.4.2-06: List of topics for field-specialized projects]*. The topics for projects, theses and mini theses are usually grouped together *[Exh.4.2-07: List of thesis topics]*. To be able to complete the thesis, students must search for and read materials, self-study software or programming languages; build software, write and present reports. These activities enable students to develop teamwork skills, problem-solving skills and presentation skills.

Internship is a compulsory part of the program with a total of 2 credits. Students spend 8 weeks of internship in work places (agencies, enterprises or software companies) with the content consistent with the syllabus *[Exh.4.1-07]*. Students are only allowed to enroll in the internship course when they have accumulated at least 120 credits. One of the objectives of the internship is to strengthen the theoretical knowledge provided in the BEIT programme and apply that knowledge into practice. Each student will have a professional instructor at the internship place and an academic instructor *[Exh.4.2-08: Regulations for Internship]*. The final assessment of this internship course must consult the ideas of the internship place *[Exh.4.2-09: Grading rubrics for the Internship Course]*. Every year, CICT organizes 02 events, namely, Job Day in April and IT Knowledge Discovery in December. Through these events, businesses and enterprises can interview students for internship or apprentice positions *[Exh.4.2-10: Internship recruitment notice]*. Many students become employees of these enterprises after these internship opportunities.

Self-study plays a very important role in the teaching and learning strategies under the credit-based system to help learners achieve the desired learning outcomes. The principle of credit training requires students to self-study at least 2 hours corresponding to each class hour. Lecturers often provide students with tasks or documents that students must work on after class. *[Exh.4.2-11: Course Syllabus]*. Group activities also help students to practice soft skills such

as communication skills, cooperation at work; professional working style. *[Exh.4.2-12: Training grading Rubrics]*.

Scientific research is encouraged by CTU to help students be familiar to research activities and to connect their knowledge with socio-economic issues. CTU has a research fund dedicated to students *[Exh.4.2-13: Decision on student research]*. With the support of a lecturer, students can apply to register for research projects every year *[Exh.4.2-14: Student Research Topics]*.

Along with active teaching methods, formative assessment has contributed to achieving the ELOs of each course. Each course consists of at least two assessment opportunities is evaluated at least twice: evaluation during the course and evaluation at the end of the course. The forms of assessment are very diverse aiming at the common goal of encouraging learners to participate in the acquisition and formation of knowledge and skills. These forms include attendance, completion of small assignments during the course, multiple-choice tests, essay tests, and seminars. The number and forms of assessment are published in the syllabus and communicated to the students at the beginning of the course so that students can choose the appropriate learning strategies.

To assess the effectiveness of teaching and learning strategies, CTU and CICT organize the collection of stakeholder comments across multiple channels. There is an online survey system *[Exh.4.2-15: Webpage https://oss.ctu.edu.vn/]* which sends the evaluation form for each lecturer to the students to collect their ideas about the lecturer and the course he or she is teaching *[Exh.4.2-16: Student's online survey form]*. Lecturers can view the synthesis of student opinions of each course they taught in the semester, the ranking of each criterion, and the student comments regarding the course *[Exh.4.2-17: Survey results of the course]*. The head of each department can also see the results of the survey of all the lecturers of the department. In addition to the online survey system, students may also reflect on a variety of issues through meetings with academic advisors, and in orientation sessions in CICT and CTU in the beginning of the school year. In addition to these information gathering channels, the CICT also organizes meetings with enterprises to consul their ideas on the programs. *[Exh.4.2-18: Minutes of meetings with enterprises 12/2017]*.

4.3 Teaching and learning activities enhance life-long learning

Enhancing lifelong learning for students can first be found in curriculum design in favor of principle teaching rather than vocational training. The block of general knowledge allows students to learn a different technical field. The block of fundamental knowledge enables graduates to find jobs and develop their careers in another discipline in the computer and IT industries such as software, information systems, network management, and be able to follow research work or become lecturers. Most of the courses in the block of fundamental knowledge are courses of principles, such as the principles of structured programming, object-oriented programming principles, operating system principles, principles of computer network, etc. This is the background knowledge which is less outdated and the basis for learning to improve the expertise.

IT is an area whose changes are taking place rapidly and globally, so thesis topics are usually new, motivating students to search for materials and supply themselves with new knowledge. IT students have the advantage of being skillful in using IT in order to solve computer and network problems quickly. Thanks to that, they accumulate self-learning and problem-solving skills which are the foundation for lifelong learning.

One of the important conditions for IT students to study well, get a job and be able to study for life is to have a good foreign language, especially English. Recognizing this, in addition to the 10 credits for English basic courses as regulated by the MOET, the College has added 06 credits for two courses of English for Specific Purposes 1 and 2 with the expectation that graduates will reach level B1 of English according to the Common European Framework of References for Languages. Since 2016, the College has opened advanced BEIT program. In the first semester of this program, students learn English intensively. For the next semesters, 60% of the courses use English as the medium of instruction. Since 2015, eight courses have been taught using slides written in English.

The evaluation of the student's performance in each semester is based not only on the results of the enrolled courses in the semester but also on the results of the extra-curricular activities. Students must take extra-curricular activities, social activities, community support, etc. to receive extra-curricular scores. Student-centered assessments are designed to help students gain an insight into life outside the school environment, social knowledge, regional culture, and life skills that integrate with the community.

In order to provide students with a diversity of learning environments, CTU and CICT have promoted student exchanges with universities around the world. CTU has clear rules regarding the recognition of student results when students attend one or two semesters in other universities *[Exh.4.3-01: Regulations for assessment and recognition of marks]*. CTU offers scholarships to encourage students to participate in visiting and exchanging programs with international universities *[Exh.4.3-02: Regulations on sending students to study abroad]*. In recent years, students from the CICT have participated in exchange programs with some Thai and Taiwanese universities. *[Exh.4.3-03: Decision to send students to Thailand and Taiwan]*. In these programs, students learn about the learning environment, the training programs, the research projects of the schools that they visit and gain experience with the new cultural environment of the visited country.

5 Student assessment

5.1 The student assessment is constructively aligned to the achievement of the expected learning outcomes

Learner assessment of the CICT has always been carried out systematically from the enrollment stage at the beginning, during the training until graduation. The system of assessing learners is as follows:

Before the enrollment

To be able to achieve the ELOs of an IT training program, candidates must first pass the national high school graduation exam as regulated by the MOET. Before 2013, applicants must have the total score of the combination of Mathematics, Physics and Chemistry that met a certain standard set for a specific field *[Exh.5.1-01: Regulation on enrollment of regular universities and colleges, issued together with Circular No. 03/2015 / TT-BGDĐT], [Exh.5.1-02: CTU 2012 Entrance Information]*. Starting in 2013, the enrollment has one more combination of Mathematics, Physics and English *[Exh.5.1-03: CTU 2013 Admission Information]*. This change is also intended to be consistent with the expectation of the BEIT program that students must have good communication and reading comprehension in English.

During the study program

During the study period, the students of BEIT undergo a process of assessing the completion of each course in the program. Course lecturers will assess students according to

the level of achievement of the course ELOs. The assessment consists of at least two parts: mid-term evaluation (usually conducted at the first half of the semester) and final examinations (conducted at the end of the semester). There are many forms of assessment, such as questioning, multiple-choice questions, essay questions, etc., depending on the ELOs of each course. In addition, each course may include other types of assessments such as seminar presentation, individual assignments, group assignments, projects, etc. to assess whether students can achieve the ELOs. Forms of assessment and scoring rubrics are shown in the syllabus and communicated to students at the beginning of the semester *[Exh.5.1-04: Syllabus of the course Database Management Principles (CT237)]*.

Grade point average (GPA) is used to rank students' academic achievement. In addition, each student will be assessed at the end of each semester to evaluate the efforts, learning and participation in the classroom, CICT, CTU and community activities. Training scores are not included in the student's academic performance but are used to reward and award scholarships *[Exh.4.1-13]*. On-going assessment of the learning process in a variety of ways assists the student assessment to be more comprehensive, in terms of both knowledge, skills and attitudes of the students, encouraging them to constantly strive to achieve better academic results.

Before the graduation

Prior to the completion of the study program, students must experience an internship phase at an agency or company that is professionally involved in the management of information systems, informatics, government agencies, companies, software companies, etc., to gain practical experience and get familiar with the working environment in agencies and enterprises *[Exh.4.1-04]*. The apprenticeship evaluation will be conducted by a staff member at the place where the student is interned and a lecturer assigned by the College. *[Exh.5.1-05: List of lecturers responsible for the internship course]*. During the students' internship, the lecturer will visit the internship places to check the working conditions and internship process as well as listen to the observations of the company staff member *[Exh.5.1-06: Guide of Visiting Interns]*.

In addition, students must complete a 10-credit graduation thesis or do a minor thesis along with studying a number of courses to obtain the equivalent knowledge block. [Exh.4.1-04]. Students must defend their thesis or minor thesis before a jury. The defense is publicized in front of a jury of three members to assess the overall skills and knowledge of the ELOs *[Exh.5.1-07: Regulation on the implementation and evaluation of graduation thesis]*, *[Exh.5.1-08: Thesis grading rubrics]*, *[Exh.5.1-09: Decision to set up graduation thesis jury]*

If a student chooses to conduct a minor thesis, he/she must submit the research results to the two members of the minor thesis jury. Each jury consists of two members assigned by the department responsible for the field. One member in the jury is the supervisor for that minor thesis *[Exh.4.1-13]*.

5.2 The student assessment including timelines, methods, regulations, weight distribution, rubrics and grading are explicit and communicated to students

The schedule of working, teaching, and especially assessing students are clearly and thoroughly planned by CTU. The information is publicized and communicated to all staff and students in the university at the beginning of the year and at the beginning of each semester. The information includes a list of courses and course modules to be opened each semester, course registration time, study time, assessment time, and proclamation time *[Exh.5.2-01: CTU's working time frame for the year 2018]*. Teaching time, including the semester's midterm evaluation, consists of 15 official weeks and one additional week. Final evaluation will take

place from weeks 17 to 18. The results of the assessment and answer keys will be publicized from week 19 to 21 *[Exh.4.1-13]*.

Lecturers can choose the appropriate method and form of assessment for the course they are teaching to accurately reflect students' level of achievement of the course ELOs. Forms of assessment and grading of each form of assessment are shown in the syllabus and are disseminated directly in class as well as on the e-learning system of the college. The questions in the quizzes, tests or other forms of assessment are closely related to assess students' understanding of the contents of the course, in line with the course ELOs and consistent with the Regulations on academic affairs *[Exh.5.1-04]*. Higher levels of awareness will be more appreciated. An example of the method and form of assessment is described in Appendix 6. Table 5.1 describes the transition between grades and grading classification as well as the student's satisfactory level for the course as corresponding to the grade point.

Table 5.1: Description of assessment results according to grading scale and classification

Classification	Scale of 10	Scale of 4		Explanation
		Letter	Number	
Excellent	9,0– 10,0	A	4,0	Learners fully understand and apply the knowledge of the subject and complete all the course requirements.
Good	8,0 – 8,9	B+	3,5	Learners master the basic knowledge of the subject and fulfill the course requirements.
Fairly Good	7,0 – 7,9	B	3,0	
High Average	6,5 – 6,9	C+	2,5	Learners understand parts of the course knowledge and complete most of the course requirements.
Low average	5,5 – 6,4	C	2,0	
Pass	5,0 – 5,4	D+	1,5	Learners understand very little about the course and fulfill part of the course requirements.
Pass	4,0 – 4,9	D	1,0	
Fail	< 4,0	F	0,0	Learners do not understand the content of the module and fulfill very few requirements of the course.

Classification of students at graduation is based on the GPA of all accumulated credits *[Exh.4.1-13]*. Graduates classification corresponds to the grade point average and reflects the level of student achievement corresponding to the ELOs as described in Table 5.2.

Table 5.2: Graduates Classification of the BEIT program

Classification	GPA	Level of student achievement corresponding to the expected learning outcomes
Excellent	3,60 – 4,00	Learners master the knowledge and skills of the training program perfectly and can apply them creatively at work.
Good	3,20 – 3,59	Learners master the knowledge and skills of the training program.
Fairly good	2,50 – 3,19	Learners master most of the knowledge and skills of the training program.
Average	2,00 – 2,49	Learners have the knowledge and skills of the training program and can enter the labor market

5.3 Methods including assessment rubrics and marking schemes are used to ensure validity, reliability and fairness of student assessment

The fact that the assessment in a course combines multiple assessment forms ensures the reliability and fairness of the assessment. The two most common forms are mid-term exams and final exams. Other forms include course project, seminar presentation, group assignments, assessment of attendance, etc. Besides, in order to ensure reliability, each module must use at least two forms of assessment, including the final exam with a weight of at least 50% *[Exh.4.1-13]*. Each lecturer is proactive in selecting the appropriate assessment form for the course and the learners. The lecturer is teaching as long as he/she is in accordance with the syllabus and CTU regulations *[Exh.4.2-02]*. However, in the same courses in one semester, faculty members agree on the format of the evaluation to ensure fairness among students in the assessment.

Moreover, students are also assessed for the soft skills, attitudes and behaviors when participating in social activities and other activities organized by student associations and the Youth Union. These evaluations are expressed by means of training scores for each semester and used as a basis for reviewing and awarding scholarships to students *[Exh.5.3-01: Grading rubrics for Training Scores]*, *[Exh.5.3-02: Internal Expense Regulation of CTU in 2017]*. The training does not affect students' academic results but students must achieve a minimum score of training in order to continue his or her studies. Students who do not meet this minimum score will be warned or dismissed *[Exh.4.1-13]*.

Forms of assessment can also be changed and supplemented with new forms of assessment to help assess learners better. It is a common practice that the lecturer will try the new form first. If he or she finds the new form of assessment is more appropriate (to better assess the level of achieving ELOs), he or she will suggest this new form of assessment to the department to revise the syllabus and apply it for other instructors. Proposals can be made at department specialized meetings or program revision occasions. For example, the course of the Principles of Database Management System before the Cohort 40 (enrollment in 2013) included only two forms of evaluation: 30% of the midterm exam and 70% of the final exam. Later on, two more forms of assessment have been added to assess students in this module in a more comprehensive and fairer manner. The two new forms are attendance and project *[Exh.5.1-04]*, *[Exh.5.3-03: The previous syllabus for Principles of Database Management System (with old assessment forms)]*.

For courses such as fundamental project, specialized project, minor-thesis and thesis, CICT provides guidelines for the process of conducting the topic and the content of the report. The content of the report is aligned to the ELOs of the course to allow for the best possible assessment of students' achievement of ELOs. In addition, CICT also provides the evaluation form for these courses to make the assessment consistent, fair and quantifiable. *[Exh.5.3-04: Forms of the Report of the project, minor-thesis and thesis]*, *[Exh.5.1-08]*.

In addition, CTU conducts annual surveys with alumni about employment status and with employers about their satisfaction level of graduates' capacity *[Exh.5.3-05: Alumni Feedback Form for the Training Program]*, *[Exh.5.3-06: Employer Feedback Form for the Training Program]*. The employment rate is one of the important criteria that reflects the effectiveness and quality of the training program objectively. The survey results show that the proportion of students who have jobs in the IT industry has been on the rise over the years. Besides the subjective factor of the increased demand of the IT industry in the labor market, the quality of training also helps IT students of CTU win increasing trust from employers.

5.4 Feedback of student assessment is timely and helps to improve learning

According to the general rules of CTU, each course must have at least one other form of assessment done during the study process such as midterm exams, projects, oral presentations. Via these forms of assessment, students can assess their learning progress in a timely manner so that appropriate changes can be made to improve their learning *[Exh.4.1-13]*.

At the DoIT, each lecturer may use a variety of assessment methods depending on the course that he or she is in charge of. Criteria and assessment methods for the course are communicated to the students in the first session of the course. Lecturers present the components in the assessment and explain how and when they will be conducted. Commonly used forms of assessment for the courses in BEIT program include:

1) Assessment of attendance (usually around 5% - 10%), conducted throughout the learning process through checking students' attendance or participation in classroom activities.
2) Evaluation of exercises, discussion in class (usually about 5% - 15%)
3) Mid-term test (usually 10% - 30%)
4) Project and group presentation (usually 10-40%)
5) Final Exam Score (at least 50% as regulated by CTU)

Therefore, the assessment process will be carried out formatively throughout the entire learning process of students, helping students make timely adjustments to improve the learning outcomes.

The results of the midterm evaluation, project evaluation, class assignments, etc. will be announced in class, or on the e-learning system of the College. Students can ask questions directly with the lecturer in class *[Exh.4.1-13]*. In addition, for practical courses, instructors may ask students to submit their results after each practice session to evaluate the results for each session. Assessment can be done immediately after or during the practice session so students can grasp their learning circumstance in a timely manner. For group presentation, the lecturer will comment immediately after the presentation and explain further to the class.

The results of the final exam and the final grade will be announced on the e-learning system and on the general management system. The lecturer will hold a session so students can meet to know more or to complain about the answers or the scores. *[Exh.4.1-13]*.

For the courses such as projects, minor-thesis and thesis, the results of the assessment as well as the performance comments will be announced directly to the student after the presentation. Students will also be able to communicate directly with the lecturer about the feedback they received in order to agree on the results and the lecturer's comments. *[Exh.5.4-01: Report form of the Thesis assessment board]*.

5.5 Students have ready access to appeal procedure

Students' complaints about the results of the assessment are conducted according to the university regulation and procedure. For the form of midterm exams, large assignments, seminar presentations ..., students can make complaints directly in the classroom or after the assessment. For the final exam, the lecturer will announce the time and place for answering students' questions. Students who wish to make a complaint will first meet the lecturer directly or through email. If the lecturer fails to do so, the student may file a complaint directly to the Dean for resolution *[Exh.4.1-13]*. The time for filing the request for re-examination is one week from the date of score announcement. In addition, students may also use the Academic

Counseling Channel to file a complaint or re-examination. Therefore, it is relatively easy to appeal and revise the results of the assessment.

6 Academic staff quality

6.1 Academic staff planning (considering succession, promotion, re-deployment, termination and retirement) is carried out to fulfill the needs for education, research and service

Academic staff planning for each department is clearly defined in the CICT Development Plan for the term 2012-2017 *[Exh.6.1-01: CICT Development Plan for the term 2012-2017]*. It specifies the number of academic staff to be retired and the new recruitment plan for each year.

CTU has issued regulations on lecturers' professional development procedure *[Exh.6.1-02: Regulations on lecturers' professional development procedure]* as a basis for each lecturer to develop their own plan for professional development. The College also has professional development plans for lecturers of every department *[Exh.6.1-03: Plan for professional development for lecturers of the CICT]* which identify the time and place for higher education. At the beginning of each term, CICT conducts a review to adjust the professional development plans for lecturers accordingly with the reality and development plan of the college. Every year, CTU allows each department to register to employ new academic staff to meet the volume of training and research activities that the College undertakes *[Exh.6.1-04: University Announcement on Recruitment Registration Plan]*.

According to the working regulations of CTU lecturers, depending on their titles, qualifications and salary coefficients, each academic staff will have a standard time limit to be completed. Benchmark time is the sum of the standard teaching hours and the standard hours of scientific research and other tasks. For example, with a doctoral degree, the standard time for one academic year of the lecturer is 380 hours (270 hours of teaching and 110 hours of researching). Lecturers must implement at least 50% of teaching time directly in class and must perform at least one of the activities related to research activities. Lecturers who hold leadership positions are exempt from certain standard hours. If one full-time-equivalent (FTE) is the standard number of hours taught in one academic year, the one hour that the lecturer performs is equivalent to 1/380 FTE. This ratio is used to calculate the FTE of a non-full time lecturer.

Table 6.1: Number of academic staff and FTE in the 5 most recent years (from 2013-2017)

Year	Type of lecturer	Total		Assoc. Prof (%)	Doctor (%)
		Number	FTEs		
2013	Full-time lecturers	5	3,2	1	1
	Part-time lecturers				
	Total	5	3,2	1	1
2014	Full-time lecturers	11	6,4	1	2
	Part-time lecturers				
	Total	11	6,4		
2015	Full-time lecturers	8	5,1	1	3
	Part-time lecturers				
	Total	8	5,1	1	3
2016	Full-time lecturers	13	7,6	1	3

Year	Type of lecturer	Total		Assoc. Prof (%)	Doctor (%)
		Number	FTEs		
	Part-time lecturers				
	Total	13	7,6	1	3
2017	Full-time lecturers	14	8,1	1	3
	Part-time lecturers				
	Total	14	8,1	1	3

- *Full-time lecturers* are lecturers of the CICT who have master's degrees and teach in a semester which is converted to 0.5 FTE. The ones with doctoral degree is converted to 0.6 FTE. Associate professors are converted to 0.75 FTE.

6.2 Staff-to-student ratio and workload are measured and monitored to improve the quality of education, research and service

With the credit-based system, students must register for the courses at the beginning of each semester. Students are entitled to one semester break. One student enrolled in a semester will be converted to 0.5 FTE.

According to the design, 05 training programs of the CICT share the same blocks of general knowledge and fundamental knowledge. Courses in these two blocks are taught by lecturers from other departments. A class of these two knowledge blocks consists of students from different disciplines. The block of specialized knowledge is taught by lecturers from the CICT equivalent to FTE shown in Table 6.2, accounting for only 34% of the total number of courses in the curriculum. Thus the FTE of a student in a year is calculated by the following formula:

(Number of registered students in Semester 2 *0.5 FTE + Number of registered students in Semester 1 * 0.5 FTE)*34%

According to the regulations of the MOET, the lecturer/student ratio is 0.04 for the technical disciplines.

Table 6.2: Academic staff/student ratio in the 5 most recent years

Year	Total FTEs of the academic staff	Total FTEs of students	Academic staff/student ratio
2013	3,2	18	0,177
2014	6,4	56	0,113
2015	5,1	107	0,047
2016	7,6	164	0,046
2017	8,1	244	0,033

The duties of lecturers are appropriately assigned based on their academic level, academic performance and teaching experience. The lecturers can choose the teaching courses appropriate to their level, experience and skills. Each lecturer must complete the required standard hours in accordance with the Regulations on professional duty management for the CTU staff *[Exh.6.2-01: Professional Duty Management Regulations]*. The required standard hours are based on the academic titles and academic qualifications of the lecturers as shown in

Table 6.3. According to the Regulations, each lecturer must devote time to fulfill his or her duties in both teaching and research.

Table 6.3: Lecturers' required standard hours

Unit of measurement: hours

Lecturers' academic titles, qualifications and duties	Standard teaching time	Standard research time	Total
Professor	340	170	510
Associate professor	320	140	460
Senior lecturer with salary coefficient higher than 5,76	310	130	440
Senior lecturer with salary coefficient from 4,40 to 5,42 and academic staff with doctoral degree	300	120	420
Lecturer with salary coefficient higher than 4,32	280	100	380
Lecturer with salary coefficient from 3,33 to 3,99 and academic staff with master's degree	250	80	330
Lecturer with salary coefficient from 2,34 to 3,00	220	60	280
Apprentice lecturer (85% of salary coefficient 2,34)	50	10	60

6.3 Recruitment and selection criteria including ethics and academic freedom for appointment, deployment and promotion are determined and communicated

The recruitment process and criteria are clearly stated in the Regulations on recruitment of CTU staff in accordance with Decision No. 4673/QĐ-ĐHCT dated 27/12/2012 *[Exh.6.3-01: Regulations on recruiting officers of CTU]* . These criteria are officially announced to all candidates in CTU website. The University establishes a Recruitment Council to evaluate applicants' profiles and conduct interviews. The recruitment process consists of considering the graduation results of the candidates, interviewing about the capacities, academic and professional qualifications of the candidates. Decision No. 598 / QĐ-CTHCT, dated on March 16, 2015, stipulates the regulations on appointment, reappointment, resignation and dismissal of managers of units under the jurisdiction of CTU. *[Exh.6.3-02: Appointment Regulations of CTU]*.

Among all the regulations above, professional ethics is always the first criterion in the selection or promotion of lecturers in positions. Academic freedom is respected and encouraged. Lecturers can be trained from any quality training institution in the world and conduct their dissertation topics without the constraints of the recruiter. *[Exh.6.3-03: Recruitment Announcement of the CICT]*. Academic staff must fulfill the role and responsibilities of teachers as defined in Article 15 of the Education Law 2015 and the provisions of Chapter VIII of the Education Higher Education Law 2012, and the provisions of Section 1, Chapter IV of the University Regulations in 2014.

For College staff who wish to terminate the contract or have reached the age of retirement, CICT will carry out the correct and timely procedures under its authority to send the documents

to the Department of Personnel in accordance with the regime, the policy and the law. College staff who retire (60 years for men, 55 years for women) will be notified by CICT and CTU will issue a retirement decision. For lecturers who have reached the doctoral level if they wish to continue working and the Department has the need to recruit, the Department proposes to the university and the MOET to extend their working time *[Exh.6.3-04: Decision to extend the working time of Dr. Le Quyet Thang]* or to sign a guest lecturer contract. The social policy regimes are fully implemented by the University Labor Union and the Department for retirement College staff, as well as the special support system for travelling trips and visits.

6.4 Competences of academic staff are identified and evaluated

The ability of academic staff of CTU is determined by the regulations of the state on standards of professional titles of public officials teaching in public higher education institutions. Academic staff is classified into 3 classes as Class III, Class II, and Class I. For each job title, there are requirements on tasks, standards of training level, standards of professional qualifications. *[Exh.6.4-01: Joint Circular No. 36/2014/TTLT-BGDDT-BNV of the Ministry of Domestic Affairs and MOET: Code and criteria for professional titles of teaching staff in public higher education institution]*

At the beginning of the school year, lecturers will register the professional work plan and individual emulation title of the school year *[Exh.6.4-02: Work Plan Registration Form]*. The titles of emulation are related to the professional ethics of lecturers, results of teaching and research (completed research projects, published scientific articles), ongoing professional development procedure. The lecturers will write their own self-assessment report and self-rank according to the workload completion in the year. Lecturers will read this self-assessment form in front of the staff of Department to get feedback, encouragement and motivation or suggestions from their colleagues to help them improve more *[Exh.6.4-03: Staff Evaluation and Classification Form]*. Criteria used to assess the capacity of academic staff include the results achieved during the year on teaching, scientific research, publications; the implementation of regulations on professional ethics; the spirit of responsibility, the attitude of serving the people, the spirit of cooperation with colleagues and the implementation of the code of conduct of officials; and the performance of other obligations of the officer. The head of the department will record the final assessment of the lecturer as an important basis for the College Reward Council and the Dean to recognize the lecturers' working performance during the year. *[Exh.6.4-04: Guide to the award of the year-end emulation]*, *[Exh.6.4-05: Minutes of the Board of Emulation and Reward]*. Achievement over the years will be taken into account in prioritizing salary increases for College staff *[Exh.6.4-06: Advance payroll review report]*.

The teaching of the lecturers is also evaluated through the online survey system *[Exh.4.2-15]*. This system allows students to comment on the courses they have enrolled in during the semester. At the end of each semester, each College staff will receive a summary of the courses they have taught during the semester. *[Exh.6.4-07: Comment summary of one course]*. The head of the department has the right to view the results of the student's assessment of all courses administered by the department. [*Exh.6.4-08: Summary of Comments for all courses of the department]*. The Dean has the right to see the results of the student's evaluation of all courses administered by the College. *[Exh.6.4-09: Summary of Comments for all courses of the College]*.

6.5 Training and developmental needs of academic staff are identified and activities are implemented to fulfil them

According to current regulations, recruited lecturers must have at least a master's degree, with a Bachelor's degree ranked from good level or above. After recruiting the new lecturers, the college conducts a professional development roadmap for the lecturers to determine when they will be trained, whether in the home country or abroad, at what level of teaching profession. On the basis of such a roadmap, each lecturer will actively arrange his or her teaching activities and prepare the necessary conditions to be ready for the training courses. The college will prioritize the support according to the lecturer's professional development plan, e.g. arranging to reduce teaching hours for lecturers to attend foreign language training courses *[Exh.6.5-01: Evidence of foreign language training]* to participate in the scholarship search *[Exh.6.5-02: Decision of allowing scholarship application]* or prioritize giving scholarships from the projects that CTU is the host institution. Every year, through the department, lecturers will register with the university for their training needs in profession and pedagogical skills to implement their own roadmap. The University and College will facilitate the lecturers to gradually accrue the required qualifications for the professional titles (Class II lecturers, Class I lecturers, associate professors, professors) by open courses related to the professional certificates *[Exh.4.1-14]*, *[Exh.4.1-15]*. CTU financially supports the lecturers in the registration of published articles when they apply for admission to associate professor and professor positions *[Exh.6.5-03: Decision on funding support for the International Conference]*. In each semester, lecturers are encouraged to conduct two seminars to share their knowledge, skills and research results with colleagues in CICT and CTU. *[Exh.6.5-04: List of the department's seminars]*. Lecturers also participated in workshops on professional qualifications, professional pedagogical skills, and quality assurance by the international cooperation programs such as HEEAP, BUILD IT *[Exh.6.5-05: Certificate of participation in the workshop]*, *[Exh.6.5-06: List of ABET training officers]*. All of these policies are aimed at ensuring that a qualified, career-oriented teaching staff is available to the students, with pedagogical skills and ethics.

6.6 Performance management including rewards and recognition is implemented to motivate and support education, research and service

Lecturer management through teaching according to assigned schedule, research projects, articles and through individual emulation registration at the beginning of the school year *[Exh.6.6-01: Work Plan for Annual Professional Work and Emulation]* *[Exh.6.4-02]* demonstrates the self-reliance of the lecturers in managing and implementing duties such as fulfilling standard hours, participating in research, writing articles, registrations for innovative ideas in teaching methodology.

The professional workload of the lecturers includes preparing teaching materials and lectures, teaching, assessing students, doing scientific research, writing teaching materials and books, learning for professional development and doing other activities as planned and assigned by the Head of the Department. The volume of teaching conducted outside of work time will be counted as overtime work and paid under the internal expense regulations. *[Exh.5.3-02]*.

CTU has a number of policies to encourage academic staff to participate in scientific research, such as financial support policies for academic staff to register and attend international scientific conferences *[Exh.6.6-02: Decision to allow for participating in the conference with the cost of counseling]*. With each article published and each scientific research project accepted, the University awards bonuses to the author and the project manager.

In order to promote the quality of teaching and learning, the MOET has many mechanisms to reward staff who has contributed positively to the development of the University and the College such as the Medal for the Education Career, the title "The Teacher of the People" or "Teacher of Excellence"; Merit from the Minister. At the end of each school year, the university and the college hold a commendation and rewards evaluation on the basis of self-assessment of individual achievement and collective election. *[Exh.6.6-03: Minutes of Reward Election Meeting]*. The university has a policy of giving priority to new graduates within two years to be funded to implement scientific research topics.

6.7 The types and quantity of research activities by academic staff are established, monitored and benchmarked for improvement

The types of research that academic staff often conduct include: 1) research and thematic reports *[Exh.6.7-01: Approved subject lists]*, 2) research and textbook publication *[Exh.6.7-02: List of text books to be published]*, 3) Registration for implementing research projects at university level, ministry or provincial level, state level, and international cooperation *[Exh.6.7-03: List of research topics approved at all levels and international cooperation projects]*. 4) Publication of Journal articles in local and international journals and periodicals *[Exh.6.7-04: Webpage http://www.cit.ctu.edu.vn/encict/publication]*, 5). In addition, lecturers also have the task of guiding students to register and carry out research projects *[Exh.6.7-03]*.

Table 6.4: List of research-related activities from 2012-2017

	Publication level				**Total**	**Ratio of publications per academic staff**
School Year	University Level	National Level	Regional Level	International Level		
2012-2013	Lecturers' research projects: 7 Textbooks: 4		Journal articles:67	Journal articles:26	104	104/58
2013-2014	Lecturers' research projects: 5 Textbooks: 16		Journal articles:60	Journal articles:25	106	106/60
2014-2015	Lecturers' research projects: 7 Textbooks: 8	Research Project at Ministry level: 1	Research Projects: 1 Journal articles:62	Journal articles:46	124	124/64
2015-2016	Lecturers' research projects:22 Textbooks: 8 Specialized books: 2		Research Projects: 1 Journal articles:65	International Cooperation: 1 Journal articles:72	168	168/75

	Publication level				Total	Ratio of publications per academic staff
School Year	University Level	National Level	Regional Level	International Level		
2016-2017	Lecturers' research projects:2 Textbooks: 10		Research Projects: 1 Journal articles:21	Journal articles:30	63	63/73

7 Support Staff Quality

7.1 Support staff planning (at the library, laboratory, IT facility and student services) is carried out to fulfil the needs for education, research and service

In the CICT, the planning for support staff is regularly set up according to the regulations of CTU. *[Exh.7.1-01: Decision on functions, responsibilities and organization of the offices in the faculty, institutes, centers and departments]*. At present, this team is good at supporting students and meeting the learning and teaching needs of the CICT. The support staff consists of 13 members of the office of the CICT and 6 staff members in charge of the computer labs. The details about the support staff in the office are shown in Table 7.1.

Table 7.1: The support staff in CICT office

Tasks	Number of staff	Degree			
		High school	College	Bachelor	Master
- Undergraduate training support - Student affairs support - International cooperation support - Quality accreditation support	1				X
- Graduate training support - Webmaster - Scientific research support - Youth Union affair	1				X
- Accounting - Mailing and documents - Project management support	1				X
- Organization support - General secretary	1			X	

Tasks	Number of staff	Degree			
		High school	College	Bachelor	Master
- Equipment work	1			X	
- Librarians	2		X	X	
- Guards	2	X			
- Sanitary work	2	X			

In addition, the CICT also has staffs in charge of laboratories including: 2 heads and 4 employees *[Exh.7.1-02: Decision on the establishment of laboratories and appointments for laboratory heads]*.

The staff is always doing well to support students, meeting the needs of learning and teaching. CTU has always paid good attention to training and improving the qualifications of the support staff to serve the students better. The results of the training of the support staff are shown in Table 7.2. *[Exh.7.1-03: Decision of sending staff to training courses for professional development from 2012 to 2017]*.

Table 7.2: The training of the CICT's support staff

Number	Training content	Number of staff attended				
		2013	2014	2015	2016	2017
1	Knowledge of Governmental Administration and Management for Senior Officers	2		…	1	
2	Knowledge of Governmental Administration and Management for Officers			…	1	
3	Communication Skills and Administration Etiquettes				2	
4	PhD training program		1	…		
5	Updating Knowledge for Librarians			…		1
6	MSc Training		1	…		

7.2 Recruitment and selection criteria for appointment, deployment and promotion are determined and communicated

The criteria for selecting, assigning positions and assigning tasks of each title are widely publicized for all stakeholders in the Regulations functions, responsibilities and organization of the offices in the faculty, institutes, centers and departments belonging to CTU issued on March 25, 2013. *[Exh.7.1-01]*. The conditions for recruiting support staff are to meet professional requirements and some conditions on informatics and foreign languages. Recruitment notice is widely available to the units and notified on the web of the University. For contract staff, when the contract expires the staff will be evaluated by the unit. If the staff has completed her/his tasks, the contract will be signed again.

For computer labs, the appointment of the head of the department or technician is done in accordance with the university regulations *[Exh.7.2-01: Laboratory Affairs Regulations]*.

7.3 Competences of support staff are identified and evaluated

The competence of the support staff is reflected in their qualifications, years of experience and workload. At present, the office of the CICT has 05 staff members in charge of administrative work: management, record keeping, students' learning results, scheduling and inviting lecturers for various training programs such as postgraduate program, regular program, inter-disciplinary program, in-service learning program; to manage and keep records of officials; manage the facilities and library. In addition, the CICT has 6 specialized staff members who are in charge of the computer labs.

Support staff competence is assessed through the assessment of staff and emulation titles achieved by staff at the end of every school year. Criteria for evaluation of support personnel include the following basic standards: *[Exh.7.3-01: Emulation evaluation form]*

- Accept and follow the guidelines and policies of the communist Party and the State laws.
- Have a moral and sound lifestyle, have the spirit of saving and be against wastefulness of things such as electricity and water at work.
- Actively learn political, cultural, and professional knowledge; have mutual support spirit.
- Accomplish assigned tasks well, achieving high productivity and quality.
- Have a positive awareness in improving the working style and reforming administrative procedures to improve labor productivity.

The results of the assessment of the staff are reviewed by the University at the end of the year, and will also be used to consider signing the contract again.

7.4 Training and development needs of supports staff are identified and activities are implemented to fulfil them

The training of support staff is carried out in accordance with the general plan of the University. Each year, the College sends its training needs to the University for consideration *[Exh.7.4-01: Training Plan 2012-2017]*.

For computer labs, each department has a technical staff member who has a degree from college to higher education. (4 of the 6 staff members have been sent to follow a Master's degree of Information Technology or higher to enhance the competence for better service *[Exh.7.1-03]*.

7.5 Performance management including rewards and recognition is implemented to motivated and support education, research and service

The Board of Emulation and Reward of the college works annually according to the university regulations of emulation, reward and discipline. Support staff will be considered for emulation titles if they are qualified. The emulation titles include: advanced labor, grassroots-level emulation fighter, ministry-level emulation fighter and nationwide-level emulation fighter. The rewards include: Diploma of Merit from Minister, Diploma of Merit from the Prime Minister, Labor Medal class 3, Labor Medal second class. Table 7.3 shows the number of support staff rewarded with emulation titles from 2012 to 2017. *[Exh.7.5-01: Emulation Evaluation Results 2012-2017]*

Table 7.3: Support staff rewarded with emulation titles from 2012 to 2017

Title	2012-2013	2013-2014	2014-2015	2015-2016	2016-2017
Emulation Fighter	26,3%	36,8%	10,5%	21,1%	10,5%
Advanced Laborer	68,4%	63,2%	84,2%	57,9%	84,2%

8 Student Quality and Support

8.1 The student intake policy and admission criteria are defined, communicated, published, and updated

8.1.1 The student intake policy

The MOET promulgated university admission regulations in 2014, 2015, and 2017 *[Exh.8.1.1-01: Admission regulations for universities and colleges]* and the circular is amended and supplemented in 2013 and 2016 *[Exh.8.1.1-02: Circular on amending and supplementing examination regulations]*.

Prior to each admission period, CTU posts admission information on the website *[Exh.2.1-02]* for easy access. The information includes, but not limited to, the following topics: target groups and regions, total targets and indicators by sector, selection criteria, selection points, selection stages, priority policies, tentative tuition fee and dormitory *[Exh.8.1.1-03: CTU Admission Project 2017]*.

In addition, the University also participates in the Vocational and Admission Consultation Day in March for high school students in the Mekong Delta *[Exh.8.1.1-04: CTU Youth Union website: The 2017 Career Consultant and Orientation Day at CTU https://yu.ctu.edu.vn/index.php/ho-tro-sinh-vien/23-tin-tuc-tong-hop/32-tung-bung-ngay-hoi-tu-van-tuyen-sinh-huong-nghiep-2017-dhct.html]* to introduce the training units and institutes along with the study programs, research directions and job opportunities after graduation.

Based on the results of the national high school graduation examinations above, the MOET announces the minimum admission scores for each exam block. From such minimum admission scores, CTU sets admission scores for each sector and conducts the admission procedures for every discipline and in multiple periods (each period lasts 20 days).

After having the admission results, the university sends the Admission Notice to the admitted candidates via post. In addition, some informations such as timetables, academic counselors, health check, and academic regulations are posted on the website for new students *[Exh.8.1.1-05: Webpage https://tansinhvien.ctu.edu.vn]*.

To attract more students, some candidates are given priority points by region and subject to admission, some candidates are recruited directly without taking part in admission exam (such as national excellent students). These priority policies are governed by the Regulation of Official Admission and MOET guidelines.

8.1.2 Admission criteria

Admission to the information technology program bases on the scores of one of two following subject groups: (i) Mathematics, Physics, Chemistry; and (ii) Mathematics, Physics, English. Depending on the type of the study program, the university sets different enrollment methods:

- For the general undergraduate program, admissions are conducted basing on the results of the national high school graduation examination.
- For high quality programs: (i) Method A: Selection from the results of the national high school graduation examination. (ii) Method B: Selection from successful candidates for general undergraduate programs who wish to transfer to high quality programs *[Exh.8.1.1-03]*.

8.2 The methods and criteria for the selection of students are determined and evaluated

The selection of students basically bases on MOET's annual admission regulations *[Exh.8.1.1-01]*. Content groups mentioned in these regulations include:

- General provisions on admission projects, priority regulations, guidance on enrollment and inspection.
- Organization, responsibilities and powers of the university in admission activities.
- Admission at universities using national exam results.
- Admission at universities not using national exam results.
- Dealing with information reflecting violations of the admission regulations and the regime of reporting and archiving.

Selection criteria:

- Candidates who have equal admission scores of the same discipline will be admitted the same (if one passes, everyone else passes).
- Admission scores of the candidates are ranked from the highest to the lowest to determine the threshold of successful candidates compared to the quota of admission. Candidates who score higher or equal to the successful score will be admitted.

Based on the assessment of the actual situation of the entrance examination each year, the MOET can issue a revised circular *[Exh.8.1.1-02]* in the subsequent years to improve the efficiency of the exam. Listed below are a number of statistics relating to the selection of learners and the fluctuations over the years:

Table 8.1: Admission scores of different majors in CICT (2013 – 2017)

Year	Exam Group	IT	Information Systems	Software Engineering	Computer Science	Computer Network and Communications
2013	A, A1	17.00	13.00	15.00	13.00	15.5
2014	A, A1	22.00	18.50	22.00	18.50	18.5
2015	A00, A01	20.75	18.25	20.00	18.00	19.00
2016	A00, A01	19.25	17.00	18.75	18.00	18.00
2017	A00, A01	20.25	16.50	20.50	16.50	18.25
Note of Exam Group: + A, A00: Mathematics, Physics, Chemistry + A1, A01: Mathematics, Physics, English						

It can be seen that students who enter the BEIT study programme have better scores than those who attend other study programmes in CICT. This also means the BEIT has the best input (students) when compared to other College study programmes.

Table 8.2: Admission of freshmen in the 5 most recent years

School Year	Candidates							
	IT – General training program				IT – High quality training program			
	Quota	Registration number	Admission number	Competition Ratio	Quota	Registration number	Admission number	Competition Ratio
2013 - 2014	160	2565	256	10	N/A			
2014 - 2015	200	1633	272	6	N/A			
2015 - 2016	200	894	210	4.3	N/A			
2016 – 2017	200	820	317	2.6	40	80	80	1
2017 - 2018	200	3425	450	7.6	80	243	89	2.7

Table 8.3: Total number of students registering into the BEIT (2013 – 2017)

School year	Students					Total
	1st year	2nd year	3rd year	4th year	After 4th year	
2013 - 2014	107	-	-	-	-	107
2014 - 2015	131	99	-	-	-	230
2015 - 2016	182	127	95	-	-	404
2016 – 2017	253	182	117	91	-	643
2017 - 2018	385	249	174	112	66	986

8.3 There is an adequate monitoring system for student progress, academic performance, and workload

8.3.1 There is an adequate monitoring system for student progress

At the beginning of each semester, students are required to plan their studies according to their own wishes and the consultations from the academic advisor. To facilitate the students' reference, the sample study plan is offered by the Department in which there are suggestions for the courses students should take in each semester. In addition, course syllabi are also publicized for students to refer to.

Based on the study plan that students have entered on the Integrated Information Systems *[Exh.8.3.1-01: Webpage https://htql.ctu.edu.vn/htql/login.php]*, students will proceed to register for the courses, class time table and select favorite classes by themselves. In addition, webmasters also check prerequisite for each course when students enter their study plans and check if there are schedule overlapping in course registration. Thus, the student study progress is guaranteed to be in the right and satisfactory order. The work load of students is regulated in CTU Regulations on academic affairs.

8.3.2 There is an adequate monitoring system for academic performance

Students view their scores of the taken courses through the Integrated Information System. Academic advisors can see the scores of the students in the class they are in charge of. As a result, they have the bases to advise students to adjust their study plans accordingly.

Course lecturers have the right to enter and publish grades for their course group. After the publication of the grade, students may complain to the lecturer for a review. Finally, the course lecturers lock their own right to change the scores to ensure that the transcript can no longer be modified *[Exh.8.1.1-03]*.

8.3.3 There is an adequate monitoring system for student workload

In order to keep the volume of learning in each semester at a reasonable level, CTU regulations on academic affairs *[Exh.4.1-13]* regulate the minimum and maximum credits per semester. As follows:

- For the major semester, students register from 1 to 20 credits. Students with only 25 credits left in the training program will be permitted to register up to 25 credits. The students with academic warnings are only allowed to register up to 14 credits.
- For the additional semester, students enroll up to 8 credits.

The training program is designed according to the three blocks of knowledge namely general knowledge (56 credits), fundamental knowledge (46 credits) and specialized knowledge (53 credits) *[Exh.4.1-04]*. If students are on the right track, they will graduate after 4.5 years with total credits of 155. However, students can take advantage of the additional semester to finish the program sooner.

8.4 Academic advice, extra-curricular activities, student competitions, and other student support services are available to improve learning and employability

8.4.1 Academic advice

In order to assist students in their studies, the Department assigns one academic advisor in charge of each discipline class from the first semester of the study program *[Exh.8.4.1-01: Class, timetable and academic advisor arrangement for new students https://tansinhvien.ctu.edu.vn/hoc-tap/bo-tri-lop-thoi-khoa-bieu-va-co-van-hoc-tap]*. The academic advisor's contact information is publicly available to the students via the Management System website. The duties and working time of the academic advisor are set out in the University regulations *[Exh.8.4.1-02: Regulation on Academic Counseling Activities]*. Some typical tasks include:

- Counsel and support students during their learning and training procedure.
- Have at least 3 meetings per semester with the class to understand the class situation, orient students' learning and communicate to students the announcements from CICT and CTU.
- Organize the assessment of training points for the students of the class.

In addition, at the beginning of the school year, the College Dean and the Youth Union of the College organize the orientation sessions with students to summarize the situations of learning, researching, receiving and answering students' questions.

For students who work on the thesis, they have the right to choose a supervisor and suggest the topic. When accepted, these students conduct their thesis under the academic mentoring and monitoring of their supervisor.

8.4.2 Extra-curricular activities

The Youth Union of the CICT plays a key role in implementing extracurricular activities for students *[Exh.8.4.2-01: Organizational structure and activities of the Youth Union in the CICT]*. The main activities that this organization has been implementing include: Music and sports exchanges; social activities; academic activities; international relation activities (e.g. student exchange with universities in Thailand (10 students), Taiwan (13 students), Netherlands (2 students), Japan (1 student); welcoming and exchanging with Korean students through the

KIV program during summer holidays: 7/2015 (16 students), 7/2016 (16 students), 7/2017 (12 students); Participating in the ASEAN Culture Festival on 18/12/2017 co-organized by the National University Ho Chi Minh City, CTU and the AUN Student Affairs Network). In addition, the provincial student associations as well as in-campus and off-campus associations also have many extracurricular activities for the students to attend.

8.4.3 Student competitions

BEIT students possess favorable conditions to participate in competitions inside and outside the University. For students who have achieved high results in prestigious competitions, the College always has a bonus to encourage them *[Exh.8.4.3-01: Decision to reward students who achieved high results in the Student IT Olympics]*. Some of the contests that IT students have participated in include Vietnamese Student IT Olympics, university traditional sport competition, music performance and video making contest to contribute to the overall achievement of CICT.

Table 8.4: Student Achievements in Competitions

Year	**Achievements**	
	Inside CTU	***Outside CTU***
2014	- University traditional sport competitions: 01 gold medal, 01 silver medal, 02 bronze medal - Music performance: Second prize for the whole	
2015	- University traditional sport competitions: 01 first prize, 02 second prize, 03 third prize - Music performance: Third prize for the whole team - 01 student research topic that be ranked second at the university level	
2016	- University traditional sport competitions: 03 first prizes, 01 second prize, 02 third prize - Music performance: First prize for the whole team	- Second Holcim Prize - Third prize in the competition of Creative Ideas for the Community - Third prize in the competition of Technological Creativity of Can Tho City - Bronze medal in the competition of Design – Creation – Application - First prize of the competition of Personal Trademark Awakening - Student IT Olympics and ACM/ICPC: 02 second prizes, 02 encouragement prizes (individual), 01 encouragement prize (team)

Year	Achievements	
	Inside CTU	***Outside CTU***
2017	- Music performance: Second prize for the whole team	- Student IT Olympics and ACM/ICPC: 03 second prizes, 02 third prizes, 01 encouragement prize (individual), 01 third prize (team).

8.4.4 Student support services

Every year, the College organizes a knowledge discovery week, a job fair and a number of field trips to the companies. *[Exh.8.4.4-01: Images of Career Orientation Activities]*, which helps students identify necessary knowledge, skills and attitudes needed to be trained before going to work.

The Learning Resource Center (LRC) of CTU and the Library of CICT are two places where students can search for specialized materials and have places for group meetings. In addition, the university also has functional departments such as health clinics, gyms, multipurpose gyms and canteens that support other issues besides student learning. In particular, the Department of Student Affairs plays a central role in supporting and advising on the issues of living, accommodation, and employment for students.

8.5 The physical, social and psychological environment is conducive for education and research as well as personal well-being

IT students have the opportunities to study and work in a harmonious natural environment. Campus II is the location of most faculties and functional departments of the university. Most of the roads in CTU campus are covered with shady trees. There are many sidewalks and pedestrian crossings. In addition, the university has a number of spacious and open lawns such as grass courts behind the LRC where students can organize outdoor activities. The surrounding area of CICT is home to a wide variety of trees and ornamental plants, creating a natural environment for everyone. *[Exh.8.5-01: Landscape of Campus II]*.

By the end of the first semester of the first year, students will learn National Defense Course in Hoa An campus. Here, students are placed in the dormitory in the same campus of the university. Next to Hoa An campus is a forest of many species, which is the biodiversity conservation area of the university and also a place for students to experience. Besides the landscape, the weather in Can Tho is relatively pleasant, so students feel comfortable living here.

The social environment also contributes to students' psychology. In general, most students are gentle, energetic and helpful in their studies as well as their daily lives. Most of the lecturers are friendly and easy-going to help students feel less pressured in communication. Inside and outside the campus, there are many social spaces that attract students such as canteen, cafeteria and gymnasium.

9 Facilities and Infrastructure

9.1 The teaching and learning facilities and equipment (lecture halls, classrooms, project rooms, etc.) are adequate and updated to support education and research

The CICT currently manages 01 seminar room, 03 conference rooms and a total of 26 working offices and meeting rooms. The number of classrooms managed by the CICT is 14 rooms, while the college also uses the classrooms of the university, accommodating from 40 to 160 students/room. The classrooms for theoretical subjects are equipped with 60-inch TVs or

projectors *[Exh.9.1-01: Summary Report for 2016-2017 of The CICT]*. The facilities and equipment of the College are constantly updated, maintained, regularly upgraded, newly purchased, and effectively used and exploited, meeting the needs of teaching, learning, researching and other activities of lecturers, officers and students.

To meet the vision and mission of the University, in each period (2012-2017, 2017-2022 and 2022-2030), the CICT has plans to invest, exploit and develop effectively the infrastructure and facilities. In addition, every year, the College plans to repair, maintain, upgrade, and expand the infrastructures and facilities to meet the actual needs.

9.2 The library and its resources are adequate and updated to support education and research

The LRC is built on a land area of 7,560 m^2 and is one of the largest learning resource centers in the country. LRC provides a wide range of books, textbooks, and reference materials in Vietnamese and foreign languages which are changed and updated regularly. There is a total of 123,210 titles and 284,631 book copies. There are 1,397 titles and 2,054 book copies in the IT field. The center also has electronic library systems and electronic databases (such as ProQuest, Springerlink, Ebrary, Research4Life ...) that provide documentation in almost every field of teaching and research, allowing users to access from both inside and outside the university, effectively meeting the requirements of lecturers and students. Every day, 1,370 visitors access and use the resources provided by the center *[Exh.9.2-01: CTU Self-Assessment Report 2012-2016]*. LRC is equipped with state-of-the-art equipment, computer rooms, discussion rooms, multi-media rooms, conference rooms, videoconference systems and modern technical equipment, providing a comfortable and professional environment for learning and working *[Exh.9.2-02: LRC Webpage http://www.lrc.ctu.edu.vn]*. Users can easily register online for card or register directly at the center. In order to help the users make better use of the resources, the center regularly organizes center visits and training courses, guiding the use of resources. *[Exh.9.2-03: Orientation Plan in Learning Resource Center]*

In addition to the university main library - LRC, the CICT has its own library built in an area of 180m^2 consisting of a reading and self-study room, a library of books and reference materials. Students can visit this library during the office hours, 7h30 to 11h30 and 13h30 to 17h, Monday to Friday. The College Library has about 6,400 books and references (total of 10,248 books), including 32 printed text book titles (160 books), 2,395 books in Vietnamese, 942 books in foreign languages, 303 journals and 1,221 graduated theses of IT students *[Exh.9.2-04: Statistics of the library of the CICT dated 10/2017]*. The college library ensures to provide the most complete and up-to-date resources. At the peak, the number of students using the college library resources was over 50 turns a day. Every year, the college library updates, acquires new resources through supplementary requirements, buys books, and references of faculty members. IT students can also refer to resources from other faculties and institutes in the university.

9.3 The laboratories and equipment are adequate and updated to support education and research

The total number of labs, practice rooms, computer labs and clinics of CTU is 134 (with 277 sub-divisions). CTU has built 9 laboratories for learning foreign languages, multimedia and translation *[Exh.9.3-01: Publicity in accordance with Circular 09/2009/TT-BGDDT of Can Tho University]*.

The ICT Department has 4 classrooms equipped with state-of-the-art facilities, each equipped with 41 laptops or PC AIOs (All In One) with strong configuration and a 65 to 70-

inch TV. *[Exh.9.3-02: Statistics of laboratories and practice rooms of The CICT dated 31/12/2016]*. Due to the nature of the sector, the laboratories in the CICT are the combination of research and training activities, in which scientific research is the main activity. The CICT has 3 computer labs and 3 laboratories with a total of 21 subordinate rooms. Each of the attached rooms has an area of 36 to 72 m^2 and is equipped with 41 computers. The computers are maintained, updated, upgraded and replaced very frequently *[Exh.9.3-03: Procurement Plan - Repair of ICT Facility]*. Each room has a manager and a laboratory assistant. *[Exh.9.3-04: Decision No. 243/QĐ-ĐHCT 29/1/2016 of the Rector of the University of Technology about the laboratory and practice in the CICT]*. All laboratories and practice rooms are managed closely, exploited and used effectively, with the frequency of using small rooms of averagely 138 turns per semester *[Exh.9.3-05: Statistics of Practice Session in the CICT]*. There is no need for students to study in the third shift (class in the evening) or on Sunday.

To increase the quality of training, the CICT has cooperated with enterprises, to open short-term training courses (Fresher class) or presented issues of business interest. In addition, students also participate in the company visit, practice in the enterprises and use the infrastructures of these enterprises.

9.4 The IT facilities including e-learning infrastructure are adequate and updated to support education and research

Information technology is one of the five key areas of CTU's development. In order to best meet students' needs, in addition to IT facilities at colleges, schools and institutes, CTU has invested in 34 common computer labs for students' study and research needs. The LRC alone has 500 computers. All the computers and IT equipment of CTU are connected to the Internet. The university has also covered wifi in almost all areas to serve study and research purposes. The integrated information system of the university has been expanded and completed, helping CTU to complete the computerization in most activities. To use computers and IT resources (hardware and software) of the university, all users have their own account. Specifically, students may log in to the Management System to plan their studies, register for the course, view grades, tuition fees and other activities. Officials use the management system to manage course scores, manage scientific research, declare teaching hours, personal income and so on. In addition, CTU has an online learning system that allows sharing study materials, online exams and academic exchanges. All systems have the function that allows users to submit their comments directly to improve and enhance the quality of services.

The CICT is equipped with sufficient facilities for information technology. There are a total of 942 computers (71 computers in functional rooms and 871 computers in laboratories and practice rooms), 17 projectors, 02 robots, 10 television sets for teaching and research *[Exh.9.4-01: Statistics of laboratories, practice rooms, and functional rooms of CICT dated December 2017]*.

In order to create the best possible conditions for students, the CICT also has a student support system that requests confirmation and prints student academic transcripts *[Exh.9.4-02: Webpage http://www.cit.ctu.edu.vn/vpk/login]*. The CICT is also operating the Elcit *[Exh.4.2-03]* online training system, helping faculty and students learn and exchange information faster and easier, effectively support the organization of examinations in simple, accurate and safe manner. All students of CICT are given a free Elcit account which will be used during their training at the Faculty. At the beginning of each semester, the system administrator will automatically create class groups according to each lecturer involved in teaching; and students will be enrolled in these classes depending on the registered course syllabi. Lecturers use the Elcit system to send learning materials, homework assignments, announcements, online

discussions to students, create tests and organize examinations. Students can participate in courses, receive materials, participate in exams on Elcit as well as exchange information and participate in forums.

9.5 The standards for environment, health and safety; and access for people with special needs are defined and implemented

CTU has been developing continuously with projects to build more buildings for training activities but still ensure a green, bright and clean environment for students and staffs. The security of CTU is always ensured, the lighting system is adequate, the fire and explosion prevention is carried out continuously, making sure the 24/24 university operation. There are university dormitories with over 10,200 seats and an operation frequency of over 98%. Can Tho University also has a healthy living environment with playgrounds, parks, fitness centers, canteens, mini supermarkets and so on. All staff and students are covered by health insurance. All staff, officers and students are partially supported by the university to attend medical examinations at the beginning of the school year for health check, counseling and health care. *[Exh.9.5-01: Health check-up schedule https://tansinhvien.ctu.edu.vn/sinh-hoat/lich-kham-suc-khoe]*. In addition, CTU also has health care clinics for students and staffs, and inquiries and psychological counseling for students.

In order to create the most comfortable study environment for students, all the practice rooms are equipped with air-conditioners and wifi covered in the whole CICT *[Exh.9.5-02: Final Report 2016 -2017 of the CICT]*. In order to enhance the security, the whole college is equipped with security cameras, 24/24 guard, student volunteers to support guarding during office hours. The CICT has a dedicated garage for staff; students use the garage near the front and back doors of the college and all the ones inside the university. The building has two floors, each with 2 male toilets and 2 female toilets which are clean, airy and odorless. The college is planning to renovate and build new facilities to meet the needs of special groups to better serve the society.

The College has also implemented the regulations on fire and explosion prevention. The college strictly obeys fire and explosion prevention activities, fully equips all fire extinguishers, fire alarms and instructions in case of fire and explosion. *[Exh.9.5-03: Minutes of fire and explosion prevention equipment inspection and recall]* Within the CICT, there is an open cafeteria serving students and staff. In addition, there is a badminton court and a ping pong table, massage machines for staff to improve their physical strength, improve their health and have fun with activities

10 Quality Enhancement

10.1 Stakeholders' needs and feedback serve as input to curriculum design and development

The BEIT curiculum was last updated in 2014. This training program was developed on the basis of the ACM-Association for Computing Machinery Framework Program *[Exh.1.1-04]*, the suggestions from CICT's lecturers *[Exh.1.1-05],* feedback from the program graduates to improve the program *[Exh.1.1-06]* and the curiculum framework regulated by the MOET as well as the missions and visions of CTU.

The BEIT program is built basing on the credit system. Prior to the 2014-2015 academic year, undergraduate students enrolled in specialized fields at CICT must study 120 credits (IT - Applied Informatics), 135 credits (for Software Engineering, Computer System, Computer Network, and Computer Science) within 9 semesters. By the end of 2013, there were some

changes to this program, such as increasing the credit in the curriculum for all majors in the faculty to 155 credits, plus some additional courses. These changes are implemented to students enrolling in the 2014-2015 school year.

Changes in the curriculum such as goals, ELOs, frame structure, number of credits, and the structure of 03 blocks of knowledge are designed to meet the requirements, needs and opinions of stakeholders. At the end of each semester, the college and departments often hold discussion meetings to collect lecturers' feedback relating to semester courses and hold expert group meetings to address improvement measures *[Exh.10.1-01: Minute of Group Meeting to Improve the Course of Basic Programming – Session 1]*. Student feedback on satisfaction level and improvement proposals for each course were collected after the completion of the courses through the university's management software *[Exh.10.1-02: Collection of Student Feedback for the Course CT171]* and through face-to-face meetings between students and leaders of departments and the CICT *[Exh.10.1-03: Minutes of Orientation Session in 2016]*. Surveys are sent to alumni and businesses to collect feedback regarding the training program. *[Exh.5.3-05]*, *[Exh.5.3-06]*. From the feedback of the related stakeholders, the Department proposes solutions to improve the program and receive the acceptance of the Council of Science and Training of the CICT.

In curriculum innovation, the gathering of contributing opinions and feedback from stakeholders plays an important role. The survey shows that the level of satisfaction of the professional skills of the graduates is at level 4 (satisfaction); communication and group work skills at level 3 (average). In addition, enterprises have made some suggestions such as increasing time for big assignments, projects and practice and inviting specialists to train the students. Table 10.1 shows some feedback related to the curriculum and further improvement solutions being implemented. All feedback will be considered at the meetings of the professional group, and the Council of Science and Training to adjust the training program.

Table 10.1: Suggestions of stakeholders for adjustments of the program

Requirements/Suggestions	Stakeholders	Fulfillments
Increase time for big assignments, projects, practice	Enterprises, alumni	Include practice in most courses in the curriculum, adding specialized projects
Enhance students' sense of responsibility at work	Enterprises	Meetings between academic advisors and students; orientation program between the college leaders and Youth Union with students
Invite specialists from the company to train the extracurricular skills and new techniques being applied around the world	Enterprises	Invite experts to present technology topics and work processes for students *[Exh.10.1-04: Knowledge Discovery Program 2016]* Collaboration with enterprises *[Exh.10.1-05: MOU with VNPT]*
Improve students' English communication skills	Enterprises, students and lecturers	Student exchange program *[Exh.10.1-06: MOU with EECS-NCU]* Encourage students to take the foreign language classes to get equivalent certificates in the foreign language for English course exemption at the university.

Focus on the basics of programming (programming methods, problem-solving methods) instead of going into the details of a programming language	Lecturers	Redesign the teaching and practice content.
The practice room is hot, which does not guarantee the teaching environment, practice	Students and lecturers	Installation of air conditioning system for all practice rooms *[Exh.9.3-03]*

Every year, the QATC is responsible for planning the collection of feedback from students on teaching and statistics, sending reports to leaders of units and relevant lecturers *[Exh.10.1-07: Upon Collecting Learner Feedback for Lecturers' Teaching Activities in second semester of 2016-2017]*. The Rector Board directly monitors the activities through QATC.

10.2 The curriculum design and development process is established and subjected to evaluation and enhancement

A CTU's curriculum is structured in a 8-step process as shown in Table 10.2.

Table 10.2: The process of designing a cirriculum

Step	Content
1	Survey and determine the human resource needs by level and training program; Survey of employers' needs for graduates of the training program combined with the minimum volume of knowledge requirements and qualification requirements of learners after graduation.
2	Set common goals, specific objectives and the learning outcomes of the training program.
3	Determine the structure and volume of necessary knowledge of the training program, develop the training curriculum to ensure the program objectives and expected learning outcomes.
4	Reference, compare with the training program of the same level, the same program of other institutions in the country and abroad to complete the training program
5	Design a syllabus for each course according to the training curriculum
6	Organize workshops to collect feedbacks from lecturers, management staff inside and outside the training institution, scientists, employers and graduates (if any) on the training program.
7	Finalize the draft training program on the basis of receiving feedback from the concerned parties and submit to the Science and Training Council of the training institution to consider the appraisal and application process.
8	Evaluate and update regularly the curriculum content and teaching methods based on new advances in the field of specialization and the requirements of employers.

CTU has issued Decisions to improve the quality of its training programs. The university has a Decision to set up a team to adjust all program curricula based on the Rector's decision [*Exh.10.2-01: Decision No. 4946/QĐ-ĐHCT*], in which the training programs are evaluated and improved by the College [*Exh.10.2-02: Minutes of the Second Revision of the Training Programme 2013*]. In addition to the feedback from the lecturers through departmental

meetings and student feedback, the department also sends the training programs to businesses and alumni to get feedback on the current training programs and receive suggestions for improvements (Table 10.1). Based on the feedback, the curriculum team will meet to review and make improvement decisions. *[Exh.10.2-03: Minutes of the Second Program Improvement Meeting 2013]*.

In 2013, the CICT implemented a number of activities to improve the curriculum of the Cohort 38. The changes were implemented to students enrolling from 2014 onwards, with the following content: the block of general knowledge has 56 credits (accounting for 36%), Physical Education credits increase from 2 to 3 credits; (2) the block of fundamental knowledge consists of 15 modules, with a total of 46 compulsory credits (30%); and (3) the block of specialized knowledge has a total of 53 credits (34%). Specifically, in the 2013's refinement, the old programs of 120 (with 100 credits for compulsory subjects and 20 credits for selective subjects) or 137 credits (100 credits for compulsory subjects and 37 credits for selective subjects) were changed into 155 credits (116 credits for compulsory subjects and 39 credits for selective subjects). In addition, in the 155-credit program, the majors focus on increasing the specialized knowledge of the discipline and some specialized courses. Some courses were changed by integrating, substituting and changing credits from 2014 through 2017, and some of the courses were intensified such as courses of Basic Programming, Mathematics for Informatics, and English for Specific Purposes and some courses were taken out of the training program. In fact, the curriculum has been reviewed and evaluated so that its adjustment ensures the alignment with the learning process, relevance and adherence to the ELOs of the program. The training program is revised and updated periodically based on stakeholder feedback and is tailored to meet the social needs. The updated programs are publicized on the website of the CICT[1]

10.3 The teaching and learning processes and student assessment are continuously reviewed and evaluated to ensure their relevance and alignment

CTU has implemented quality assurance (QA) procedures for all university activities. These procedures are publicized on the university website so that everyone can refer to and follow. All courses taught in a semester are posted on the university's management system. Students can choose a course that fits their individual study plan through the application of the online course registration system. Lecturers must publicize the teaching and assessing plans in the course syllabus to the group taught by them in the first class session. Lecturers conduct their teaching and assessing students' learning process following the published syllabi. The QATC, college managers and departments supervise the teaching and learning activities through students' feedback of the courses as well as lecturers' feedback on the course through various meetings during the semester. Based on this information, college managers, departments and lecturers address and improve the issues related to the quality of learning and teaching (e.g. teaching content, teaching methods and assessment. *[Exh.10.3-01: Minutes of group meeting to improve the Basic Programming Syllabus - Session 2]*

The training programs and course syllabi for the fields of ICT have always been improved and adjusted to meet the ELOs of the training programs. In particular, lecturers are encouraged to propose content modifications and course assessments in each semester and these adjustments are made in order to better meet the needs of the program's ELOs.

[1] http://www.cit.ctu.edu.vn/index.php/dao-t-o/chuong-trinh-d-i-h-c

The CICT and departments often have meetings on teaching plans, assessments of lecturers' teaching and students' learning at the beginning and the end of the semester so that lecturers can discuss together and show their contributions to previous courses. From these meetings, important feedback is considered to propose solutions to improve the training program for better academic performance. In addition, lecturers may adjust the assessment by selecting the appropriate types of assessment for their courses. One example of improvement is that teachers have assembled a common template for graduation theses *[Exh.10.3-02: Sample Thesis for the IT Field]* to help students follow the structure and content of a thesis as well as develop criteria for thesis evaluation *[Exh.10.3-03: Scoring card for the graduation thesis of the university graduate in IT]* in order to create more consistency and accuracy in student thesis evaluation.

10.4 Research output is used to enhance teaching and learning

Scientific research plays a very important role in improving the teaching and learning of the lecturers and students in CTU. This activity has received special attention from the leaders of the university. There is a rather large budgets for scientific and technological activities *[Exh.5.3-02]* aiming to improve the quality of teaching to and learning of students. The important role of research results in improving the learning and teaching has also been reflected in the regulation on the number of researching hours in the workload of CTU lecturers. In particular, the research conducted by faculty members in the CICT is closely linked to the academic and practical needs of the society, highly applicable and often attracts students' participation through student theses or research projects.

Research projects and related publications can help the lecturers adjust textbooks or add exercises, experimental models or simulations in teaching. In addition, every year, students at the university have the opportunities to register to be coordinators for student research projects. *[Exh.10.4-01: List of student research projects]*. The results of students' research not only help them improve their knowledge, professional experience and research skills but also have high applicability. Particularly, a number of student studies have won awards in national contests. *[Exh.10.4-02: Certificate]*

From these research findings, many research processes have been applied into teaching and writing text books for students such as computer network, cloud computing, network security and etc. In addition, a large number of theses by IT students have been carried out in the research direction and the funding sources of lecturers' research projects.

10.5 Quality of support services and facilities (at the library, laboratory, IT facility and student services) is subjected to evaluation and enhancement

CICT's library and all the laboratories are equipped with modern equipment to fully meet the needs of training, conducting scientific research and the graduation thesis of students *[Exh.9.4-01]*. Services and facilities for students are evaluated and upgraded by the CICT through surveys of the student's level. Table 10.3 presents the percentages of BEIT students' satisfaction with the services and facilities of the CICT and CTU.

Table 10.3: Satisfied rate (%) of the BEIT student on services and facilities of CICT and CTU

Contents	Extremely unsatisfied	Unsatisfied	Satisfied	Extremely Satisfied
You are satisfied with the conditions of classrooms and facilities for theory courses	0.00	11.11	55.56	33.33

Contents	Extremely unsatisfied	Unsatisfied	Satisfied	Extremely Satisfied
You are satisfied with the conditions of laboratories and facilities for practice courses	0.00	33.33	44.44	22.22
The learning materials provided by CTU meets your demands for your study and research activities	0.00	0.00	77.78	22.22
You are satisfied with the information and services provided by your Department/School, the Youth Union and the Students Association to help students in seeking jobs	0.00	0.00	55.56	44.44

The information in Table 10.3 mentioned that unsatisfied rate with the conditions and faclilities of the classroom (11.11%) and laboratorie (33.33%) were quite high. To improve and enhanced the quality services of classrooms and laboratories, every year, the CICT will review the facilities and propose upgrading or buying new equipment to best serve the needs of students. Based on these proposals, CTU provides funding for the CICT to maintain, modernize and supplement learning equipment for students *[Exh.10.5-01: Report on allocation of funds for the CICT from 2012 to 7/2017], [Exh.10.5-02: Decision on allocation of budget estimates of 2018]*.

Particularly, the CICT and university have implemented the information technology system and encouraged lecturers and students to use it in teaching and learning. In the university's training system, each student is assigned to a university account to study, register for the module, give feedback to the courses, and view the learning results. More specifically, the CICT develops an online learning system that helps lecturers to disseminate learning plans, learning materials, and online exams. Students can register for courses, download tutorials, and take online exams in this system.

10.6 The stakeholder's feedback mechanisms are systematic and subjected to evaluation and enhancement

Teaching evaluation is a relatively new job for higher education both in theory and practice. At present, CTU has implemented this work, especially after the Official Letter No. 1276 / BGDDT-NG dated 20/02/2008 *[Exh.10.6-01: Official Letter No. 1276/BGDDT-NG dated February 20, 2008 on instructing to collect feedback from learners on teaching activities of teachers]* of the MOET instructing organizations to collect feedback from learners about lecturers' teaching activities. Despite initial difficulties, teaching evaluation is an indispensable trend and a compulsory task, contributing to ensure and continuously improve the quality of training *[Exh.10.6-02: Student Feedback Form for Lecturers' Teaching Activities]*. The procedure for collecting feedback from related stakeholders are conducted in a five-step process in Table 10.4.

Table 10.4: The procedure for collecting feedback from related stakeholders

Step	Content
1	*Information Collection* The QATC and officers responsible for academic affairs set up plans to collect feedback from the related stakeholders. The officers in charge will send the forms via email and post to the related stakeholders or open the application to gather student feedback for the courses.
2	*Data Synthesis and Analysis* The QATC, officers responsible for academic affairs and lecturers responsible for the training program synthesize and analyze the collected data collected and prepare survey reports.
3	*Result Analysis* Leaders of the college and departments along with lecturers analyze strengths and weaknesses and propose improvement solutions
4	*Improvement Planning* Leaders of the college and departments planning improvements for the coming semester.
5	*Evaluation of Improvement Activities* Leaders of the college and departments along with staff in charge evaluate results of improvement and report to the QATC and university leaders

The content of the survey for the stakeholders are presented in Table 10.5

Table 10.5: The content of the survey for stakeholders

Object	Survey content	Feedback collector
Students	- The content of the course, schedule, assessment methods are clearly introduced - The instructors fully teach and explain clearly - The method of teaching and assessment is appropriate - Satisfaction level - Other comments *[Exh.10.6-02]*	Online survey system
Graduating students	- The suitability of the training curriculum - Students have the opportunity to contribute to the training curriculum - Satisfaction of students on the curriculum, teaching methods, facilities and services of the University *[Exh.5.3-05]*	College student affairs officer
Employers	- The level of satisfaction of the enterprises for graduates in professional capacity, foreign language skills, teamwork, creative thinking ... - The level of satisfaction of the enterprises on the IT training program	College student affairs officer

Object	Survey content	Feedback collector
	- The level of participation to change the training program - Proposed change of training program - Enterprises are engaged in joint activities between CICT and enterprises [*Exh.5.3-06*]	
Staff	Staff's recommendations to improve the facilities, teaching activities, the union activities and the university services. *[Exh.10.6-03: Minute for the faculty meeting of CICT in 2015-2016]*	CICT's leaders collect feedbacks at annual review meetings

Since the semester 2 of the school year 2013 - 2014, the course assessment has been conducted online to ensure the objectivity of student feedback on the teaching and teaching organization of the university and lecturers. In addition, since the 2009 academic year to the present, the evaluation of the training program from the graduates has been carried out annually by the training units. Each lecturer can view the results of student assessment at their individual account *[Exh.10.6-04: Lecturer's Login to the course evaluation account]*; college leaders can view the results of the course assessment of all lecturers when logging in to the supervisor's account *[Exh.10.6-05: Leader's Login to the course evaluation account]*. These are the bases for improving the quality of courses and the training programs. Based on the information gathered, leaders of the college and departments along with lecturers address and improve issues related to the quality of learning and teaching (e.g. teaching content, teaching and assessing method of the course Basic Programming *[Exh.10.3-01]*.

11 Output

11.1 The pass rates and dropout rates are established, monitored and benchmarked for improvement

The study results, the pass rates and dropout rates are important measures to evaluate the quality of the training program. The evaluation of study results, graduation consideration, consideration of temporary absence, study warning, suspension and dismissal are stipulated and guided by the regulations on academic affairs *[Exh.4.1-13]*. In parallel with the academic regulations, CTU has developed a system of Training Management programs on computers that are assigned to different levels of management so that the training management units can monitor and follow up students' learning progress of each course, decide if students can graduate from the programs or not and propose timely solutions for different issues. Based on the same training management system, students are able to grasp the status of their learning and progress and the academic adviser get to know students' study plans and learning outcomes of their students *[Exh.11.1-01: Study Results in the first semester of the 2017-2018 of IT undergraduate class]*. Therefore, they can have appropriate counseling for student study plans *[Exh.11.1-02: Commitment of Students Being Warned of Academic Results of the first Semester of 2017-2018]* for students who are warned or dismissed *[Exh.11.1-03: Official Letter Regarding Checking Students' Academic Results in the First Semester of 2017 -2018]*. Table 11.1 describes the graduation and dropout rates of Information Technology students in the 5 most recent years. The proportion of students completing the study program in time is satisfactory.

Table 11.1: Pass rates and dropout rates from 2013 to 2017

School year	Total number of students	Proportion of students completing the study program in time			Dropout proportion during the study program			
		Within 3 years	Within 4 years	Within 4.5 years	First year	Second year	Third year	Forth year and later
2013-2014	107	0.93	21.50	22.43	0.93	6.54	5.61	5.61
2014-2015	134	1.49	-	-	-	4.48	7.46	1.49
2015-2016	184	0.54	-	-	-	0.54	4.89	-
2016- 2017	270	-	-	-	0.74	1.48	-	-
2017-2018	395	-	-	-	0.25	-	-	-

11.2 The average time to graduate is established, monitored and benchmarked for improvement.

Average time to graduate is 4.5 years (09 semesters) for the BEIT program. Students will graduate after having completed the required total credits of the program. Students may graduate sooner or later than 4.5 years depending on their learning capacity. In addition, according to the university's Academic Regulations, the allowed duration to complete the university training program is from 4.5 years to a maximum of 9 years *[Exh.4.1-13]*. This maximum duration is satisfactory, helping students get a degree when they have to interrupt their studies for a variety of reasons.

Proportions of students completing the program in time are shown in Table 11.1. Currently, the proportion of IT students who graduate on time and before the 4.5-year term is 47.73%, still 55.27% of them have not graduated because their study plan is not reasonable. Students are constantly monitored and assisted by advisors throughout the learning process. The common reasons for students graduating behind the schedule are health problems, personal problems and family issues. The policy of “academic warning when students have a poor academic status”; academic counselors’ advice for students to plan their studies; and Clause 14 of the Academic Regulations *[Exh.4.1-13]* are applied to help students balance the volume and average time for studying for the best academic results. This forms of management helps both the college and students to monitor the learning situation of students, dropout students as well as their reasons to be able to reflect and handle the problems in time.

11.3 Employability of graduates is established, monitored and benchmarked for improvement

The student employment rate is an important measure to assess the quality of a training program. Recognizing the importance of these indicators, the QATC and the College annually evaluate the results of surveys. The findings reveal that the number of students being employed has increased over the years as shown in Table 11.2. It shows that the training program of the CICT has always been improved to meet the demands of the labor market *[Exh.11.3-01: Student Employment Report after One Year of Graduation]*.

Table 11.2: Employment rates (2013 – 2017)

Year	2013	2014	2015	2016
	Employment Rates (%)			
Information System	43,8	42,7	71,1	96,8
Software Engineering	54,0	35,2	79,7	88,3
Computer Science	40,0	25,8	75,0	87,8
Computer Network and Communications	32,1	42,7	77,4	90,6
Information Technology				

According to the surveys with alumni of different majors in the CICT in general and the ones from the BEIT programs and related stakeholders in particular, the quality of graduates is satisfactory with the requirements of the society. In addition, to assist graduates in finding employment, the CICT has organized many activities to support students to find jobs through recruitment information from companies, direct job interviews through the Job Day *[Exh.11.3-02: Job Day Plans for 2016, 2017]* held at CICT.

11.4 The types and quantity of research activities by students are established, monitored and benchmarked for improvement

Students' taking part in research, especially when they have original research ideas and conduct their own studies, has been greatly encouraged by the university in general and CICT in specific. Students from all majors in the CICT have been very active in this activity, from 2013 to 2017, there have been 26 students' research projects (Table 11.3). In general, the type of scientific research of students in the CICT mainly consists of leading or participating in basic research projects for students which are financed by the university, participating in research projects managed by the staff, taking part in research activities in order to accumulate experience and enhance their research ability. These research activities show that every form of participation helps students have many opportunities in finding jobs after graduation and at the same time helps them to self-study in the working process.

Table 11.3: Student research activities in different departments of CICT

Departments	Year 2013	Year 2014	Year 2015	Year 2016	Year 2017
Information System	1		1	2	1
Computer Network and Communications	1		2	3	1
Software Engineering	0	1	1	0	3
Information Technology				1	1
Computer Science		1	2	2	2
Applied Informatics					0

11.5 The satisfaction levels of stakeholders are established, monitored and benchmarked for improvement

In order to improve the level of satisfaction, CTU is always interested in feedback from stakeholders including students, alumni and enterprises and lecturers *[Exh.10.6-02]*, *[Exh.10.6-01]*. Evaluation of the training program from graduates *[Exh.11.5-01: Evaluation Form of Graduates in 2017]*, enterprises *[Exh.11.5-02: Evaluation form for Employers on the BEIT Program of 2017]* is conducted annually by the training departments in the university. These

survey results were reviewed and evaluated to build up the improvement plans. Table 11.4 presents satisfied rate of newly graduated student on the BEIT program.

Table 11.4: Satisfied rate (%) of newly graduated student on the BEIT program

Contents	Extremely unsatisfied	Unsatisfied	Satisfied	Extremely Satisfied
The programme offers a balance of fundamental knowledge and specialized knowledge	0.00	11.11	77.78	11.11
The programme offers a balance of fundamental knowledge and specialized knowledge	0.00	11.11	88.89	0.00
The course syllabi help you understand the expected learning outcomes for knowledge, skills, and attitudes and behaviors	0.00	11.11	77.78	11.11
The course syllabi show clear and particular assessment contents and criteria	0.00	22.22	55.56	22.22
You are satisfied with the agreement and coherence between and among the courses in the programme	0.00	22.22	55.56	11.11
The teaching methods by the lecturers help you develop your study skills and soft skills	0.00	0.00	100.00	0.00
In general, you are satisfied with your programme	0.00	0.00	77.78	22.22

Besides, to improve students' satisfaction level, CTU has developed a system to survey learners' satisfaction and get their suggestions for improvement for each individual course, as well as survey alumni about the training programs and university services. The survey results reveal that most students evaluate that the content of the course is appropriate, the lecturers employ appropriate teaching methods for students, teach them how to self-study, self-research and respect students' opinions and participation in classroom activities. This helps students develop their independence and time-management skills. *[Exh.11.5-03: Student Feedback for CT171-Introduction to Software Technology]*. Most of the alumni comments show that they are satisfied with the IT curriculum, teaching methods, services (classrooms, equipment ...), services (counseling, learning support), and participate in contributing comments to the training program *[Exh.11.5-01]*. All survey results are collected and then reviewed in staff meetings to suggest solutions for improvement in the next semester *[Exh.10.1- 01]*.

In addition, CTU has developed a policy on workload for the teaching staff. In addition, the faculty and the university annually collect ideas from staff members about the faculty and university activities to propose corrective measures. *[Exh.10.6-03], [Exh.10.6-04]*

PART 3: STRENGTHS AND WEAKNESSES ANALYSIS AND QUALITY ENHANCEMENT PLAN

1 Strengths analysis

1.1 Criterion 1: Expected learning outcomes

- The ELOs of the BEIT program have been built in accordance with the requirements of the MOET, feedback of stakeholders including employers, alumni and lecturers.
- The ELOs of the BEIT programs are closely related to the program training objectives, vision and missions of College of Information Technology and Can Tho University.
- The ELOs are communicated to students and related stakeholders through the websites of the faculty and university.

1.2 Criterion 2: Program specification

- The program specifications clearly outline the objectives, structure, ELOs, correlation matrix and learning progress (mapping subjects and study plans), which provides students with sufficient and detailed information to register the courses to be able to complete the program on time.
- Program specifications and syllabi are publicized and communicated to related stakeholders.

1.3 Criterion 3: Program structure content

- The content of the program is linked to its ELOs. The correlation matrix clearly indicates the contribution to the ELOs of each course. Contributions are shown in the ELOs of each course. In addition, teaching and learning activities and assessment methods are clearly defined in the syllabus of each course.
- The structure and content of the program show the balance between the blocks of general knowledge, fundamental knowledge and specialized knowledge. Students are provided with clear learning plans: from general to fundamental to specialized knowledge.
- Each course in the program is fully described and includes: course objectives, ELOs, syllabus, plan, teaching and assessment methods, and a list of teaching materials and references.

1.4 Criterion 4: Teaching and learning approach

- The educational philosophy and strategies of teaching and learning have been shaped and shared among the stakeholders in the CICT.
- The teaching and learning strategies are implemented in a coordinated way from program design to content design and teaching methods.
- The process of organizing teaching and supporting activities has helped to motivate students to be active in learning.
- Learning through action is encouraged and supported.
- Learners are free to build their own study plans and acquire knowledge.
- There are many activities to enhance lifelong learning for learners

1.5 Criterion 5: Student assessment

- The system of legal documents on the assessment of students' learning outcomes is quite complete and consistent, which ensures fairness and transparency in student assessment. In addition, regulations on assessing students' learning outcomes are constantly updated and supplemented to be suitable to the circumstances.

- Lecturers use a variety of assessment methods that are appropriate for the objectives and content of each course. Forms of assessment are announced in advance to students in many forms, such as stated in the syllabus, in class and on the e-learning website of the college to help students take the initiatives in learning, evaluating and achieving the best possible results
- Students are assessed during their studies in the form of classroom discussions, midterm and end-of-term examinations.
- Final examination and evaluation process have been organized under the supervision of the university and the college to ensure the seriousness and fairness of the exams

1.6 Criterion 6: Academic staff quality

- There is a complete legal document system and a synchronized implementation process for planning the academic staff.
- There is a database that allows for tracking the lecturer/student ratio as well as measuring workload over the years as a basis to improve the quality of teaching, research and service.
- There is a complete legal document system for the appointment, assignment and promotion with criteria of ethics and academic freedom.
- There is a system for recording and evaluating the capacity of the academic staff.
- There are many policies to support the development of the academic staff.
- There is a system that manages the work details for each member and a clear attribution system.

1.7 Criterion 7: Support staff quality

- The number of support staff with postgraduate qualifications accounts for a high proportion.
- Most of the administrative staff has been trained in the field they are in charge of. Therefore, they can handle their assigned tasks well.
- The majority of staff has been working for a long time and accumulated a lot of experience at work.

1.8 Criterion 8: Student quality and support

- The university has clear and transparent admission policies which are in line with the MOET's regulations. In addition, admission counseling activities are held regularly in various forms. As a result, candidates have easy access to the university's information and can ask for consultation whenever they need.
- During the process of learning at universities, students and staff can access information about students' study plans, academic achievements and extracurricular activities which is regularly updated on the Management System website.
- Many lecturers are dedicated and friendly to the students, which in turn makes students more relaxed during communication.
- Thanks to the associations and organizations, students have many options to participate in extracurricular activities such as summer volunteering, humanitarian blood donation, community work, sports events, and music performances.
- Students are provided with opportunities to improve their knowledge through the IT club and at the same time have access to recruiters through the IT Knowledge Exploration Week, Job Fair and field trips.
- Students have the opportunity to improve foreign language skills, exchange cultures and learn through interactive activities with students from Korea, Taiwan, Japan, Thailand and Brunei.

- Dormitories with a capacity of 10,000 beds are very convenient for accommodation, activities and study for students and foreign visitors. The dormitory has 24/24 professional security guard.
- The Learning Resource Center with 121,437 books, 400 computers, 3 discussion rooms, an audio-visual room and many self-study tables are the places to store and provide information services for students.
- The surrounding area has many green shading trees and lawns for outdoor activities.

1.9 Criterion 9: Facilities and infrastructures

- The university and college have facilities and equipment that are modern, up-to-date and regularly upgraded.
- The CICT invests, manages and exploits resources to serve the teaching, learning and research needs of staff and students.
- The university and college have green, clean, beautiful and safe campuses to secure the spiritual life and health for staff and students.

1.10 Criterion 10: Quality enhancement

- The university has an organizational structure for quality assurance, effectively uses training management software, and has meetings with staff and student representatives in order to solve problems in the teaching of lecturers and the learning of students. .
- Collection of feedback from relevant stakeholders is of interest to the university. Quality Assurance & Testing Center has completed all the forms and provided guidelines for implementation annually. Feedback from stakeholders is an important channel to help the college and department meet the training needs of the society and propose solutions to improve the training program aligning with reality demands.
- Teachers receive necessary feedback from students on how to improve their syllabus and teaching methods.
- Students have the rights to express their opinions on the content and teaching methods.
- With teaching staff capable of teaching and researching along with the policies to improve the teaching and support scientific research of CTU and the CICT, students have been provided with good opportunities to study and participate in scientific research.

1.11 Criterion 11: Output

- There are high employment rates of students graduating from various majors in the CICT.
- Graduates of the CICT are generally able to work in recruiting agencies and companies, be able to handle issues related to their specialization, and adapt well to the actual conditions of employment.

2 Weaknesses analysis

2.1 Criterion 1: Expected learning outcomes

- Some feedback from the employers indicates that the BEIT program needs to improve English language skills as well as soft skills for students.

2.2 Criterion 2: Program specification

- Some feedback from the employers indicates that the BEIT program needs to invite experts from companies, businesses come to teach, or send students to companies for more practical training, and courses should have more project activities.

2.3 Criterion 3: Program structure content

- Some feedback from the employers indicates that the BEIT program needs to increase the number of English modules, soft-skill training courses, courses with project activities closely link to business reality and vocational courses for students.

2.4 Criterion 4: Teaching and learning approach

- Large classes for some courses prevent teachers from applying modern teaching methods to fully develop learners' ability.

2.5 Criterion 5: Student assessment

- Because of the large class size and lack of teaching assistants, there are still difficulties in applying some assessment methods such as project-based assessment, seminars, oral presentations, and so on to enhance the activeness and positivity of students.

2.6 Criterion 6: Academic staff quality

- There is no threshold for determining the appropriate ratio between academic staff and learners as a basis for the additional recruitment or transfer of academic staff across disciplines.
- There is not enough funding for training of academic staff, which influences the development plan of the college.
- There are not many publications on ISI systems.

2.7 Criterion 7: Support staff quality

- Support staffs need to improve English skills to meet the international integration requirements

2.8 Criterion 8: Student quality and support

- Some parking plots should have roofs to protect students' bikes and motorbikes better.

2.9 Criterion 9: Facilities and infrastructures

- The CICT has not had students with disabilities but is planning to improve its facilities to serve this group of students better.

2.10 Criterion 10: Quality enhancement

- Many students do not participate in the procedure of evaluating lecturers after the course.

2.11 Criterion 11: Output

- The number of enterprises, employers and alumni contributing to the training program is still small.

3 Self-evaluation

No.	Criterion	Scores						
1	**Expected learning outcomes**	**1**	**2**	**3**	**4**	**5**	**6**	**7**
1.1	The expected learning outcomes have been clearly formulated and aligned with the vision and mission of the university [1,2]						X	
1.2	The expected learning outcomes cover both subject specific and generic (i.e. transferable) learning outcomes [3]						X	
1.3	The expected learning outcomes have clearly reflected the requirements of the stakeholders [4]						X	
	Overall Opinion	**6.00**						
2	**Program Specification**	**1**	**2**	**3**	**4**	**5**	**6**	**7**
2.1	The expected learning outcomes have been clearly formulated and aligned with the vision and mission of the university [1, 2]						X	
2.2	The expected learning outcomes cover both subject specific and generic (i.e. transferable) learning outcomes [1, 2]						X	
2.3	The program and course specifications are communicated and made available to the stakeholders [1, 2]						X	
	Overall Opinion	**6.00**						
3	**Program Structure and Content**	**1**	**2**	**3**	**4**	**5**	**6**	**7**
3.1	The curriculum is designed based on constructive alignment with the expected learning outcomes[1]						X	
3.2	The contribution made by each course to achieve the expected learning outcomes is clear [2]						X	
3.3	The curriculum is logically structured, sequenced, integrated and up-to-date [3, 4, 5, 6]						X	
	Overall Opinion	**6.00**						
4	**Teaching and Learning Approach**	**1**	**2**	**3**	**4**	**5**	**6**	**7**
4.1	The educational philosophy is well articulated and communicated to all stakeholders [1]					X		
4.2	Teaching and learning activities are constructively aligned to the achievement of the expected learning outcomes [2, 3, 4, 5]					X		
4.3	Teaching and learning activities enhance life-long learning [6]					X		
	Overall Opinion	**5.00**						
5	**Student Assessment**	**1**	**2**	**3**	**4**	**5**	**6**	**7**
5.1	The student assessment is constructively aligned to the achievement of the expected learning outcomes [1, 2]						X	

No.	Criterion	Scores						
5.2	The student assessment including timelines, methods, regulations, weight distribution, rubrics and grading are explicit and communicated to students [4, 5]							X
5.3	Methods including assessment rubrics and marking schemes are used to ensure validity, reliability and fairness of student assessment [6, 7]					X		
5.4	Feedback of student assessment is timely and helps to improve learning [3]						X	
5.5	Students have ready access to appeal procedure [8]							X
	Overall Opinion	**6.20**						
6	**Academic Staff Quality**	**1**	**2**	**3**	**4**	**5**	**6**	**7**
6.1	Academic staff planning (considering succession, promotion, re-deployment, termination and retirement) is carried out to fulfill the needs for education, research and service [1]					X		
6.2	Staff-to-student ratio and workload are measured and monitored to improve the quality of education, research and service [2]				X			
6.3	Recruitment and selection criteria including ethics and academic freedom for appointment, deployment and promotion are determined and communicated [4, 5, 6, 7]					X		
6.4	Competences of academic staff are identified and evaluated [3]					X		
6.5	Training and developmental needs of academic staff are identified and activities are implemented to fulfil them [8]					X		
6.6	Performance management including rewards and recognition is implemented to motivate and support education, research and service [9]					X		
6.7	The types and quantity of research activities by academic staff are established, monitored and benchmarked for improvement [10]				X			
	Overall Opinion	**4.72**						
7	**Support Staff Quality**	**1**	**2**	**3**	**4**	**5**	**6**	**7**
7.1	Support staff planning (at the library, laboratory, IT facility and student services) is carried out to fulfil the needs for education, research and service [1]					X		
7.2	Recruitment and selection criteria for appointment, deployment and promotion are determined and communicated [2]						X	
7.3	Competences of support staff are identified and evaluated [3]						X	

No.	Criterion	Scores						
7.4	Training and development needs of supports staff are identified and activities are implemented to fulfil them [4]						X	
7.5	Performance management including rewards and recognition is implemented to motivated and support education, research and service [5]					X		
	Overall Opinion	**5.60**						
8	**Student Quality and Support**	**1**	**2**	**3**	**4**	**5**	**6**	**7**
8.1	The student intake policy and admission criteria are defined, communicated, published, and updated [1]						X	
8.2	The methods and criteria for the selection of students are determined and evaluated[2]						X	
8.3	There is an adequate monitoring system for student progress, academic performance, and workload [3]						X	
8.4	Academic advice, extra-curricular activities, student competitions, and other student support services are available to improve learning and employability [4]					X		
8.5	The physical, social and psychological environment is conducive for education and research as well as personal well-being [5]				X			
	Overall Opinion	**5.40**						
9	**Facilities and Infrastructure**	**1**	**2**	**3**	**4**	**5**	**6**	**7**
9.1	The teaching and learning facilities and equipment (lecture halls, classrooms, project rooms, etc.) are adequate and updated to support education and research [1]						X	
9.2	The library and its resources are adequate and updated to support education and research [3, 4]						X	
9.3	The laboratories and equipment are adequate and updated to support education and research [1, 2]						X	
9.4	The IT facilities including e-learning infrastructure are adequate and updated to support education and research [1, 5, 6]							X
9.5	The standards for environment, health and safety; and access for people with special needs are defined and implemented [7]					X		
	Overall Opinion	**6.00**						
10	**Quality Enhancement**	**1**	**2**	**3**	**4**	**5**	**6**	**7**
10.1	Stakeholders' needs and feedback serve as input to curriculum design and development [1]					X		
10.2	The curriculum design and development process is established and subjected to evaluation and enhancement [2]						X	

No.	Criterion	Scores						
10.3	The teaching and learning processes and student assessment are continuously reviewed and evaluated to ensure their relevance and alignment [3]						X	
10.4	Research output is used to enhance teaching and learning [4]					X		
10.5	Quality of support services and facilities (at the library, laboratory, IT facility and student services) is subjected to evaluation and enhancement [5]					X		
10.6	The stakeholder's feedback mechanisms are systematic and subjected to evaluation and enhancement [6]					X		
	Overall Opinion	**5.33**						
11	**Output**	**1**	**2**	**3**	**4**	**5**	**6**	**7**
11.1	The pass rates and dropout rates are established, monitored and benchmarked for improvement [1]						X	
11.2	The average time to graduate is established, monitored and benchmarked for improvement [1]						X	
11.3	Employability of graduates is established, monitored and benchmarked for improvement [1]						X	
11.4	The types and quantity of research activities by students are established, monitored and benchmarked for improvement [2]							X
11.5	The satisfaction levels of stakeholders are established, monitored and benchmarked for Improvement [3]					X		
	Overall Opinion	**6.00**						
	Overall Verdict	**5.66**						

4 Quality enhancement plan

4.1 Criterion 1: Expected learning outcomes

- There will be more clubs and activities to improve students' English language and soft skills.

4.2 Criterion 2: Program specification

- The CICT will invite experts from companies, businesses come to teach, or send students to companies for more practical training.
- More project activities will be included in the course syllabi.

4.3 Criterion 3: Program structure content

- The CICT will consider increasing the number of English modules, soft-skill training courses, and courses with project activities that closely link to business reality.

4.4 Criterion 4: Teaching and learning approach

- The CICT will consider decreasing class size.

4.5 Criterion 5: Student assessment

- The CICT will organize training courses on assessment methods in accordance with AUN standards to ensure the science and level of achievement of the course ELOS.

- There will be mechanisms that allow lecturers to hire tutors, possibly from well-qualified students.

4.6 Criterion 6: Academic staff quality

- The CICT will call for funding for training of academic staff and encourage lecturers to seek for scholarships.
- The CICT and CTU will create favorable condition for staff to have publications on ISI systems.

4.7 Criterion 7: Support staff quality

- The university will regularly organize training for the support staff.

4.8 Criterion 8: Student quality and support

- Professional training for support staff will be organized more regularly by the university.

4.9 Criterion 9: Facilities and infrastructures

- The CICT is calling for support from foreign enterprises and partners to provide new and modern equipment for teaching, learning and researching to meet the demand of the market.

4.10 Criterion 10: Quality enhancement

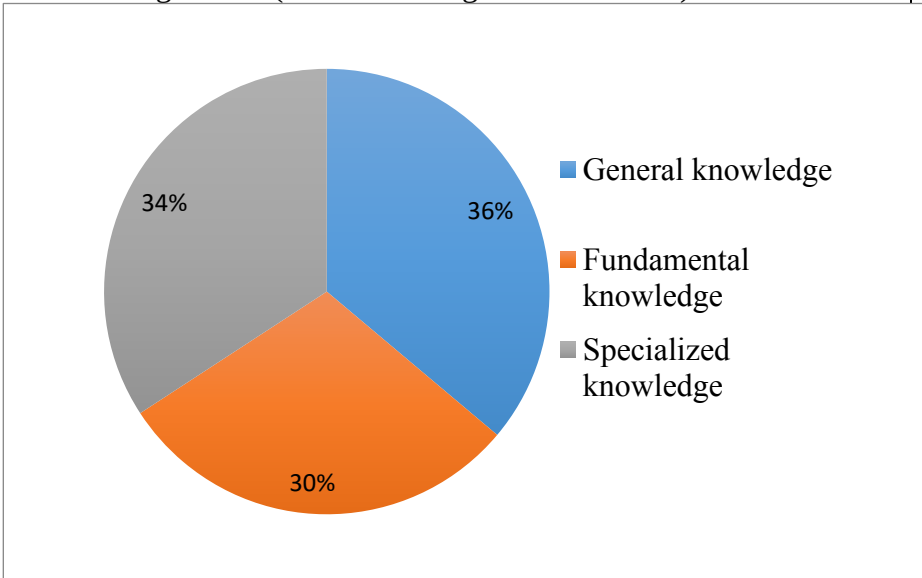
- There will be measures to encourage more students to participate in the procedure of evaluating lecturers after the course.

4.11 Criterion 11: Output

- The CICT will have measures to call for the contributions from enterprises, employers and alumni to the training program.

PART 4: APPENDICES

Appendix 1: Programme Specification

1	Degree awarding institution	Can Tho University
2	Training unit	Department of Information Technology, College of Information and Communication Technology
3	Degree title	Engineer
4	Name and code of the program	Information technology, 52480201
5	Type of training	Regular
6	Brief introduction of the program	- Year found: 2014; - 155 credits (116 compulsory and 39 elective credits), of which 56 credits are in general knowledge block, 46 credits in fundamental knowledge block and 53 credits in specialized knowledge block (10 credits for graduation thesis)  The BEIT program has been appropriately apportioned among general, fundamental and specialized knowledge blocks; - The average training time is 4.5 years. Depending on their own ability and conditions, students can shorten or extend their study time by making their own study plan. Elective credits allow students to pursue different study and research paths in the IT field. - References: • Circular No. 07: Regulations about the minimum volume of knowledge, the capacity that the student should meet after graduation and the process of designing, assessing and issuing the training curriculum at undergraduate, postgraduate and doctoral levels.

		• ACM Curriculum Guidelines for Undergraduate Degree Programs in Information Technology (https://www.acm.org/binaries/content/assets/education/curricula-recommendations/it2008-curriculum.pdf). • BS in IT program, Walden University, USA (https://www.waldenu.edu/bachelors/bs-in-information-technology). • BS in IT program, The University of Kansas, USA (http://catalog.ku.edu/engineering/electrical-engineering-computer-science/bs-information-technology/). • BS in IT program, George Mason University, Hoa Kỳ (http://ist.gmu.edu/programs/undergraduate-programs/bsit/)
7	Program assessment information	N/A
8	Program objectives	– PO1: Have good health and ethical behavior. – PO2: Have solid knowledge and state-of-the-art IT solutions. – PO3: Have fundamental knowledge of mathematics, science and technology appropriate to the discipline. – PO4: Explain and apply appropriate fundamental knowledge and information technologies to employ appropriate methodologies to help an individual or organization achieve its goals and objectives. – PO5: Have an ability to communicate in English or French, read and comprehend documents written in English or French.
9	Expected learning outcomes	ELO 30: Have good health and politial point of view toward the policies and guidelines to build and defense the country. ELO 31: Have fundamental knowledge of general law, social science and humanities, natural science to be able to acquire further professional knowledge. ELO 32: Have basic English/French. ELO 33: Have advanced knowledge of computer and essential softwares. ELO 34: Apply knowledge of computing and mathematics appropriate to the discipline. ELO 35: Have essential knowledge of IT fundamentals, computer architecture, operating systems and current common computer operating systems. ELO 36: Have fundamental knowledge of databases and database management systems, information system for organizations for bussinesses, system analysis and design. ELO 37: Have fundamental knowledge of data structure, algorithm, structured and object-oriented programming ELO 38: Have essential knowledge of software engineering.

		ELO 39: Have fundamental knowledge of computer networks. ELO 40: Have knowledge of integrative programming and technologies. ELO 41: Have essential knowledge of IT system administration and maintenance for an individual or an organization. ELO 42: Have essential knowledge of information assurance and security. ELO 43: Have essential knowledge of current IT solutions and products. ELO 44: Apply knowledge of mathematics and other basic science appropriate to the discipline. ELO 45: Utilize the computer for study, work as well as daily life and develop basic applied informatics application. ELO 46: Administer the IT system in an organization or business. ELO 47: Advise organizations and business on selecting appropriate IT products and solutions. ELO 48: Anticipate the changing direction of IT, evaluate and communicate the likely utility of new technologies to an individual or organization. ELO 49: Program in various software development frameworks and methodologies.. ELO 50: Administer various IT systems. ELO 51: Achieve English/French level B1. ELO 52: Write technical documents, academic articles or project proposals and demonstrations. ELO 53: Work as part of a team, to lead a team, to negotiate, to resolve conflicts, to use supporting tools for teamwork and collaboration, and to evaluate the contributions of a team member. ELO 54: Show the confidence, enthusiasm, passion, adaptation to changes, the readiness to work with others and the ability to consider and accept other points of view ELO 55: Be aware of and adhere to professional codes of conduct and standards in and beyond their disciplines. ELO 56: Show a professional image at work and in daily behavior. ELO 57: Actively create personal career development plan. ELO 58: Keep knowledge and professional skills up to date in order to have appropriate and effective attitude to and execution of the processing of the changes and updates.
10	Curriculum	Details are in the program curriculum and sample study plan.

11	Course syllabus	Details are in the collection of the course syllabus.
12	Quality references	MoET's criteria for evaluating the educational quality of an university, AUN-QA quality standard; QA handbook 1&2; the documents of the ministry / univerisity
13	Quality indicator	QA in units; Decision 1086 on the university's quality assurance policy; the regulations of the training units on the subject, grading, re-examination; examination inspection ...
14	Academic staff	Details are in the academic staff document.
15	Study environment	Classroom; laboratory; Learning Resource Center; library; academic clubs; consultant; Youth Union, Student Support Counseling Center, Dormitory management board, health care, photocopy service, document drafting service; scholarship; Support for disabled students
16	Requirements and enrollment criteria	High school graduation exams; MoET's regulation on the floor entrance results; direct entrance rules and other bonus points; admissions criteria; English requirements;
17	Information channels that help review feedbacks and improve quality	Stakeholder consultations conducted by the Quality Assurance and Testing Center and other training providers during and at the end of the program
18	Websites	Site address of University, College, Faculty, or relevant management units; faculty blogs; links for reference, self-study or document download.
19	Contact information	Pham The Phi; Phone: 0919458799; Address: Department of Information Technology, College of Information and Communication Technology, Campus 2, 3/2 Street, Xuan Khanh Ward, Ninh Kieu District, Can Tho City, Vietnam; Email: ptphi@cit.ctu.edu.
20	Time to compile / modify curriculum specifications	2014
21	Signature and stamp	The dean of CICT

Appendix 2: Curriculum

Nr.	Code	Course name	Num of credits	Required	Optional	Theory hours	Practice hours	Prerequisite	Semester
General knowledge									
1	QP006	National Defense Education 1 (*)	2	2		30		Taught in groups of majors	
2	QP007	National Defense Education 2 (*)	2	2		30		Taught in groups of majors	
3	QP008	National Defense Education 3 (*)	3	3		20	65	Taught in groups of majors	
4	QP009	National Defense Education 4 (*)	1	1		10	10	Taught in groups of majors	
5	TC100	Physical Education 1 + 2 + 3 (*)	1+1+1		3		90		I, II, III
6	XH023	Basic English 1 (*)	4		10 credits of English or 10 credits of French	60			I, II, III
7	XH024	Basic English 2 (*)	3			45		XH023	I, II, III
8	XH025	Basic English 3 (*)	3			45		XH024	I, II, III
9	XH031	Advanced English 1 (*)	4			60		XH025	I, II, III
10	XH032	Advanced English 2 (*)	3			45		XH031	I, II, III
11	XH033	Advanced English 3 (*)	3			45		XH032	I, II, III
12	XH004	Basic French 1 (*)	3			45			I, II, III
13	XH005	Basic French 2 (*)	3			45		XH004	I, II, III
14	XH006	Basic French 3 (*)	4			60		XH005	I, II, III
15	FL004	Advanced French 1 (*)	3			45		XH006	I, II, III
16	FL005	Advanced French 2 (*)	3			45		FL004	I, II, III
17	FL006	Advanced French 3 (*)	4			60		FL005	I, II, III
18	TN033	Basic Informatics (*)	1	1		15			I, II, III
19	TN034	Practice on Basic Informatics (*)	2	2			60		I, II, III
20	ML009	The Basic Principles of Marxist-Leninism 1	2	2		30			I, II, III
21	ML010	The Basic Principles of Marxist-Leninism 2	3	3		45		ML009	I, II, III
22	ML006	Ho Chi Minh Ideology	2	2		30		ML010	I, II, III

Nr.	Code	Course name	Num of credits	Required	Optional	Theory hours	Practice hours	Prerequisite	Semester
23	ML011	Revolutionary way of Vietnam Communist Party	3	3		45		ML006	I, II, III
24	KL001	General Law	2	2		30			I, II, III
25	ML007	General Logics	2		2	30			I, II,III
26	XH011	Introduction to Vietnamese Culture				30			I, II,III
27	XH012	Vietnamese in Use	2			30			I, II,III
28	XH014	General Documents & Archives	2			30			I, II,III
29	XH028	Basics of Sociology	2			30			I, II,III
30	KN001	Soft skills	2			20	20		I, II,III
31	TN001	Calculus for computer science 1	3	3		45			I, II, III
32	TN002	Calculus for computer science 2	4	4		60		TN001	I, II, III
33	TN010	Probability and Statistics	3	3		45			I, II, III
34	TN012	Linear Algebra & Analytic Geometry	4	4		60			I, II, III
35	CT101	Basic Programming	4	4		30	60		I, II
Total: 56 credits (Required: 41 credits; Optional: 15 credits)									
Fundamental knowledge									
36	CT172	Discrete Mathematics	4	4		60			I, II
37	CT103	Data Structures	4	4		45	30	CT101	I, II
38	CT173	Computer Architectures	3	3		45			I, II
39	CT178	Principles of Operating Systems	3	3		30	30	CT173	I, II
40	CT179	System Administration	3	3		30	30		I, II
41	CT112	Computer Networks	3	3		30	30	CT178	I, II
42	CT171	Introduction to Software Engineering	3	3		30	30		I, II
43	CT176	Object-Oriented Programming	3	3		30	30	CT101	I, II

Nr.	Code	Course name	Num of credits	Required	Optional	Theory hours	Practice hours	Prerequisite	Semester
44	CT175	Graph theory	3	3		30	30	CT103	I, II
45	CT174	Design and Analysis of Computer Algorithms	3	3		30	30	CT103	I, II
46	CT180	Introduction to Databases	3	3		30	30	CT103	I, II
47	CT187	Fundamentals of Information Technology	3	3		30	30		I, II
48	CT311	Research Methodology	2	2		20	20		I, II
49	CT181	Business Information Systems	3	N1	N1 or N2 or N3	30	30		I, II
50	CT182	Modeling Language	3			30	30		I, II
51	CT183	English for Information Technology 1	3	N2		45		XH025	I, II
52	CT184	English for Information Technology 2	3			45		CT183	I, II
53	CT185	French for Information Technology 1	3	N3		45		XH006	I, II
54	CT186	French for Information Technology 2	3			45		CT185	I, II
Total: 46 credits (Required: 40 credits; Optional: 06 credits)									
Specialized knowledge									
55	CT109	Information System Analysis & Design	3	3		30	30	CT180	I, II
56	CT233	Cloud Computing	3	3		30	30	CT112	I, II
57	CT332	Artificial Intelligence	3	3		30	30		I, II
58	CT202	Principles of Machine Learning	3	3		30	30		I, II
59	CT222	System Security	3	3		30	30		I, II
60	CT237	Principles of Database Management Systems	3	3		30	30		I, II

Nr.	Code	Course name	Num of credits	Required	Optional	Theory hours	Practice hours	Prerequisite	Semester
61	CT236	SQL Server Database Management Systems	2		2	15	30		I, II
62	CT269	Oracle Database Management Systems	2			15	30		I, II
63	CT335	Network Design and Implementation	3	3		30	30	CT112	I, II
64	CT235	Microsoft Windows Network Administration	3		3	30	30	CT112	I, II
65	CT212	Linux Network Administration	3			30	30	CT112	I, II
66	CT221	Network Programming	3	3		30	30	CT112	I, II
67	CT206	Application Development on Linux	3		3	30	30	CT176, CT180	I, II
68	CT251	Application Development on Windows	3			30	30	CT176, CT180	I, II
69	CT207	Open Source Software Development	3			30	30	CT101	I, II
70	CT428	Web Programming	3	3		30	30		I, II
71	CT450	Internship	2	2			60	≥120 TC	III
72	CT271	Project – Fundamental Topics	3	3			90	≥ 80 TC	I, II
73	CT466	Project – Specialized Topics	3	3			90	≥ 100 TC	I, II
74	CT593	Graduation Thesis	10		10		300	≥ 120 TC	I, II
75	CT468	Minor-thesis	4				120	≥ 120 TC	I, II
76	CT272	E-commerce	3			30	30		I, II
77	CT273	Human - Computer interface	3			30	30		I, II

Nr.	Code	Course name	Num of credits	Required	Optional	Theory hours	Practice hours	Prerequisite	Semester
78	CT338	Wireless and Mobile Networking	2			30			I, II
79	CT274	Mobile Programming	2			30	30	CT176	I, II
80	CT223	Software Project Management	3			30	30	CT171	I, II
81	CT211	Network Security	3			30	30		I, II
82	CT275	Web Technologies and Services	3			30	30		I, II
83	CT224	J2EE	2			15	30	CT176	I, II
84	CT231	Parallel Programming	3			30	30		I, II
Total: 53 credits (Required: 35 credits; Optional: 18 credits)									
Total: 155 credits (Required: 116 credits; Optional: 39 credits)									

Appendix 3: Sample study plan
Major: information technology (52480201)

Semester 1

Nr	Code	Course name	Credits	Required	Optional	Theory	Practice	Prerequisite	Semester opened	Suggested semester
1	QP00*	National Defense Education (*)	8	8		115	50	Arranged by the University		1
2	TN033	Basic Informatics	1	1		15			I, II, H	1
3	TN034	Practice on Basic Informatics	2	2			60		I, II, H	1
4	TN001	Calculus for computer science 1	3	3		45			I, II, H	1

Total: 14 required credits

Semester 2

Nr	Code	Course name	Credits	Required	Optional	Theory	Practice	Prerequisite	Semester opened	Suggested semester
1	ML009	The Basic Principles of Marxist-Leninism 1	2	2		30			I, II, H	2
2	CT101	Basic Programming	4	4		30	60		I, II	2
3	KL001	General Law	2	2		30			I, II	2
4	TN010	Probability and Statistics	3	3		45			I, II, H	2
5	TN012	Linear Algebra & Analytic Geometry	4	4		60			I, II, H	2
6	XH023	Basic English 1(*)	4		4/3	60			I, II, H	2
	XH004	Basic French 1 (*)	3			45			I, II, H	

Total: 15 required credits, 4/3 optional credits

Semester 3

Nr	Code	Course name	Credits	Required	Optional	Theory	Practice	Prerequisite	Semester opened	Suggested semester
1	ML010	The Basic Principles of Marxist-Leninism 2	3	3		45		ML009	I, II, H	3
2	TC100	Physical Education 1 (*)	1		1	0	30		I, II, H	3
3	CT172	Discrete Mathematics	4	4		60	0		II	3

Nr	Code	Course name	Credits	Required	Optional	Theory	Practice	Prerequisite	Semester opened	Suggested semester
4	CT103	Data Structures	4	4		45	30	CT101	I, II	3
5	TN002	Calculus for computer science 2	4	4		60		TN001	I, II, H	3
6	XH024	Basic English 2 (*)	3			45		XH023	I, II, H	3
	XH005	Basic French 2 (*)	3			45		XH004	I, II, H	

Total: 15 required credits, 4 optional credits

Semester 4

Nr	Code	Course name	Credits	Required	Optional	Theory	Practice	Prerequisite	Semester opened	Suggested semester
1	ML006	Ho Chi Minh Ideology	2	2		30		ML010	I, II, H	4
2	TC100	Physical Education 2	1		1	0	30		I, II, H	4
3	CT173	Computer Architectures	3	3		45			I, II, H	4
4	CT180	Introduction to Databases	3	3		30	30	CT103	I, II	4
5	CT174	Design and Analysis of Computer Algorithms	3	3		30	30	CT103	I, II	4
6	CT176	Object-Oriented Programming	3	3		30	30	CT101	I, II	4
7	XH025	Basic English 3 (*)	3		3/4	45		XH024	I, II, H	4
	XH006	Basic French 3 (*)	4			60		XH005	I, II, H	

Total: 14 required credits, 4/5 optional credits

Semester 5

Nr	Code	Course name	Credits	Required	Optional	Theory	Practice	Prerequisite	Semester opened	Suggested semester
1	TC100	Physical Education 3	1		1	0	30		I, II, H	5
2	ML011	Revolutionary way of Vietnam Communist Party	3	3		45		ML006	I, II, H	5
3	CT178	Principles of Operating Systems	3	3		30	30	CT173	I, II	5
4	CT237	Principles of Database	3	3		30	30		I, II	5

Nr	Code	Course name	Credits	Required	Optional	Theory	Practice	Prerequisite	Semester opened	Suggested semester
		Management Systems								
5	CT187	Fundamentals of Information Technology	3	3		30	30		I, II	5
6	CT182	Modeling Language	3		3	30	30		I, II	5
	CT183	English for Information Technology 1	3			45		XH025	I, II	5
7	CT175	Graph theory	3	3		30	30	CT103	I	5

Total: 15 required credits, 4 optional credits

Semester 6

Nr	Code	Course name	Credits	Required	Optional	Theory	Practice	Prerequisite	Semester opened	Suggested semester
1	CT181	Business Information Systems	3		3	30	30		I, II	6
	CT184	English for Information Technology 2	3			45		CT183	I, II	6
2	CT112	Computer Networks	3	3		30	30	CT178	I, II	6
3	CT109	Information System Analysis & Design	3	3		30	30	CT180	I, II	6
4	CT269	Oracle Database Management Systems	2		2	15	30		I, II	6
	CT236	SQL Server Database Management Systems	2			15	30		I, II	6
5	CT311	Research Methodology	2	2		20	20		I, II	6
6	CT332	Artificial Intelligence	3	3		45			I, II	6
7	CT171	Introduction to Software Engineering	3	3		30	30		I, II	6

Total: 14 required credits, 5 optional credits

Semester 7

Nr	Code	Course name	Credits	Required	Optional	Theory	Practice	Prerequisite	Semester opened	Suggested semester
1	CT428	Web Programming	3	3		30	30		I, II	7
2	CT271	Project – Fundamental Topics	3	3			90	≥ 80 credits		7
3	CT221	Network Programming	3	3		30	30	CT112	I, II	7
4	CT202	Principles of Machine Learning	3	3		30	30		I, II	7
5	CT179	System Administration	3	3		30	30		I, II	7
6	ML007	General Logics	2		2	30			I, II, H	7
	XH028	Basics of Sociology	2			30			I, II, H	7
	XH014	General Documents & Archives	2			30			I, II, H	7
	XH011	Introduction to Vietnamese Culture	2			30			I, II, H	7
	XH012	Vietnamese in Use	2			30			I, II, H	7

Total: 15 required credits, 2 optional credits

Semester 8

Nr	Code	Course name	Credits	Required	Optional	Theory	Practice	Prerequisite	Semester opened	Suggested semester
1	CT335	Network Design and Implementation	3	3		30	30	CT112	I, II	8
2	CT466	Project – Specialized Topics	3	3			90	≥ 100 credits	I, II	8
3	CT222	System Security	3	3		30	30		I, II	8
4	CT233	Cloud Computing	3	3		30	30	CT112	I, II	8
5	CT206	Application Development on Linux	3		3	30	30	CT176, CT180	I, II	8
	CT251	Application Development on Windows	3			30	30	CT176, CT180	I, II	8
	CT207	Open Source Software Development	3			30	30	CT101	I, II	8

Nr	Code	Course name	Credits	Required	Optional	Theory	Practice	Prerequisite	Semester opened	Suggested semester
6	CT235	Microsoft Windows Network Administration	3		3	30	30	CT112	I, II	8
	CT212	Linux Network Administration	3			30	30	CT112	I, II	8

Total: 12 required credits, 6 optional credits

Summer Semester:

Nr	Code	Course name	Credits	Required	Optional	Theory	Practice	Prerequisite	Semester opened	Suggested semester
1	CT450	Internship	2	2			60	≥120 credits	H	H

Total: 2 required credits

Semester 9

Nr	Code	Course name	Credits	Required	Optional	Theory	Practice	Prerequisite	Semester opened	Suggested semester
1	CT593	Graduation Thesis	10		10 credits		300	≥ 120 credits	I, II	9
2	CT468	Minor-thesis	4				120	≥ 120 credits	I, II	9
3	CT272	E-commerce	3			30	30		I, II	9
4	CT273	Human - Computer interface	3			30	30		I	9
5	CT338	Wireless and Mobile Networking	2			30				9
6	CT274	Mobile Programming	3			30	30	CT176	I, II	9
7	CT223	Software Project Management	3			30	30	CT171		9
8	CT211	Network Security	3			30	30			9
9	CT275	Web Technologies and Services	3			30	30			9
10	CT224	J2EE	2			15	30	CT176		9
11	CT231	Parallel Programming	3			30	30			9

Total: 10 Optional credits

Appendix 4: A-Correlation Matrix Between Program Objectives And Expected Learning Outcomes

Program objectives	Expected learning outcomes																										
	Knowledge														Skill										Attitude				
	General knowledge				*Fundamental knowledge*						*Specialized knowledge*				*Hard skill*							*Soft skill*								
	ELO 1	ELO 2	ELO 3	ELO 4	ELO 5	ELO 6	ELO 7	ELO 8	ELO 9	ELO 10	ELO 11	ELO 12	ELO 13	ELO 14	ELO 15	ELO 16	ELO 17	ELO 18	ELO 19	ELO 20	ELO 21	ELO 22	ELO 23	ELO 24	ELO 25	ELO 26	ELO 27	ELO 28	ELO 29
PLO 1	x	x																							x	x	x	x	x
PLO 2				x							x	x	x	x		x	x	x		x	x								x
PLO 3		x			x	x	x	x	x	x					x				x				x	x					x
PLO 4				x							x	x	x	x		x	x	x	x	x	x		x	x			x	x	x
PLO 5			x																			x	x	x	x		x		x

Appendix 4: B-Correlation Matrix Between Expected Learning Outcomes And Course Learning Outcomes

Courses			Expected learning outcomes																											
			Knowledge													Skill										Attitude				
			General knowledge				*Fundamental knowledge*						*Specialized knowledge*					*Hard skill*							*Soft skill*						
			ELO 1	ELO 2	ELO 3	ELO 4	ELO 5	ELO 6	ELO 7	ELO 8	ELO 9	ELO 10	ELO 11	ELO 12	ELO 13	ELO 14	ELO 15	ELO 16	ELO 17	ELO 18	ELO 19	ELO 20	ELO 21	ELO 22	ELO 23	ELO 24	ELO 25	ELO 26	ELO 27	ELO 28	ELO 29
General knowledge																														
1	QP 006	National Defense Education 1 (*)	x																						x	x				
2	QP 007	National Defense Education 2 (*)	x																						x	x				
3	QP 008	National Defense Education 3 (*)	x																						x	x				
4	QP 009	National Defense Education 4 (*)	x																						x	x				
5	TC 100	Physical Education 1 + 2 + 3 (*)	x																						x	x				
6	XH 023	Basic English 1 (*)			x																				x	x				
7	XH 024	Basic English 2 (*)			x																				x	x				
8	XH 025	Basic English 3 (*)			x																				x	x				
9	XH 031	Advanced English 1 (*)			x																			x	x	x				
10	XH 032	Advanced English 2 (*)			x																			x	x	x				

Courses			Expected learning outcomes																											
			Knowledge													Skill										Attitude				
			General knowledge				*Fundamental knowledge*						*Specialized knowledge*				*Hard skill*							*Soft skill*						
			ELO 1	ELO 2	ELO 3	ELO 4	ELO 5	ELO 6	ELO 7	ELO 8	ELO 9	ELO 10	ELO 11	ELO 12	ELO 13	ELO 14	ELO 15	ELO 16	ELO 17	ELO 18	ELO 19	ELO 20	ELO 21	ELO 22	ELO 23	ELO 24	ELO 25	ELO 26	ELO 27	ELO 28	ELO 29
11	XH 033	Advanced English 3 (*)			x																			x		x	x				
12	XH 004	Basic French 1 (*)			x																					x	x				
13	XH 005	Basic French 2 (*)			x																					x	x				
14	XH 006	Basic French 3 (*)			x																					x	x				
15	FL 004	Advanced French 1 (*)			x																			x		x	x				
16	FL 005	Advanced French 2 (*)			x																			x		x	x				
17	FL 006	Advanced French 3 (*)			x																			x		x	x				
18	TN 033	Basic Informatics (*)				x												x							x	x	x				x
19	TN 034	Practice on Basic Informatics (*)				x												x							x		x				x
20	ML 009	The Basic Principles of Marxist-Leninism 1	x																												
21	ML 010	The Basic Principles of Marxist-Leninism 2	x																												

Courses			Expected learning outcomes																											
			Knowledge													Skill										Attitude				
			General knowledge				*Fundamental knowledge*						*Specialized knowledge*				*Hard skill*							*Soft skill*							
			ELO 1	ELO 2	ELO 3	ELO 4	ELO 5	ELO 6	ELO 7	ELO 8	ELO 9	ELO 10	ELO 11	ELO 12	ELO 13	ELO 14	ELO 15	ELO 16	ELO 17	ELO 18	ELO 19	ELO 20	ELO 21	ELO 22	ELO 23	ELO 24	ELO 25	ELO 26	ELO 27	ELO 28	ELO 29
22	ML 006	Ho Chi Minh Ideology	x																							x				x
23	ML 011	Revolutionary way of Vietnam Communist Party	x																											x
24	KL 001	General Law		x																										x
25	ML 007	General Logics		x																										x
26	XH 028	Basics of Sociology		x																										x
27	KN 001	Soft skills																							x	x	x				x
28	XH 011	Introduction to Vietnamese Culture		x																										x
29	XH 012	Vietnamese in Use		x																										
30	XH 014	General Documents & Archives		x																										x
31	TN 001	Calculus for computer science 1		x			x										x													
32	TN 002	Calculus for computer science 2		x			x										x													

Courses			Expected learning outcomes																											
			Knowledge													Skill										Attitude				
			General knowledge				*Fundamental knowledge*						*Specialized knowledge*				*Hard skill*							*Soft skill*						
			ELO 1	ELO 2	ELO 3	ELO 4	ELO 5	ELO 6	ELO 7	ELO 8	ELO 9	ELO 10	ELO 11	ELO 12	ELO 13	ELO 14	ELO 15	ELO 16	ELO 17	ELO 18	ELO 19	ELO 20	ELO 21	ELO 22	ELO 23	ELO 24	ELO 25	ELO 26	ELO 27	ELO 28	ELO 29
33	TN 010	Probability and Statistics		x			x										x													
34	TN 012	Linear Algebra & Analytic Geometry		x			x										x													
35	CT 101	Basic Programming				x												x									x				x
Fundamental knowledge																														
36	CT 172	Discrete Mathematics					x										x	x							x	x					x
37	CT 103	Data Structures								x							x	x							x	x					x
38	CT 175	Graph theory					x			x							x	x							x	x					x
39	CT 174	Design and Analysis of Computer Algorithms								x							x	x							x	x					x
40	CT 180	Introduction to Databases							x	x							x	x							x	x					x
41	CT 173	Computer Architectures						x									x	x							x	x					x
42	CT 178	Principles of Operating Systems						x									x	x							x	x					x
43	CT 112	Computer Networks										x					x	x							x	x					x

Courses			Expected learning outcomes																											
			Knowledge													Skill										Attitude				
			General knowledge				*Fundamental knowledge*						*Specialized knowledge*				*Hard skill*							*Soft skill*							
			ELO 1	ELO 2	ELO 3	ELO 4	ELO 5	ELO 6	ELO 7	ELO 8	ELO 9	ELO 10	ELO 11	ELO 12	ELO 13	ELO 14	ELO 15	ELO 16	ELO 17	ELO 18	ELO 19	ELO 20	ELO 21	ELO 22	ELO 23	ELO 24	ELO 25	ELO 26	ELO 27	ELO 28	ELO 29
44	CT 176	Object-Oriented Programming								x							x	x							x	x					x
45	CT 311	Research Methodology																						x	x	x	x	x	x	x	x
46	CT 171	Introduction to Software Engineering									x						x	x			x				x	x	x				x
47	CT 182	Modeling Language								x	x						x	x							x	x	x				x
48	CT 179	System Administration						x	x	x		x					x	x	x	x	x		x		x	x	x	x	x	x	x
49	CT 187	Fundamentals of Information Technology							x								x	x		x	x						x	x	x	x	x
50	CT 181	Business Information Systems							x								x	x		x	x				x	x	x				x
51	CT 183	English for Information Technology 1																						x							
52	CT 184	English for Information Technology 2																						x							

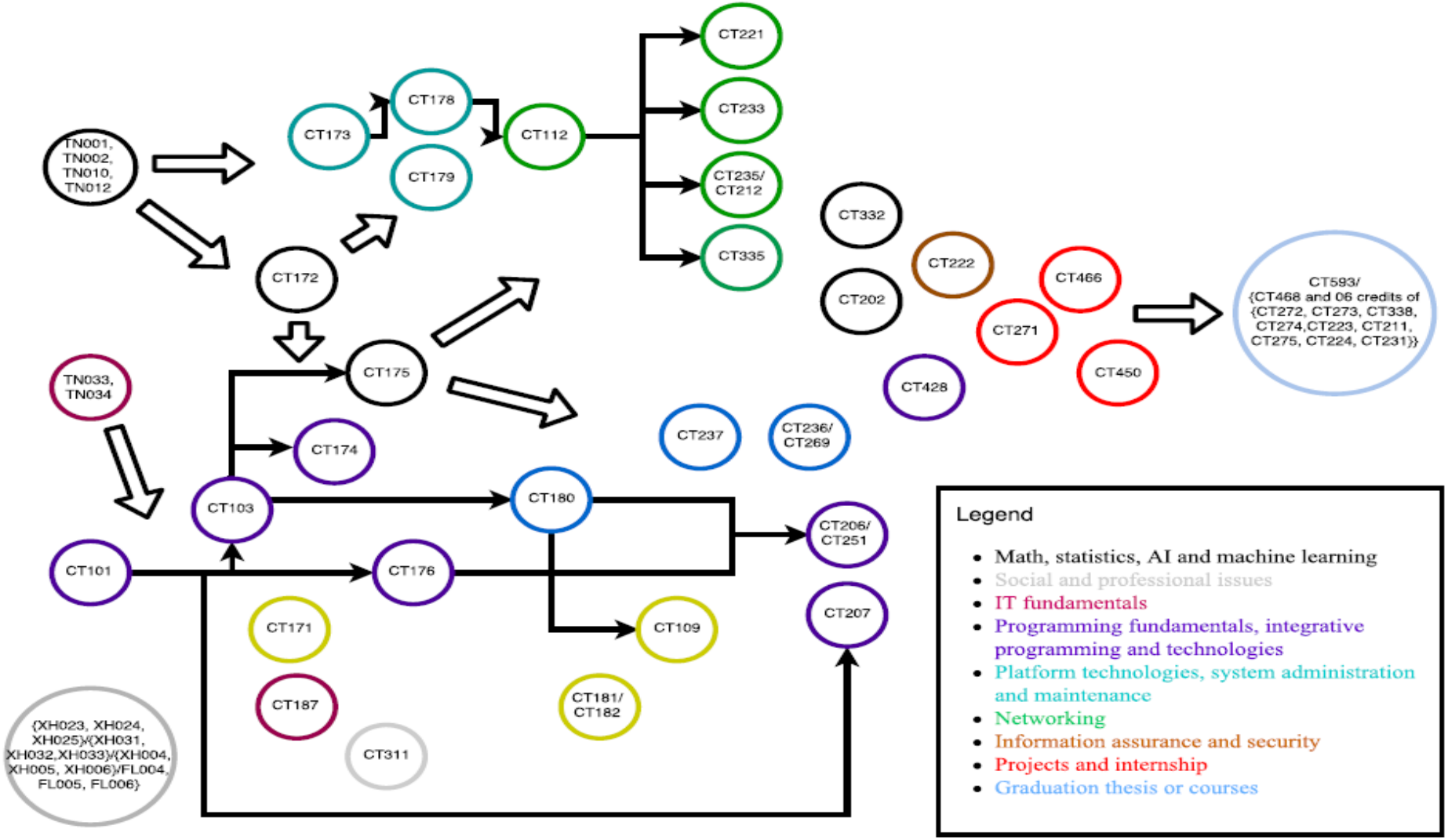
Courses			Expected learning outcomes																											
			Knowledge													Skill										Attitude				
			General knowledge				*Fundamental knowledge*						*Specialized knowledge*				*Hard skill*							*Soft skill*						
			ELO 1	ELO 2	ELO 3	ELO 4	ELO 5	ELO 6	ELO 7	ELO 8	ELO 9	ELO 10	ELO 11	ELO 12	ELO 13	ELO 14	ELO 15	ELO 16	ELO 17	ELO 18	ELO 19	ELO 20	ELO 21	ELO 22	ELO 23	ELO 24	ELO 25	ELO 26	ELO 27	ELO 28	ELO 29
53	CT 185	French for Information Technology 1																						x						
54	CT 186	French for Information Technology 2																						x						
Specialized knowledge																														
55	CT 109	Information System Analysis & Design												x		x	x	x	x	x	x		x		x	x	x	x	x		x
56	CT 233	Cloud Computing											x			x	x	x		x	x	x			x	x	x	x	x		x
57	CT 332	Artificial Intelligence											x			x	x	x				x			x	x	x	x	x	x	x
58	CT 202	Principles of Machine Learning											x			x	x	x				x			x	x	x	x	x	x	x
59	CT 222	System Security													x	x	x	x	x	x	x	x			x	x	x	x	x	x	x
60	CT 237	Principles of Database Management Systems												x		x	x	x	x	x	x	x	x		x	x	x	x	x	x	x
61	CT 236	SQL Server Database Management Systems												x		x	x	x	x	x	x	x	x		x	x	x	x	x	x	x

Courses			Expected learning outcomes																											
			Knowledge													Skill										Attitude				
			General knowledge				*Fundamental knowledge*						*Specialized knowledge*				*Hard skill*							*Soft skill*						
			ELO 1	ELO 2	ELO 3	ELO 4	ELO 5	ELO 6	ELO 7	ELO 8	ELO 9	ELO 10	ELO 11	ELO 12	ELO 13	ELO 14	ELO 15	ELO 16	ELO 17	ELO 18	ELO 19	ELO 20	ELO 21	ELO 22	ELO 23	ELO 24	ELO 25	ELO 26	ELO 27	ELO 28	ELO 29
62	CT 269	Oracle Database Management Systems												x		x	x	x	x	x	x	x	x		x	x	x	x	x	x	x
63	CT 335	Network Design and Implementation												x		x	x	x	x	x	x		x		x	x	x	x	x	x	x
64	CT 235	Microsoft Windows Network Administration												x		x	x	x	x	x	x		x		x	x	x	x	x	x	x
65	CT 212	Linux Network Administration												x		x	x	x	x	x	x		x		x	x	x	x	x	x	x
66	CT 221	Network Programming											x		x	x	x	x				x			x	x	x	x	x	x	x
67	CT 206	Application Development on Linux											x		x	x	x	x				x			x	x	x	x	x	x	x
68	CT 251	Application Development on Windows											x		x	x	x	x				x			x	x	x	x	x	x	x
69	CT 207	Open Source Software Development											x		x	x	x	x				x			x	x	x	x	x	x	x
70	CT 428	Web Programming											x		x	x	x	x				x			x	x	x	x	x	x	x

Courses			Expected learning outcomes																											
			Knowledge													Skill										Attitude				
			General knowledge				*Fundamental knowledge*						*Specialized knowledge*				*Hard skill*							*Soft skill*						
			ELO 1	ELO 2	ELO 3	ELO 4	ELO 5	ELO 6	ELO 7	ELO 8	ELO 9	ELO 10	ELO 11	ELO 12	ELO 13	ELO 14	ELO 15	ELO 16	ELO 17	ELO 18	ELO 19	ELO 20	ELO 21	ELO 22	ELO 23	ELO 24	ELO 25	ELO 26	ELO 27	ELO 28	ELO 29
71	CT 450	Internship											x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
72	CT 271	Project – Fundamental Topics											x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
73	CT 466	Project – Specialized Topics											x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
74	CT 593	Graduation Thesis											x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
75	CT 468	Minor-thesis											x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
76	CT 272	E-commerce											x	x	x		x	x	x	x	x	x	x		x	x	x	x	x	x	x
77	CT 273	Human - Computer interface											x				x	x				x			x	x	x	x	x	x	x
78	CT 338	Wireless and Mobile Networking												x		x	x	x	x	x	x	x	x		x	x	x	x	x	x	x
79	CT 274	Mobile Programming											x			x	x	x	x	x	x	x	x		x	x	x	x	x	x	x
80	CT 223	Software Project Management												x		x	x	x	x	x	x	x	x		x	x	x	x	x	x	x
81	CT 211	Network Security													x	x	x	x	x	x	x	x	x		x	x	x	x	x	x	x
82	CT 275	Web Technologies and Services											x		x	x	x	x				x			x	x	x	x	x	x	x

Courses			Expected learning outcomes																												
			Knowledge														Skill										Attitude				
			General knowledge				*Fundamental knowledge*						*Specialized knowledge*				*Hard skill*							*Soft skill*							
			ELO 1	**ELO 2**	**ELO 3**	**ELO 4**	**ELO 5**	**ELO 6**	**ELO 7**	**ELO 8**	**ELO 9**	**ELO 10**	**ELO 11**	**ELO 12**	**ELO 13**	**ELO 14**	**ELO 15**	**ELO 16**	**ELO 17**	**ELO 18**	**ELO 19**	**ELO 20**	**ELO 21**	**ELO 22**	**ELO 23**	**ELO 24**	**ELO 25**	**ELO 26**	**ELO 27**	**ELO 28**	**ELO 29**
83	CT 224	J2EE											x		x	x	x	x				x			x	x	x	x	x	x	x
84	CT 231	Parallel Programming											x			x	x	x				x			x	x	x	x	x	x	x
			9	10	12	3	6	3	4	7	2	2	19	15	15	28	48	47	19	22	23	26	18	16	47	63	58	33	33	31	56

Appendix 5: Cirriculum Map



Apppendix 6: Assessment of the course Web Technology (CT275)

4. Course objectives:

By the end of the course, students are able to

4.1. Knowledge

4.1.1. Present fundamental technologies to develop Web applications, standards and standardized organizations (W3C, IETF).

4.1.2. Explain the concepts and roles of Web servers (Apache, IIS).

4.1.3. Explain the Web N-tier structure and Web service.

4.1.4. Present the security aspects of Web environments (firewalls, HTTPS, cookies, session, certificates).

4.1.5. Present Web development technologies for mobile devices.

4.2. Skills

4.2.1. Implement technologies HTML5, CSS3, XML, JSON, JavaScript, Ajax, jQuery in developing Web applications.

4.2.2. Implement web applications in Web Apache or IIS.

4.2.3. Build up Web applications with dispersed architecture.

4.2.4. Develop Web applications for mobile devices.

4.2.5. Accumulate Web applications with services provided by third parties such as Facebook, Google,...

4.3. Attitudes

4.3.1. Actively explore web technologies.

4.3.2. Be cooperative in group work activities.

9. Assessment:

9.1. Assessment forms

No	Point component	Regulation	Percentage	Goals
1	Attendance	Attending 100% of class sessions	10%	4.3.1
2	Project	Oral presentation Group confirmation of actual participation	30%	4.1, 4.2, 4.3
3	Final exam	Multiple-choice tests (60 minutes) Attending at least 80% of class sessions Compulsory test participation	60%	4.1, 4.3

9.2. Grading

- Grading components and final test scores will be marked on a scale of 10 (0 to 10), rounded to one decimal place.
- The course final score is the sum of all the components of the evaluation multiplied by the corresponding weight. The subject score is marked on a scale of 10 and rounded to one decimal place then converted to A-B-C-D score on a scale of 4

Apppendix 7: List of supporting documents and evidences

No	Exh.	Title of Exhibition	Category
1	Exh.Intro.01	Decision 1086/QĐ-ĐHCT dated 17/4/2014 on Regulation of Quality Assurance Activities of Can Tho University	Document
Criteria 1: Expected Learning Outcomes			
2	Exh.1.1-01	Program speficication; POs, ELOs; curriculum; correlation matrix; sample study plan; curriculum mapping	Document
3	Exh.1.1-02	The CTU's decision to form CICT's Council of Science and Training	Document
4	Exh.1.1-03	CTU's decision to establish the stearing board, the secretary group and the BEIT program adjustment group	Document
5	Exh.1.1-04	ACM IT program recommendations	Document
6	Exh.1.1-05	Minutes of the meetings for BEIT program improvement	Document
7	Exh.1.1-06	The feedback from program	Document
8	Exh.1.1-07	References	Document
9	Exh.1.1-08	Webpage https://www.ctu.edu.vn/program.php?mn=5&pr=dh	Link
10	Exh.1.3-01	Circular 07/2015/TT-BGDĐT	Document
11	Exh.1.3-02	Feedback from employers	Document
Criteria 2: Program Specification			
12	Exh.2.1-01	Webpage http://www.cit.ctu.edu.vn/index.php/dao-t-o	Link
13	Exh.2.1-02	Webpage https://tuyensinh.ctu.edu.vn/	Link
14	Exh.2.1-03	Poster, leaflet	Image
15	Exh.2.2-01	Exhibition of the courses management and improvement	Document
Criteria 4: Teaching and Learning Approach			
16	Exh.4.1-01	Regulation 43	Document
17	Exh.4.1-02	College Development Plan 2012-2017	Document
18	Exh.4.1-03	Summary report of the school year 2013-2014 and working plan for 2014-2015	Document
19	Exh.4.1-04	IT Training Program – Cohort 40	Document
20	Exh.4.1-05	Notice of adjustment of study plan	Document
21	Exh.4.1-06	Study plan	Document
22	Exh.4.1-07	Syllabus of Internship (CT450)	Document

23	Exh.4.1-08	Web page https://www.ctu.edu.vn/program.php?mn=5&pr=dh	Link
24	Exh.4.1-09	Orientation Schedules for the New School year	Document
25	Exh.4.1-10	Presentation slides for the Orientation for new students in the New School year	Document
26	Exh.4.1-11	Announcement of the first semester meeting sessions	Document
27	Exh.4.1-12	Slide the first semester session for former students	Document
28	Exh.4.1-13	Decision No. 2742 / QD-DHCT issuing regulations on Academic Affairs	Document
29	Exh.4.1-14	Registration Form for Teachers Training Classes 2016	Document
30	Exh.4.1-15	List of participants for second and first class lecturers in 2016	Document
31	Exh.4.2-01	Syllabus for Introductory Course to Software Engineering (CT171)	Document
32	Exh.4.2-02	Syllabus for Basic Programming Course (CT101)	Document
33	Exh.4.2-03	Webpage https://elcit.ctu.edu.vn/	Link
34	Exh.4.2-04	Syllabus for Web Technology Course (CT275)	Document
35	Exh.4.2-05	List of topics for field-based projects	Document
36	Exh.4.2-06	List of topics for field-specialized projects	Document
37	Exh.4.2-07	List of thesis topics	Document
38	Exh.4.2-08	Regulations for Internship	Document
39	Exh.4.2-09	Grading rubrics for the Internship Course	Document
40	Exh.4.2-10	Internship recruitment notice	Document
41	Exh.4.2-11	Course Syllabus	Document
42	Exh.4.2-12	Training grading rubrics	Document
43	Exh.4.2-13	Decision on student research	Document
44	Exh.4.2-14	Student Research Topics	Document
45	Exh.4.2-15	Webpage https://oss.ctu.edu.vn/	Link
46	Exh.4.2-16	Student's online survey form	Document
47	Exh.4.2-17	Survey results of the course	Document
48	Exh.4.2-18	Minutes of meetings with enterprises 12/2017	Document
49	Exh.4.3-01	Regulations for assessment and recognition of marks	Document
50	Exh.4.3-02	Regulations on sending students to study abroad	Document
51	Exh.4.3-03	Decision to send students to Thailand and Taiwan	Document
Criteria 5: Student Assessment			

52	Exh.5.1-01	Regulation on enrollment of regular universities and colleges, issued together with Circular No. 03/2015 / TT-BGDDT	Document
53	Exh.5.1-02	CTU 2012 Entrance Information	Document
54	Exh.5.1-03	CTU 2013 Admission Information	Document
55	Exh.5.1-04	Syllabus of the course Database Management Principles (CT237)	Document
56	Exh.5.1-05	List of lecturers responsible for the internship course	Document
57	Exh.5.1-06	Guide of Visiting Interns	Document
58	Exh.5.1-07	Regulation on the implementation and evaluation of graduation thesis	Document
59	Exh.5.1-08	Thesis grading rubrics	Document
60	Exh.5.1-09	Decision to set up graduation thesis jury	Document
61	Exh.5.2-01	CTU's working time frame for the year 2018	Document
62	Exh.5.3-01	Grading rubrics for Training Scores	Document
63	Exh.5.3-02	Internal Expense Regulation of CTU in 2017	Document
64	Exh.5.3-03	The previous syllabus for Principles of Database Administration (with old assessment forms)	Document
65	Exh.5.3-04	Forms of the Report of the project, minor-thesis and thesis	Document
66	Exh.5.3-05	Alumni Feedback Form for the Training Program	Document
67	Exh.5.3-06	Employer Feedback Form for the Training Program	Document
68	Exh.5.4-01	Report form of the Thesis assessment board	Document
Criteria 6: Academic Staff Quality			
69	Exh.6.1-01	CICT Development Plan for the term 2012-2017	Document
70	Exh.6.1-02	Regulations on lecturers' professional development procedure	Document
71	Exh.6.1-03	Plan for professional development for lecturers of the CICT	Document
72	Exh.6.1-04	University Announcement on Recruitment Registration Plan	Document
73	Exh.6.2-01	Professional Duty Management Regulations	Document
74	Exh.6.3-01	Regulations on recruiting officers of CTU	Document
75	Exh.6.3-02	Appointment Regulations of CTU	Document
76	Exh.6.3-03	Recruitment Announcement of the CICT	Document

77	Exh.6.3-04	Decision to extend the working time of Dr. Le Quyet Thang	Document
78	Exh.6.4-01	Joint Circular No. 36/2014 / TTLT-BGDDT-BNV of the Ministry of Domestic Affairs and Ministry of Education and Training: Code and criteria for professional titles of teaching staff in public higher education institution	Document
79	Exh.6.4-02	Work Plan Registration Form	Document
80	Exh.6.4-03	Staff Evaluation and Classification Form	Document
81	Exh.6.4-04	Guide to the award of the year-end emulation	Document
82	Exh.6.4-05	Minutes of the Board of Emulation and Reward	Document
83	Exh.6.4-06	Advance payroll review report	Document
84	Exh.6.4-07	Comment summary of one course	Document
85	Exh.6.4-08	Summary of Comments for all courses of the department	Document
86	Exh.6.4-09	Summary of Comments for all courses of the College	Document
87	Exh.6.5-01	Evidence of foreign language training	Document
88	Exh.6.5-02	Decision of allowing scholarship application	Document
89	Exh.6.5-03	Decision on funding support for the International Conference	Document
90	Exh.6.5-04	List of the department's seminars	Document
91	Exh.6.5-05	Certificate of participation in the workshop	Document
92	Exh.6.5-06	List of ABET training officers	Document
93	Exh.6.6-01	Work Plan for Annual Professional Work and Emulation	Document
94	Exh.6.6-02	Decision to allow for participating in the conference with the cost of counseling	Document
95	Exh.6.6-03	Minutes of Reward Election Meeting	Document
96	Exh.6.7-01	Approved subject lists	Document
97	Exh.6.7-02	List of text books to be published	Document
98	Exh.6.7-03	List of research topics approved at all levels and international cooperation projects	Document
99	Exh.6.7-04	Webpage http://www.cit.ctu.edu.vn/encict/publication	Link
Criteria 7: Support Staff Quality			
100	Exh.7.1-01	Decision on functions, responsibilities andorganization of the offices in the faculty, institutes, centers and departments belonging to CTU	Document

101	Exh.7.1-02	Decision on the establishment of laboratories and appointments for laboratory heads	Document
102	Exh.7.1-03	Decision of sending staff to training courses for professional development from 2012 to 2017	Document
103	Exh.7.2-01	Laboratory Affairs Regulations	Document
104	Exh.7.3-01	Emulation evaluation form	Document
105	Exh.7.4-01	Training Plan 2012-2017	Document
106	Exh.7.5-01	Emulation Evaluation Results 2012-2017	Document
Criteria 8: Student Quality and Support			
107	Exh.8.1.1-01	Admission regulations for universities and colleges	Document
108	Exh.8.1.1-02	Circular on amending and supplementing examination regulations	Document
109	Exh.8.1.1-03	CTU Admission Project 2017	Document
110	Exh.8.1.1-04	CTU Youth Union website: The 2017 Career Consultant and Orientation Day at CTU https://yu.ctu.edu.vn/index.php/ho-tro-sinh-vien/23-tin-tuc-tong-hop/32-tung-bung-ngay-hoi-tu-van-tuyen-sinh-huong-nghiep-2017-dhct.html	Link
111	Exh.8.1.1-05	Webpage https://tansinhvien.ctu.edu.vn	Link
112	Exh.8.3.1-01	Webpage https://htql.ctu.edu.vn/htql/login.php	Link
113	Exh.8.4.1-01	Class, timetable and academic advisor arrangement for new students https://tansinhvien.ctu.edu.vn/hoc-tap/bo-tri-lop-thoi-khoa-bieu-va-co-van-hoc-tap	Link
114	Exh.8.4.1-02	Regulation on Academic Counseling Activities	Document
115	Exh.8.4.2-01	Organizational structure and activities of the Youth Union in the CICT	Document
116	Exh.8.4.3-01	Decision to reward students who achieved high results in the Student IT Olympics	Document
117	Exh.8.4.4-01	Images of Career Orientation Activities	Document
118	Exh.8.5-01	Landscape of Campus II	Document
Criteria 9: Facilities and Infrastructure			
119	Exh.9.1-01	Summary Report for 2016-2017 of The CICT	Document
120	Exh.9.2-01	Can Tho University Self Assessment Report 2012-2016	Document
121	Exh.9.2-02	LRC Webpage http://www.lrc.ctu.edu.vn	Link
122	Exh.9.2-03	Orientation Plan in Learning Resource Center	Document
123	Exh.9.2-04	Statistics of the library of the CICT dated 10/2017	Document

124	Exh.9.3-01	Publicity in accordance with Circular 09/2009 / TT-BGDDT of Can Tho University	Document
125	Exh.9.3-02	Statistics of laboratories and practice rooms of The CICT dated 31/12/2016	Document
126	Exh.9.3-03	Procurement Plan - Repair of ICT Facility	Document
127	Exh.9.3-04	Decision No. 243/QĐ-ĐHCT 29/1/2016 of the Rector of the University of Technology about the laboratory and practice in the CICT	Document
128	Exh.9.3-05	Statistics of Practice Session in the CICT	Document
129	Exh.9.4-01	Statistics of laboratories, practice rooms, and functional rooms of CICT dated December 2017	Document
130	Exh.9.4-02	Webpage http://www.cit.ctu.edu.vn/vpk/login	Link
131	Exh.9.5-01	Health check-up schedule https://tansinhvien.ctu.edu.vn/sinh-hoat/lich-kham-suc-khoe	Link
132	Exh.9.5-02	Final Report 2016 -2017 of the CICT	Document
133	Exh.9.5-03	Minutes of fire and explosion prevention equipment inspection and recall.	Document
Criteria 10: Quality Enhancement			
134	Exh.10.1-01	Minute of Group Meeting to Improve the Course of Basic Programming – Session 1	Document
135	Exh.10.1- 02	Collection of Student Feedback for the Course CT171	Document
136	Exh.10.1-03	Minutes of Orientation Session in 2016	Document
137	Exh.10.1-04	Knowledge Discovery Program 2016	Document
138	Exh.10.1-05	MOU with VNPT	Document
139	Exh.10.1-06	MOU with EECS-NCU	Document
140	Exh.10.1-07	Upon Collecting Learner Feedback for Lecturers' Teaching Activities in second semester of 2016-2017	Document
141	Exh.10.2-01	Decision No. 4946/QĐ-ĐHCT	Document
142	Exh.10.2-02	Minutes of the Second Revision of the Training Programin 2013	Document
143	Exh.10.2-03	Minutes of the Second Program Improvement Meeting 2013	Document
144	Exh.10.3-01	Minutes of group meeting to improve the Basic Programming Syllabus - Session 2	Document
145	Exh.10.3-02	Sample Thesis for the IT Field	Document

146	Exh.10.3-03	Scoring card for the graduation thesis of the university graduate in IT	Document
147	Exh.10.4-01	List of student research projects	Document
148	Exh.10.4-02	Certificate	Document
149	Exh.10.5-01	Report on allocation of funds for the CICT from 2012 to 7/2017	Document
150	Exh.10.5-02	Decision on allocation of budget estimates of 2018	Document
151	Exh.10.6-01	Official Letter No. 1276/BGDDT-NG dated February 20, 2008 on instructing to collect feedback from learners on teaching activities of teachers	Document
152	Exh.10.6-02	Student Feedback Form for Lecturers' Teaching Activities.	Document
153	Exh.10.6-03	Minute for the faculty meeting of CICT in 2015-2016	Document
154	Exh.10.6-04	Lecturer's Login to the course evaluation account	Document
155	Exh.10.6-05	Leader's Login to the course evaluation account	Document
Criteria 11: Output			
156	Exh.11.1-01	Study Results in the first semester of the 2017-2018 of IT undergraduate class	Document
157	Exh.11.1-02	Commitment of Students Being Warned of Academic Results of the first Semester of 2017-2018	Document
158	Exh.11.1-03	Official Letter Regarding Checking Students' Academic Results in the First Semester of 2017 -2018	Document
159	Exh.11.3-01	Student Employment Report after One Year of Graduation	Document
160	Exh.11.3-02	Job Day Plans for 2016, 2017	Document
161	Exh.11.5-01	Evaluation Form of Graduates in 2017	Document
162	Exh.11.5-02	Evaluation form for Employers on the BEIT Program of 2017	Document
163	Exh.11.5-03	Student Feedback for CT171-Introduction to Software Technology	Document