SELF - ASSESSMENT REPORT FOR AUN-QA

HCMUTE

HO CHI MINH CITY UNIVERSITY OF TECHNOLOGY AND EDUCATION

FACULTY OF CIVIL ENGINEERING

BACHELOR OF ENGINEERING

IN CONSTRUCTION ENGINEERING TECHNOLOGY

AUN-QA A Touch of Quality

The 74th AUN Quality Assessment at Programme Level

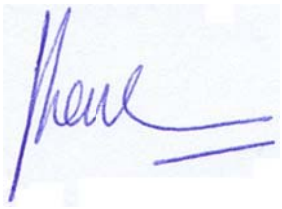
December 07 - 09, 2016

AUN-QA SELF-ASSESSMENT REPORT

of the Bachelor of Engineering in

CONSTRUCTION ENGINEERING TECHNOLOGY

We hereby confirm to approve this AUN-QA Self-Assessment Report of the Bachelor of Engineering in Construction Engineering Technology programme for assessement according to AUN-QA Criteria (V3.0).



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Dean

Faculty of Civil Engineering

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LIST OF ABBREVIATIONS

AAO	Academic Affair Office
AEC	ASEAN Economic Community
ASAO	Admissions and Students Affairs Office
ASU	Arizona State University
BIM	Building Information Modeling
BUILD-IT	Building University-Industry Learning and Development Through Innovation and Technology
CERA	Center for Civil Engineering Research and Application
CET	Construction Engineering Technology
CLOs	Course Learning Outcomes
COMET	Connecting the Mekong through Education and Training
DL	Digital Learning
EEE	Electrical and Electronics Engineering
ELOs	Expected Learning Outcomes
E/M	Embedded/ Mobile
FCE	Faculty of Civil Engineering
FEEE	Faculty of Electrical and Electronics Engineering
FME	Faculty of Mechanical Engineering
FTE	Full-Time Equivalent
FVEE	Faculty of Vehicle and Energy Engineering
GACES	Group of Advanced Computation in Engineering and Science
GPA	Grade Point Average
HCMUTE	Ho Chi Minh City University of Technology and Education
HEEAP	Higher Engineering Education Alliance Program
HRMO	Human Resource Management Office
ISO	International Organization for Standardization
KPI	Key Performance Indicator
LAB	Laboratory
LMS	Learning Management System
MOET	Ministry of Education and Training
MoU	Memorandum of Understanding
PDCA	Plan-Do-Check-Act
PRO	Public Relation Office
QAO	Quality Assurance Office
RMTO	Research Management and Technology Office
SAR	Self-Assessment Report
TPP	Trans-Pacific Partnership
TVET	Technical Vocational Education and Training
VULII	Vocational and University Leadership and Innovation Institute

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PART I: INTRODUCTION

0.1 Executive Summary

The Construction Engineering Technology (CET) programme of the Faculty of Civil Engineering (FCE) has been selected for quality assessment according to ASEAN University Network – Quality Assurance (AUN-QA) standards (V3.0). The present Self-Assessment Report (SAR) is a product of the FCE realized by SAR team with the support from the Ho Chi Minh City University of Technology and Education (HCMUTE), all the Faculty members and experts.

After the decision of FCE Dean on the quality assessment of CET programme with respect to the AUN-QA standards, a SAR team was formed in September 2015 to fulfill this task. This team included Dean Board, Department Heads of the Faculty and key staff in the involved departments. A support team including secretary and representative department members of the Faculty has also been added to collect data for evidences. Each team member was assigned certain criteria in which data and evidences have been collected and then written up by each member. The team leader was then to finalize the report after several discussions among all members. The first version of the report was completed in April 2016. It was sent to the Faculty members, Quality Assurance Office (QAO) of the university for questions and comments, and then the SAR report was revised for the second SAR report in July 2016. The final report was completed at the end of September 2016 taking into account the comments from the FCE members, QAO and experts. The process of editing SAR report from beginning to the submission to AUN is displayed in Figure 0.1.

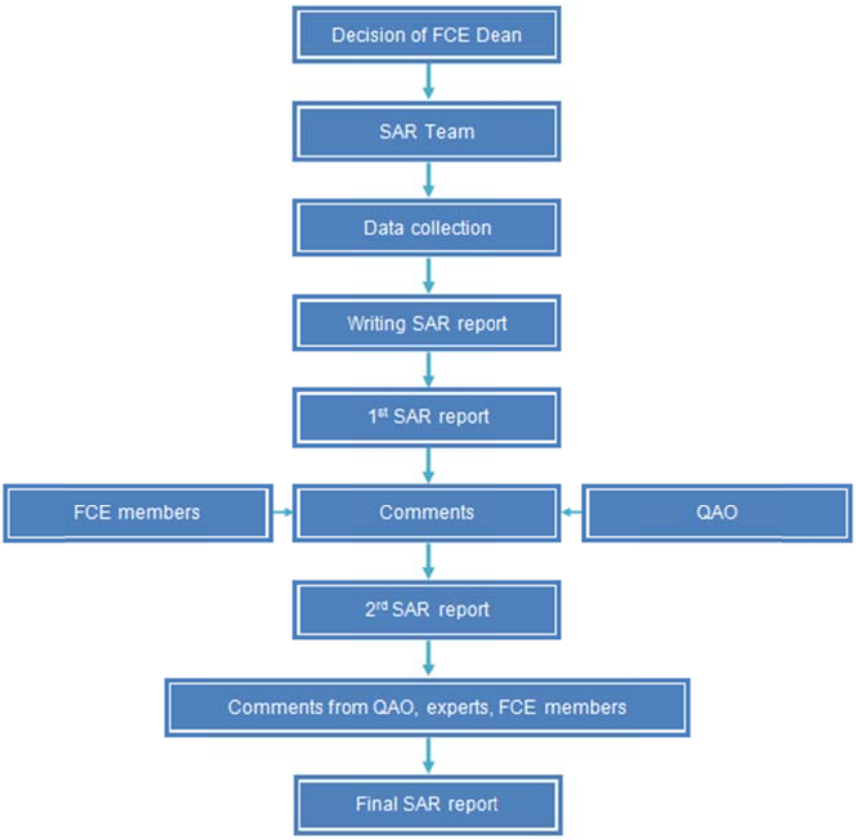


Figure 0.1: Review process of self-assessment report

The report composes of four parts. Part I presents an overview of the HCMUTE including its history, vision, mission and core values. The quality assurance system of the university is then introduced and followed by a brief description of the faculty and department in which the mission of FCE is also aligned to that of the HCMUTE. In Part II, 11 criteria of AUN-QA (V3.0) are presented in details. The planning, doing, checking and acting of all activities related to the present programme are described and demonstrated with evidences. Part III aims to present the analysis of the strengths and weaknesses of the programme and its improvement plan in the future. Finally, appendices, supporting documents and evidences will be introduced in Part IV.

0.2 Ho Chi Minh City University of Technology and Education

Established in 1962 as College Department of Technical Education, then named Thu Duc University of Technology and Education in 1976, and has become Ho Chi Minh City University of Technology and Education since 1991, HCMUTE is one of the leading universities in training and supplying high quality human resources in science and technology, serving the industrialization and modernization of the provinces in the South of Vietnam.

Figure 0.2: Master plan for Campus 1 in 2025 - 2030

As of September 2016, HCMUTE has two campuses on an area of total 21 ha including 128,128 m^2 of construction area. There are 15 academic faculties, 18 functional offices and 17 supporting centers, 770 full-time staff members including 571 teaching staff with about 26,000 students (19,000 full-time undergraduates and 7,000 part-time, see Figure 0.2 and Figure 0.3).

0.2.1 Vision

HCMUTE will become a top center of training, research, creativity, innovation and entrepreneurship in Vietnam, on a par with regional and worldwide prestigious universities.

0.2.2 Mission

The mission of HCMUTE is to be a leading institution in training, scientific research and technology transfer in Vietnam, continuously innovate to provide human resources and scientific products with high quality in the fields of technical and vocational education,

science and technology to meet the demands of the economic-social development of the country and the region.

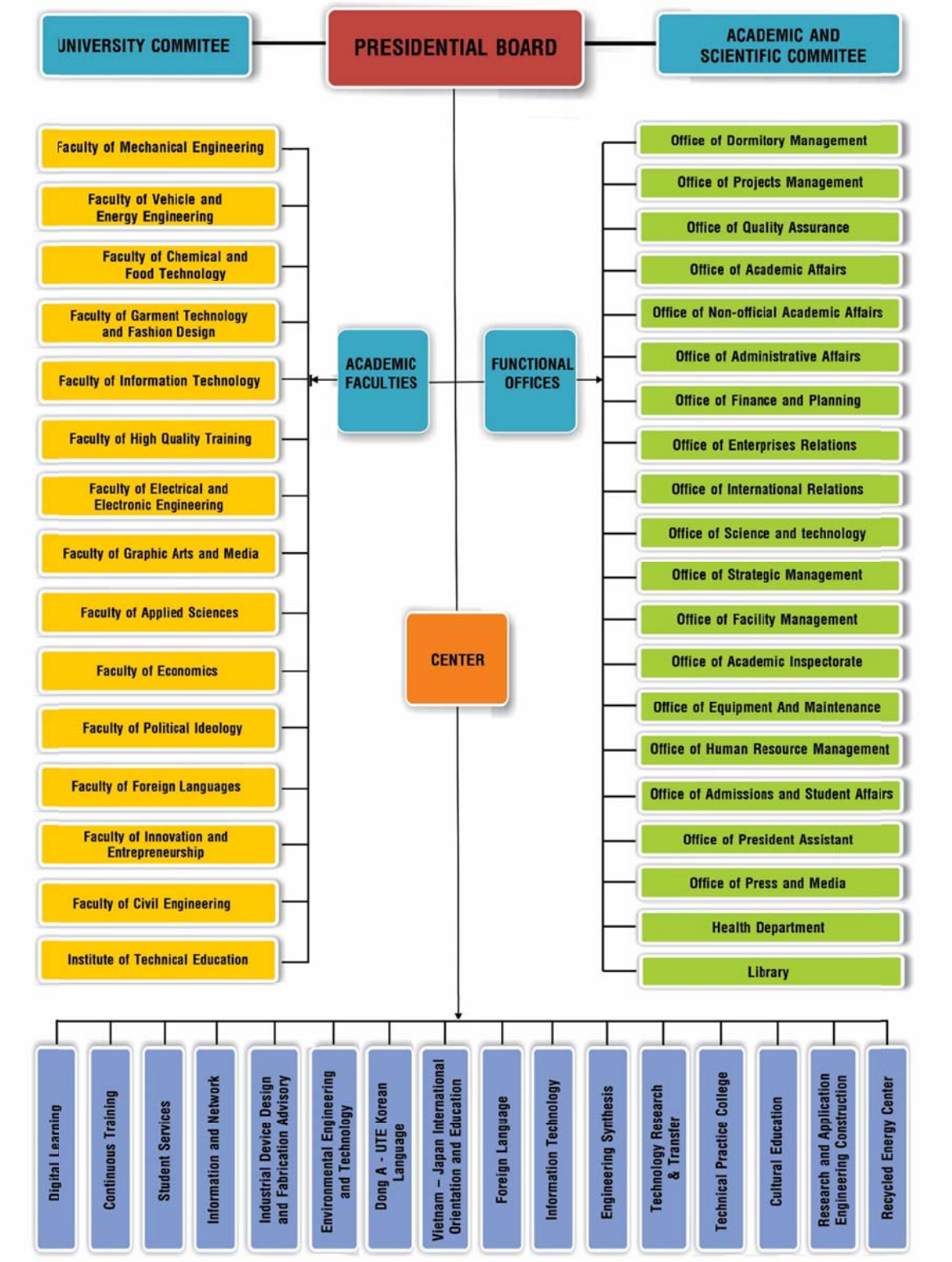


Figure 0.3: Organizational structure of HCMUTE

0.2.3 Core values

- Preserving and promoting traditional values of the Vietnamese talents and creativity
- Focusing on professional ethic and skills

- Respecting the interest of students and community
- Building a learning organization
- Appreciating quality, efficiency and innovation
- Integrating, collaborating and sharing.

0.2.4 Quality assurance system of HCMUTE

Quality policy of HCMUTE: Continuously upgrade quality of teaching, learning and scientific research to provide students with the best conditions to develop comprehensively their professional skills in order to satisfy the demands of society and international integration.

Quality assurance office: Quality Management was embedded in the Academic Affair Office (AAO) before 2008. QAO was established in 2008 according to Ministry of Education and Training (MOET)'s regulation in order to improve the educational quality in the whole university. QAO takes responsibility for quality management according to International Organization for Standardization (ISO) 9001 standard with a system of 42 procedures, develop internal quality assurance system and do quality assessment as well as accreditation at institutional level and programme level in accordance with national, regional and international standards.

QAO has 6 staffs who regularly attend the QA training courses annually to continue improving our internal quality assurance system based on AUN-QA model. HCMUTE also has 1 member who is the AUN assessor and education accreditor of Department of Education Testing and Accreditation (MOET) from 2014. The main milestone of QA activities and results from 2005 are in Table 0.1.

Table 0.1: Overview of the assessment/accreditation of HCMUTE

Year	Program / Institution	Assessed / Accredited by
2005	Quality Accreditation at Institutional level	MOET
2007	Quality management certification	ISO 9001
2011	External Assessment of TVET in EEE	MOET
Mar. 2016	AUN-QA Assessment at Programme level: Automotive Engineering Technology Electrical and Electronics Engineering Technology Mechatronics Engineering Technology	AUN- QA
Nov. 2016	Quality Accreditation at Institutional level	MOET (on process)
Dec.2016	AUN-QA Assessment at Programme level: Construction Engineering Technology	AUN- QA (on process)

0.3 Faculty of Civil Engineering

Established in 1976 and changed from the name Faculty of Civil Engineering and Applied Mechanics in September 2016, FCE has constantly improved itself in order to offer the best

conditions and environment for learners to make the most of their potential in creativity, enhance their knowledge and necessary skills to meet the needs of the society.

0.3.1 Vision

FCE will become a top center in Southern Vietnam in training and scientific research in civil engineering field and actively integrate in training and scientific research products with regional universities.

0.3.2 Mission

The mission of FCE is to be a leading center in Southern Vietnam in training and scientific research in civil engineering field, to provide high-quality human resources serving the industrialization and modernization of the country in civil engineering field, and to integrate training and scientific research products at the regional level.

0.3.3 Core values of FCE

- Focusing on students
- High professional and ethical standards
- Collaborative teaching and learning environment
- Integration and sharing

0.3.4 Organizational structure of FCE

FCE has currently 44 academic staffs composed of 2 professors, 42 full-time lecturers (CET). FCE also has a secretary. FCE has 5 departments as shown in Figure 0.4. It offers graduate and undergraduate study programs at three different levels:

- PhD in Engineering Mechanics
- Master in Engineering Mechanics
- Master in Construction Engineering Technology
- Bachelor in Construction Engineering Technology
- Bachelor in Transportation Engineering

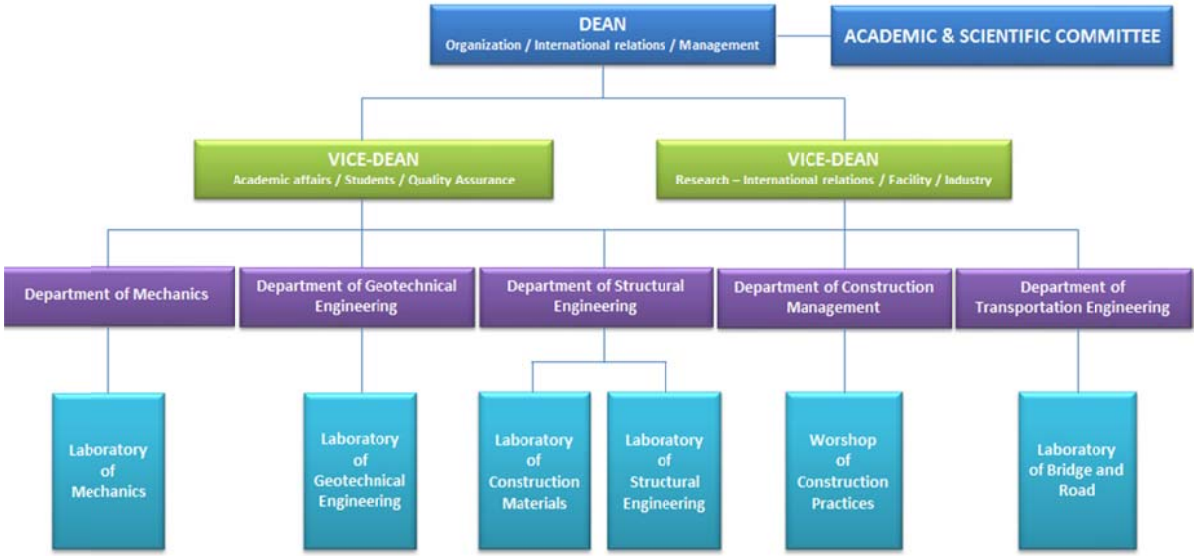


Figure 0.4: Organizational structure of FCE

0.4 Construction Engineering Technology programme

The CET programme with the first cohort in 2002 is the most attractive one of the FCE, and the key one for providing high-quality human resources in the industrialization and modernization of the country. The CET programme equips graduates with competences to meet the various requirements of different labor markets. After graduation, the graduates will be able to work in the construction industry as well as in the business, management and financial sectors, education.

Jobs directly related to the degree include:

- Structural engineer
- Quantity surveyor
- Consulting construction engineer
- Contracting construction engineer
- Site engineer
- Building control surveyor.

Jobs where the degree would be useful include:

- Engineering geologist
- Building services engineer
- Environmental engineering consultant
- Water engineer
- Investor
- Lecturer in the colleges and universities.

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

The CET programme objectives align with the FCE and HCMUTE's vision and mission and the aims of higher education regulated in the Vietnam laws of higher education as shown in Table 1.1.

Table 1.1: Alignment between the CET programme objectives with FCE and HCMUTE's vision and mission, and Vietnam laws of higher education

CET programme objectives	FCE's vision and mission	HCMUTE's vision and mission	Laws of higher education
1. Be proficient in the general knowledge of engineering science, the fundamental and specialized knowledge of construction engineering	Be a leading center in Southern Vietnam in training and scientific research in civil engineering	Be a leading institution in training, research, creativity, innovation and entrepreneurship in Vietnam	Have general and specialized knowledge
2. Grow professionally in their careers through continuous development of technical and management skills, roles of responsibility in professional activities, and life-long learning ability	Provide high-quality human resources serving the industrialization and modernization of the country in civil engineering	Provide human resources with high quality in the fields of technical and vocational education to meet the demands of the economic-social development of the country and the region	Have basically practical skills; Have morality and professional responsibilities
3. Adapt effectively in the professional environment, leadership and teamwork in the context of construction engineering	Provide high-quality human resources serving the industrialization and modernization of the country in civil engineering	Provide human resources with high quality in the fields of technical and vocational education to meet the demands of the economic-social development of the country and the region	Adapt to working environment; Be able to work independently or in a group
4. Be able to apply these knowledge and skills to design, develop and select sound solutions to construction engineering projects	Be a leading center in Southern Vietnam in training and scientific research in civil engineering; Integrate training and scientific research	Be a leading institution in training, research, creativity, innovation and entrepreneurship in Vietnam	Be able to create and solve problems related to trained career

After successful completion the CET programme, graduates will be able to demonstrate and attain the 17 expected learning outcomes (ELOs) that align with 4 objectives of the CET programme as Table 1.2.

Table 1.2: The expected learning outcomes of CET programme

Programme objectives	Expected learning outcomes
1. Be proficient in the general knowledge of engineering science, the fundamental and specialized knowledge of construction engineering	1.1 Apply knowledge of mathematics and science 1.2 Analyze core fundamental knowledge of construction engineering 1.3 Analyze advanced fundamental knowledge of construction engineering necessary for construction engineering practice
2. Grow professionally in their careers through continuous development of technical and management skills, roles of responsibility in professional activities, and life-long learning ability	2.1 Analyze and solve construction engineering problems 2.2 Measure and interpret experimental data related to construction materials and structures. 2.3 Select possible solutions of construction engineering within the context of society, enterprise and technique 2.4 Adapt for life-long learning 2.5 Perceive professional practice skills in construction engineering including professional and ethical responsibility
3. Adapt effectively in the professional environment, leadership and teamwork in the context of construction engineering	3.1 Evaluate the goals and characteristics of individuals to engage technical collaboration with team members towards the sound solution of multi-disciplinary projects 3.2 Choose various communication skills such as technical writing, sketching and drawing, persuasive arguments, and presentation to support the needs and character of the audience 3.3 Demonstrate the ability to use English in construction engineering, with the emphasis on reading and writing skills
4. Be able to apply these knowledge and skills to design, develop and select sound solutions to construction engineering projects	4.1 Judge the impact of construction engineering solution in global, economic, environmental, and societal context, and vice versa 4.2 Adapt different enterprise cultures and develop professional behaviors to work successfully in organizations 4.3 Select appropriate models of construction engineering performance to meet desired needs within realistic constraints such as economy, environment, society, and sustainability 4.4 Design a part or complete construction project by means of design experiences integrated throughout the professional component of the curriculum 4.5 Develop appropriate processes of construction engineering practice 4.6 Select suitable procedure to operate a construction project including inspection, maintenance, repair and upgrade

From Tables 1.1 and 1.2, the ELOs of the CET programme have been obviously aligned with the FCE and HCMUTE's vision and mission.

The current ELOs which have come into effect since 2012 cohort have been revised as the following procedure [*Exh.1.1: Revision of ELOs*].

1. Plan to revise the ELOs.
2. Analyze the vision and mission of the FCE and HCMUTE, survey on current job profile, and refer to the ELOs of the same programs from prestigious national and foreign universities to draft the ELOs.
3. Survey and compile feedback from lecturers, students, employers and alumni.
4. The FCE Academic and Scientific Committee discusses and decides the ELOs.
5. Submit the ELOs to the HCMUTE for approval.

As compared to the ELOs established in 2008, the ELOs revised in 2012 emphasize on the importance of interpersonal skills and applying knowledge to benefit society.

The vision, mission and ELOs are posted on the FCE website to inform all stakeholders. All lecturers are notified of the revision of the ELOs in meeting minutes of the departments to choose appropriate contents, teaching and learning methods, and student assessments which certainly align with the ELOs. The ELOs are also introduced to students in the course of Introduction to CET and other courses on the first day of the course [*Exh.1.2: Approaches to ELOs*].

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

The ELOs include not only professional knowledge and skills but also generic or transferable learning outcomes that support the students to adapt to different work environments by self-study or to study master or Ph.D. programme also available at the FCE. The subject specific and generic learning outcomes can be classified as demonstrated in Table 1.3.

Table 1.3: Subject generic and specific expected learning outcomes

Expected learning outcomes	Generic	Specific	Attitudes/ awareness
1.1 Apply knowledge of mathematics and science	✓		
1.2 Analyze core fundamental knowledge of construction engineering		✓	
1.3 Analyze advanced fundamental knowledge of construction engineering necessary for construction engineering practice		✓	
2.1 Analyze and solve construction engineering problems		✓	
2.2 Measure and interpret experimental data related to construction materials and structures		✓	
2.3 Select possible solutions of construction engineering within the context of society, enterprise and technique		✓	✓
2.4 Adapt for life-long learning	✓		✓
2.5 Perceive professional practice skills in construction engineering including professional and ethical responsibility	✓		✓

3.1 Evaluate the goals and characteristics of individuals to engage technical collaboration with team members towards the sound solution of multi-disciplinary projects	✓		✓
3.2 Choose various communication skills such as technical writing, sketching and drawing, persuasive arguments, and presentation to support the needs and character of the audience	✓		
3.3 Demonstrate the ability to use English in construction engineering, with the emphasis on reading and writing skills	✓		
4.1 Judge the impact of construction engineering solution in global, economic, environmental, and societal context, and vice versa		✓	✓
4.2 Adapt different enterprise cultures and develop professional behaviors to work successfully in organizations		✓	✓
4.3 Select appropriate models of construction engineering performance to meet desired needs within realistic constraints such as economy, environment, society, and sustainability		✓	✓
4.4 Design a part or complete construction project by means of design experiences integrated throughout the professional component of the curriculum		✓	
4.5 Develop appropriate processes of construction engineering practice		✓	
4.6 Select suitable procedure to operate a construction project including inspection, maintenance, repair and upgrade		✓	

When establishing the ELOs, the cognitive levels of students during the learning process are designed to avoid overloading learning outcomes from the lower levels of Bloom's taxonomy. The ELOs are also written to be assessed and make sense. The ELOs are then transferred into the course learning outcomes (CLOs) which can be achievable through teaching, learning, and assessment methods. The contribution of the CLOs to the ELOs is demonstrated in Appendix 1.

The importance of life-long learning is emphasized by a specific statement in the ELOs (ELO 2.4). This ELO is built-up by soft skills and attitudes which learners obtain when studying courses, projects, capstone project, and internship of the CET programme.

Both specific and generic ELOs are fulfilled by scientific research projects and plentiful extra-curricular activities such as the skill and English clubs, specialized seminars, site visits, voluntary activities [*Exh.1.3: Extra-curricular activities*]. These activities can support the ELOs as illustrated in Table 1.4.

Table 1.4: Relation of extra-curricular activities to the ELOs

Extra-curricular activities	Expected learning outcomes																
	1.1	1.2	1.3	2.1	2.2	2.3	2.4	2.5	3.1	3.2	3.3	4.1	4.2	4.3	4.4	4.5	4.6
Skill and English clubs							✓		✓	✓	✓						
Specialized seminar						✓	✓	✓		✓		✓	✓	✓	✓	✓	✓
Site visits						✓	✓	✓		✓		✓	✓	✓			
Voluntary activities							✓		✓	✓			✓				

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

The procedure of revising the ELOs presented in the sub-criterion 1.1 obviously reflected the requirements of the stakeholders, including employers, alumni, students and lecturers, the Vietnam law of higher education, and the vision and mission of the HCMUTE and FCE.

The HCMUTE has an ISO procedure to allow the FCE to review the CET programs in order to guarantee that the ELOs and contents of programs regularly reflect the requirements of all stakeholders. In a period of about 5 years, the ELOs and structure of the CET programme are greatly adjusted. The FCE also usually reviews and makes modifications to contents and assessment methods of some courses through surveys, workshops, or minutes. These revisions mostly come from the needs of labor market, changes in job profile, and experiences in the teaching and learning processes as listed in Table 1.5 [*Exh.1.4: Feedback of stakeholders in 2012 and 2015*].

Table 1.5: Requirements of stakeholders

Stakeholders	Requirements/ Suggestions	CET fulfillment
Employers	Design, construction practice, inspection and management of construction projects according to Vietnam standards or others	ELOs 4.4, 4.5, 4.6
	Supervision of construction engineering in practices	ELOs 2.2, 4.5, 4.6
	Proficient use of specialized software	ELO 3.2
	Communication in specialized English	ELO 3.3
Alumni	English specialized in construction engineering	ELO 3.3
	Site visiting	ELO 2.5
Lecturers	Analyzing construction problems based on core knowledge of construction	ELOs 1.2, 2.2
	Being able to self-study	ELO 2.4
Students	Job orientation	ELOs 2.5, 4.1, 4.2
	Communication in English	ELO 3.3
	Site visiting	ELO 2.5

2. Programme Specification

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

The programme specification of the CET programme is clearly described in the documents for opening a programme regulated by the MOET. The programme specification includes all information required by AUN-QA as in Appendix 2.

After being approved and promulgated, the programme specification is the official guidelines for lecturers, students and relevant partners when conducting the teaching and learning process. The CET programme specification is used for organizing teaching and learning plan in each semester. The programme specification is also informed to faculty members to revise course syllabi, write the courses' portfolios and prepare facilities such as textbooks, reference books, and experimental equipment. During the annual orientation week, freshmen are introduced to the programme specification [*Exh.2.1: Deployment of the programme specification*].

The programme specification is updated on the FCE's website for employers and high school students to refer to when they need information for recruitment or choosing studying programme.

The HCMUTE has an ISO procedure that permits the FCE to adjust the programme specification. From feedback of employers, alumni, lecturers, and students, the CET programme specification was remarkably changed by reducing total number of credits in 2012, and rearranging number of credits for some courses in 2015 [*Exh.2.2: Update on the programme specification*].

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

From the programme ELOs and programme specification, the course specifications are designed by groups of lecturers. The course syllabi include the following information [*Exh.2.3: Sample of course syllabus*]

1. Course Title in Vietnamese and English
2. Course Code
3. Credit Units, including theory, practice/experiment, and self-study credits
4. Course Instructors
5. Course Requirements
6. Course Description
7. Course Goals
8. Course Learning Outcomes, which are mapped to the programme ELOs
9. Learning Resources, including textbooks and references
10. Student Assessment
11. Course Contents, including teaching and learning strategies
12. Learning Ethics
13. Date of first approval
14. Approved by
15. Date and Up-to-date content

Besides, lecturers are requested to prepare the course portfolios that encompass lecture notes, assignments, test questions, assessment methods and other necessary activities before

teaching. From the teaching experience and feedback of students, lecturers write self-assessment reports of courses after finishing the courses at the end of each semester. Based on the opinions in self-assessment reports, lecturers will modify the contents, assessments, teaching and learning methods of the courses applicable to the following semesters. By this way, the course specification is always up-to-date from the feedback of lecturers and students [*Exh.2.4: Sample of course portfolio*].

2.3 The programme and course descriptions are communicated and made available to the stakeholders

The programme and course descriptions have been published on the faculty website where all stakeholders can access easily. These descriptions including teaching and learning methods are also introduced to freshmen students during the orientation week [*Exh.2.5: Contents of the orientation week*].

On the first day of courses, lecturers introduce the course syllabus to students to make sure that the students clearly know the CLOs and their relationship to the ELOs, contents, assessment methods, teaching and learning strategies. This information is also available on the embedded/mobile (E/M) learning system of the course where the students can access anywhere and anytime [*2.6: Sample of E/M learning course*].

3. Programme Structure and Content

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

The CET programme structure is designed based on the ELOs. The achievement of ELOs is contributed by CLOs of theoretical, experimental and practice courses, course projects, internship, and capstone project as clearly shown in Appendix 1. Each course or project has its own CLOs that can be achieved by students through contents, teaching and learning methods and assessment specified in the course syllabi.

The content of the curriculum includes general, fundamental and specialized knowledge clusters. Each knowledge cluster supports the ELOs of the CET programme as follows. The general knowledge cluster promotes self-study and life-long learning, which help students to change or study other majors. With knowledge and skills equipped by the fundamental cluster, students can adapt to different working environments and study other close specialization. This fundamental cluster is similar to other CET programme in the world so that the students can have mobility and/or cross-border education. Some advanced or specialized courses classified in the specialized knowledge cluster equip students with particular knowledge, making them ideal candidates for specific positions right after their graduation.

The ELOs are also supported by the teaching and learning methods that are designed dependently on CLOs of each course. Besides the traditional method of interactive lectures, soft-skills of the ELOs are achieved by means of problem solving, group working and presentation, practice in laboratories and computer labs. Particularly, the ELOs can also be obtained by students through project-based solving including course projects and capstone project. In these projects, students directly work with lecturers to solve a specific problem and

finally the students can make design drawings and a report explaining main calculations and figures of the design [*Exh.3.1: Sample of a course project*].

The constructive alignment of the curriculum with the ELOs is also strengthened by student assessments. A variety of assessment methods such as one-minute papers, quizzes, paper-based tests, multiple-choice tests, oral tests, presentations, homework, and projects are adopted to evaluate the learning progress of students. For presentations, practice, experiments, oral tests and projects, rubrics are designed to measure the achievement of ELOs [*Exh.3.2: Assessment rubrics*].

Last but not least, the ELOs, particularly soft skills, are reinforced by extra-curricular activities such as the skill and English clubs, specialized seminars, site visits, volunteer activities as shown in Table 1.4.

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

The programme ELOs are clearly achieved through the contribution of CLOs. CLOs are presented in the course syllabus and specifically mapped to the programme ELOs as shown in Appendix 1.

The programme ELOs can be gradually reinforced through groups of related courses with CLOs that support the ELOs from analyzing to creating in the Bloom's taxonomy. For example, to be able to design steel building structures, students must sequentially study courses of Steel Structures, Steel Building Structures and Project of Steel Building Structures with CLOs mapped to the ELOs as illustrated in Table 3.1.

Parallel to increasing difficulty in contents, alternative teaching and learning methods are suitably employed to these courses. The assessment methods are also chosen accordingly [*Exh.3.3: Syllabi and Assessment rubrics*].

Table 3.1: Contribution of a group of steel design courses to the ELOs

Courses	Expected learning outcomes																
	1.1	1.2	1.3	2.1	2.2	2.3	2.4	2.5	3.1	3.2	3.3	4.1	4.2	4.3	4.4	4.5	46
Steel Structures		✓		✓			✓				✓						
Steel Building Structures			✓	✓		✓			✓		✓						
Project of Steel Building Structures			✓	✓		✓	✓	✓		✓	✓			✓	✓	✓	

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

The curriculum is logically structured with general courses, fundamental courses, specialized courses including selective courses, and capstone project that balance between specific and general courses as shown in Figure 3.1. A list of the general, fundamental and specialized courses is provided in Appendix 3.

The courses in the curriculum are arranged in sequence of increasing difficulty from the first to seventh semesters, and capstone project in the last semester. Advanced courses require prerequisite fundamental courses. Students can study an advanced course only when they pass its prerequisite courses. The curriculum map in Appendix 3 shows the relationship and progression of basic, intermediate and specialized courses in the curriculum.

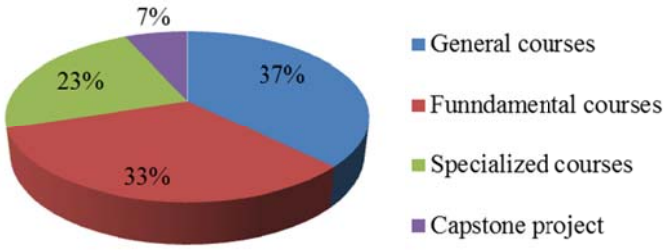


Figure 3.1: Logical contribution of credits in the curriculum

Additionally, there are integrated courses in the curriculum. These courses are usually course projects, which combine knowledge from several relevant courses. Soft skills are also required to complete these projects. The most important integrated course is the capstone project. After finishing all courses, active students spend the entire last semester on completing the capstone project only. The capstone project requires students to select appropriate solutions and design a specific building project. To do this, the students have to use and integrate knowledge and skills accumulated from the courses and projects over the previous semesters. The outcomes of the capstone project are a report and design drawings similar to design documents in practice [*Exh.3.4: Sample of a capstone project*].

Selective courses and projects make the curriculum structure flexible enough to allow students to pursue an area of specialization and incorporate more recent changes and developments in the field of civil engineering. Especially, various topics of the capstone project are practical opportunities for students to study and apply state-of-the-art technology in design and construction to their projects.

Thanks to ISO procedure of HCMUTE that allows adjusting the curriculum up to 7% of total programme annually, the CET curriculum is regularly reviewed to ensure that it is up-to-date. There was a big change in the curriculum in 2012 when the HCMUTE and FCE received feedback from stakeholders who need graduates with good soft skills such as self-studying, writing, drawing, presentation, and communication ability in English. As a result, the curriculum was organized to reduce the number of credits giving students more time to improve these soft skills.

In 2015, also from feedback of stakeholders, the FCE slightly modified the curriculum by increasing the number of selective courses, adjusting the credits of some fundamental courses, and revising contents of several courses to satisfy current requirements of labor market [*Exh.3.5: Feedback of stakeholders in 2012 and 2015*].

4. Teaching and Learning Approach

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

FCE educational philosophy is: “All teaching and learning activities aim to encourage students to discover the true values which come with unbiased investigation and self-

awareness, and to train students as civil engineers with creativity and problem solving skill to meet the social and technological demands, promote community cohesion and contribute to the national and regional development." This philosophy stems from the vision and mission of HCMUTE and FCE, and closely links with the ELOs of CET program. It is clear that with this philosophy, students are equipped with professional competencies and skills to design, construct, and maintain construction projects under the challenges due to not only intense competition environment but also diverse demands of labor market.

This philosophy has been well articulated to the stakeholders, especially lecturers and students. Many training programs, seminars, and workshops on pedagogical and assessment methods based on CLOs have been organized for lecturers to bring this educational philosophy into teaching and learning activities. Students are introduced to and experience this philosophy during the orientation week and courses. The other stakeholders are informed about this philosophy through the Open Day activities and meetings [*Exh.4.1: Activities to articulate FCE educational philosophy*].

Based on this philosophy, the lecturers in the CET Programme are responsible for multiple roles to effectively contribute to student learning:

- Facilitator: Helper in discovery process
- Lecturer: Provider of information
- Instructor: Demonstrator of a skill
- Coach: Guider of learning
- Consultant: Helper in problem solving
- Counselor: Helper in life situations and feelings
- Mentor: Provider of guidance focused on professional or personal growth.

Students take an active role in this philosophy, from the development of their education plans to the collaboration with course instructors. They are encouraged to analyze and critically evaluate information, question what they are learning instead of assuming everything is true, and creatively synergize skills across disciplines. They are also guided to become self-cognizant, life-long learners. Especially, they are obligated to take responsibility for their own learning.

To support this educational philosophy, a number of teaching methods have been implemented in the CET programme. Creating collaborative classroom environment allows students to feel at ease to express their views, share experiences, and discuss different opinions. To stimulate activeness, creativity and responsibility of students, appropriate instructional strategies are chosen. As a part of the educational philosophy, a variety of assessment strategies are used to give students and lecturers opportunities to review, reflect on, and refine the teaching and learning process [*Exh.4.2: Sample of course's portfolio*].

Successful fulfillment of this education philosophy is possible thanks to training courses hosted by the HCMUTE or international corporation programs such as Fulbright, HEEAP, VULII, COMET, or BUILT-IT. Attending these training courses, lecturers obtain useful pedagogical and assessment methods necessary for quality learning based on the ELOs [*Exh.4.3: List of courses for pedagogical methods*].

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

To ensure that students can fully obtain the required CLOs, each course has its own teaching and learning methods that are designed by a group of related lecturers. These methods are explicitly listed in the course syllabus and introduced to students on the first day of the course. By this way, teaching and learning activities are constructively aligned to the achievement of the ELOs.

There are varieties of teaching and learning strategies employed to help students not only to achieve the ELOs but also to stimulate the activeness and responsibility in their learning process. To constructively align with increasing difficulty of course content semester by semester, appropriate teaching and learning methods are applied.

For such general courses as mathematics and sciences, interactive lectures illustrated with many practical examples are taught. Especially, the course of Introduction to CET in the first semester gives students an overview of the CET programme and job profile, and guidelines of soft skills including self-study through talk with professional engineers, model design, field trips, and share of experience. These teaching and learning activities help students to understand deeply, promote interest, develop competencies for life-long learning, and orientate professional passion during the learning process [*Exh.4.4: Activities in Introduction to CET course*].

For fundamental courses in which professional knowledge and skills are firstly taught, lecturers often provide students with illustrative examples of phenomena, discuss to explain the phenomena, then conclude and develop into theories or formulas. Students are usually required to prove these formulas and apply them to solve practical problems for reinforcement of fundamental knowledge [*Exh.4.5: Activities in Soil Mechanics course*].

With fundamental knowledge, students feel confident to join in active teaching and learning processes in specialized courses. In these courses, discussion, presentation and project-based problem solving are often employed to improve abilities of self-study and gain professional knowledge and skills [*Exh.4.6: Activities in Steel Building Structures course*].

To strengthen theoretical knowledge, there are many practical and experimental courses in the CET programme. Pictures, diagrams, models and tutorial demonstrations are used to bring students into practical visualization and skills of complex processes. In addition, lecturers also utilize computer-aided instruction for interpreting some simulations. Then students have to correctly implement these processes under supervision of the instructors [*Exh.4.7: Posters and Videos of practical/experimental courses*].

One of the most interactive teaching and learning activities is face-to-face working between lecturers and students in course and capstone projects. In this teaching and learning process, students have good opportunities to apply accumulated knowledge and discover new professional trends to give best solutions for their projects under guidance of lecturers as mentors. During this process, the guidelines and comments of the lecturer on weekly works, including reports and drawings, of the students are given to help students to adjust and improve their works step by step [*Exh.4.8: Activities in course and capstone projects*].

The ELOs of soft skills are usually supported by many interactive activities of teaching and learning. Teamwork and communication skills are specially emphasized in the course of

Introduction to CET. In other courses, lecturers often organize short discussions or group working to help students to deeply understand lecture notes and familiarize themselves with technical collaboration. Additionally, the assessments of report writing, shop-drawings and presentations of several courses gradually improve soft skills of students [*Exh.4.9: Regulations on and report of group working*].

With 23% of total credits related to practice/experimental courses, projects and internship, professional skills play an important role in the CET programme. In these courses, students can competently perform tasks such as implementing of technical drawing, modeling construction projects by software, supervising and inspecting construction practices. The teaching and learning activities emphasize on the practices, actions, ethics and attitudes of students, especially safety and cleanliness in industrial working environments [*Exh.4.10: Reviews of employers on internship*].

Moreover, students also experience fruitful teaching and learning processes through extra-curricular activities such as skill and English clubs, specialized seminars, site visits and voluntary activities. Especially, students initially establish their own passion and skills in scientific research by participating students' research projects or specialized competitions such as National Mechanics Olympics, the talented young scientists (Eureka), or Loa Thanh awards granted for most excellent graduation theses in civil engineering field in Vietnam [*Exh.4.11: Prizes of students' competent contests*].

The above plentiful teaching and learning activities are successfully implemented based on the flexibility of the CET programme and supportive facilities of the HCMUTE and FCE. The credit-based programme allows students to manage their study plan depending on capacity and achievements of the students in each semester.

Most HCMUTE's classrooms are equipped with projectors so that lecturers can easily use integrated pedagogical methods like electronic or video lectures. The E/M learning system, www.lms.hcmute.edu.vn, helps students to access lectures, do homework, quizzes, and interact with lecturers and classmates anytime and anywhere. Students also have interactive channels with lecturers through the consultancy team, email, phone or dialogues to be immediately consulted about academy, psychology and career. Another contribution to the effective teaching and learning activities comes from teaching assistants who support lecturers to summarize lecture notes, solve exercises, and check the learning progress of students [*Exh.4.12: Activities supporting teaching and learning processes*].

Last but not least, effectiveness of the teaching and learning activities are always evaluated through a number of ways such as self-assessment of lecturers, class observation and comments of colleagues and administrators, students' feedback in class, online evaluation of courses given by students at the end of each semester, and seminars or workshops on innovation in teaching and learning methodologies [*Exh.4.13: Evaluations of teaching and learning processes*].

4.3 Teaching and learning activities enhance life-long learning

The teaching and learning activities of the CET programme really promote life-long learning including professional and soft skills. Through activities of teaching and learning general,

fundamental, specialized courses, practical and experimental courses, course and capstone projects students gradually establish and improve life-long learning.

Teaching and learning processes in general courses provide students with basic tools to perceive fundamental and specialized courses and adapt for studying other specialization rapidly. In the course of Introduction to CET, discussions, group working, presentations, and model making help students to build their own study plan and career orientation. Students enrich English ability emphasizing on reading and writing from English courses and lecture notes of specialized courses in English. Additionally, the English clubs also provide students with opportunities to use English [*Exh.4.14: Activities in English clubs*].

Regarding information technology competency, students undertake a course of programming language as fundamental knowledge to obtain competency in computer-aided drawing and designing. To facilitate faster process of completing course and capstone projects, students have to use such computer competencies as spreadsheets, word processing, and computer-aided design. Students usually learn more tips on software skills during lectures, a face-to-face teaching and learning activity. This approach provides students with opportunities to experience the learning process similar to professional activities in future career [*Exh.4.15: Sample of a capstone project*].

Activities of teaching and learning fundamental and specialized courses promote the development of professional skills for life-long learning. When assigning topics for discussion, presentations or projects, lecturers always give detailed guidelines of how to find, analyze and process information, how to write and present results. This is an effective way to teach students how to self-study. To do course and capstone projects, students have to implement a series of activities such as issue identification, analysis, evaluation in systematic thinking in order to choose possible solutions. This entire process is monitored and orientated by lecturers weekly. By this way, the students establish and develop independent thinking and analysis based on their accumulated experiences. This will support professional activities of students in the future [*Exh.4.16: Guidelines for course projects*].

Importance of life-long learning is clearly perceived by students through internships at construction sites or companies. During these internships, the students directly work with civil engineers in construction projects and gain professional knowledge and practical skills. This helps students to orientate future careers, recognize challenges in their work, and arouse passion and spirit of entrepreneurship [*Exh.4.17: Sample of internship report*].

In HCMUTE and FCE, students are always encouraged to participate into scientific research projects that are financially supported. Ideas of these projects stem from challenges or discoveries the students encounter in the learning process. Beyond mentioned teaching and learning activities, the students under instruction of lecturers have to build a plan, search for information, collect and process data based on creative thinking and solving to obtain results for scientific research. These research capability and experience are good motivation and stimulation for students to pursue higher levels of studying such as master or Ph.D. degrees as shown in Figure 4.1 [*Exh.4.18: Activities in scientific research*].

The life-long learning expectation is supported by unbiased, collaborative and professional classroom environment that allows students to feel free to express their ideas, share experiences, and discuss different opinions. This makes students confident and empathetic.

Simultaneously, this also prepares students to overcome prejudices and compromise and adapt to a multicultural working environment [*Exh.4.19: Activities adapting to multicultural environment*].

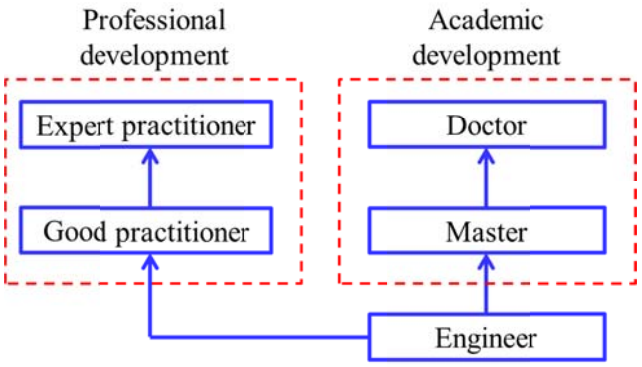


Figure 4.1: Higher education possibility for CET students

5. Student Assessment

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

Student assessment of FCE includes assessment of new student admission, continuous assessment during the course of study, and final assessment before graduation.

The assessment of new student admission takes place annually in July following the regulation of MOET and HCMUTE. To enroll to the FCE, high school candidates have to take a national entrance examination to obtain an average score of three subjects Mathematics, Physics, Chemistry (group A), or Mathematics, Physics, English (group A1), or Mathematics, Literature, English (group D1) above benchmarks stipulated by MOET and HCMUTE. The FCE also admits high school candidates with high school profiles satisfying admission conditions as announced by HCMUTE [*Exh.5.1: Student enrollment project*].

To ensure that freshmen can choose suitable English courses, the FCE organizes English pre-test at the beginning of an academic year to classify the students' English competency into level 1, level 2, level 3, and reinforced level. Students possessing English competency at level 1, level 2, or level 3 study courses of English 1, 2, or 3 of the CET programme, respectively. Students in the reinforced level have to study preparatory English courses and join the FCE's English clubs to improve their English skill before taking the test again [*Exh.5.2: Results of English pre-tests*].

In order to determine the course performance of students, diagnostic, formative and summative assessments are applied in the CET programme.

The summative assessment contributes 50% to the result of the courses. The HCMUTE has an ISO procedure for preparing and organizing the final writing examination of courses. According to this procedure, assessment methods and contents are firstly designed by lecturers and then verified by the heads of FCE departments using a checklist of exam's verification to ensure that the assessment is constructively aligned with the CLOs, particularly the contents, duration, difficult level, and grading schemes. Meanwhile, final reports,

presentations and/or oral-defense are applied to course projects, experimental and practical courses. The summative assessments of these courses are also designed following CLOs clearly specified in the course syllabi. This constructive alignment is listed on the examination paper and marking guides [*Exh.5.3: Procedure and sample of writing examination and marking guides*].

Making up the other 50% of the result of the courses is the formative assessment. This assessment is undertaken during courses using a variety of methods such as writing examinations, quizzes, reports, assignments, and presentations. The contents of formative and summative assessment are designed to cover every CLO specified in the course syllabi. [*Exh.5.4: Syllabi of theoretical, experimental courses, course projects*].

In addition, in order to diagnose the students' capability, non-marking tests such as quizzes, one-minute papers, and muddiest points are utilized. These diagnostic assessments are valuable feedback from students to help lecturers to improve their lectures timely. In experimental and practical courses, students are required to perform non-marking tests related to safety regulations before doing experiments or practices [*Exh.5.5: Diagnostic assessments*].

To graduate, students have to complete and successfully defense a capstone project under the guidance of a supervisor after completing all courses required in the CET programme. During the capstone projects, the students' progress is assessed weekly by their supervisors. Due to the importance of the capstone projects, which evaluate most ELOs of the CET programme, the final assessment of this project is conducted by an independent reviewer and a committee of lecturers and employers in an oral defense [*Exh.5.6: Assessments of capstone projects*].

HCMUTE use a 10.0 scale for grading the achievements of students in the courses and classifies the results of students' studies based on Grade Point Average (GPA) scale of 10.0 or 4.0 as shown in Table 5.1. [*Exh.5.7: Regulations of university and college in credit system*].

Table 5.1: GPA for classification of students' studying results

GPA scale of 10	Equivalent GPA scale of 4	Classification
$8.5 \leq GPA \leq 10$	$3.4 \leq GPA \leq 4.0$	A. Good
$7.0 \leq GPA \leq 8.4$	$2.8 \leq GPA \leq 3.3$	B. Fair
$5.5 \leq GPA \leq 6.9$	$2.2 \leq GPA \leq 2.7$	C. Average
$4.0 \leq GPA \leq 5.4$	$1.6 \leq GPA < 2.1$	D. Weak
$GPA < 4.0$	$GPA < 1.6$	F. Too weak

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

The student assessments including timelines, methods, regulations, weight distribution, rubrics and grading are well defined in the course syllabi and clearly announced to students on the first day of the courses. Students can access the assessment requirements of the courses on the FCE's website and E/M learning system. To ensure students are informed of this information, a survey question is dedicated to this in the final course evaluation by students

[*Exh.5.8: Course syllabi on FCE's website and E/M learning system*; *Exh.5.9: Survey on final course evaluation*].

To encourage students to study during the courses, not just for the final exams, HCMUTE has regulated 50% of the course final grade dedicated for the progress assessment since 2012. Various assessment methods with appropriate weight distribution are applied to the formative assessments and they are explicitly listed in the course syllabi. Grading of these assessment methods is explicit and communicated to students through the marking schemes in paper examinations and answers [*Exh.5.10: HCMUTE regulations on CDIO framework programme; Exh.5.11: Marking schemes in writing examination and answers*].

To ensure the assessment is reliable, assessment rubrics are designed and widely applied to formative and summative assessments, especially in experimental and practice courses, projects, and presentations. These rubrics are informed to students in advance by the students' supervisors or on the FCE's website.

The student assessments of experimental and practice courses are mostly conducted as follows. The formative assessments of these courses come from the performance and results of the experimental or practical processes conducted by individuals or groups after each lesson. Final reports and oral defenses are the assessment methods for summative results. The timelines, weight distribution and rubrics of these assessments are communicated to students through course syllabi and announcement in the classes [*Exh.5.12: Assessment of experimental and practical courses*].

When doing course projects and capstone project, the students' progress is assessed weekly by supervisors as the formative assessments. The final assessment results of the course projects are independently evaluated by other lecturers. The capstone project is assessed by the supervisor, an independent reviewer and a committee of at least three members. The final score of these projects is the average of the scores given by them. Rubrics are used for all these assessments based on the students' reports, drawings and performances during their oral defenses [*Exh.5.13: Assessments of course projects*; *Exh.5.14: Assessment of capstone project*].

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

The FCE applies various methods for student's assessment as follow:

- Multiple choice questions
- Writing examinations
- Presentations
- Oral defense examinations
- Attendance, discussion, assignment
- Homework
- Teamwork activities
- Non-marking methods such as quizzes, one-minute papers, and so on.

As described in sub-criterion 5.2, rubrics are intensively applied to such student assessments as presentations, experimental and practice courses, projects, especially capstone project. These rubric systems are designed, and gradually improved by utilizing the Plan-Do-Check-

Act (PDCA) approach. A rubric for a course is planned and designed by the FCE's lecturers before that course starts in the FCE's lecturer meeting. At the end of a semester, in the lecturer meetings, the rubric is modified from evaluations and comments of the lecturers. The adjusted rubric is readily applicable to the next semester [*Exh.5.15: PDCA reports on assessment rubrics*].

The assessment procedures, which include quantities, weight distribution, timelines, methods and contents mapping to the CLOs, are always specified in the course syllabi that are informed to students on the first day of courses, and posted on the FCE's website and E/M learning system. These procedures have to be strictly followed by lecturers and students to guarantee fairness of student's assessment. Additionally, marking schemes explicitly listed in the final questions and answers, and assessment rubrics are means of grading to ensure reliability and fairness of student's assessment among lecturers [*Exh.5.4: Syllabi of theoretical, experimental courses, course projects; Exh.5.11: Marking schemes in writing examination and answers*].

Furthermore, the marking scheme and answers of formative assessments are posted on the E/M learning system or directly given to students in classes after the examinations. For the final writing examinations, the marking scheme and answers are required to be published on the FCE's website two days after the examinations at the latest. The validity of formative assessment is also ensured and verified by collecting the feedback from the students about the assessment during and at the end of courses [*Exh.5.9: Survey on final course evaluation; Exh.5.11: Marking schemes in writing examination and answers*].

In addition to the assessments of studying activities, the attitude and social responsibility of the students are also assessed through voluntary and public activities. "Social" point accumulated by the students when participating in these activities is an important criterion to grant them a scholarship every semester and for graduation approval [*Exh.5.16: Assessment of students' social responsibility*].

The fairness and objectivity of student's assessment is ensured by an ISO procedure for design, verification, security, replication, receive and delivery of the examination questions and regulations in examination rooms. One of these regulations requires at least two independent invigilators supervising about 30 students in each examination room. Furthermore, an appeal procedure allows students to request to re-grade their scores if they do not satisfy with their scores [*Exh.5.3: Procedure and sample of writing examination and marking guides*].

Besides the requirements of using different tools and methods for student's assessment, the HCMUTE and FCE also organize a number of seminars and workshops to guide and share experiences on designing and utilizing these different assessment methods. Young lecturers often improve their teaching and assessment methods by participating in workshops and training courses managed by senior lecturers or specialists [*Exh.5.17: Workshops on student's assessment*].

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

To improve the learning processes, suitable surveys for different assessment methods are conducted timely to collect students' feedback.

As to writing examinations, the evaluation of the examinations and answers are considered as the feedback of lecturers for students is provided a week after those examinations. Based on the results of examinations, both lectures and students are able to be up-to-date the effectiveness of teaching and studying during the semester. That process of feedback is checked using the survey on student feedbacks about the writing examinations [*Exh.5.18: Examination feedback of students*].

Besides examinations, a number of assignments are provided during the courses to consolidate students' knowledge after lectures in class. The more practice students do, the more improvement they gain. Teaching assistants usually assist lecturers to evaluate and comment on students' assignments under the guidance of lecturers [*Exh.5.19: Regulations on teaching assistants*].

For experimental and practical courses, after each lesson testing results and performances of students are assessed and commented by instructors and returned to the students in the next class [*Exh.5.20: Feedback on experimental and practical courses*].

Tracking notes are valuable feedback of lecturers on weekly works of students during the projects. Every week, in face-to-face working between students and their supervisors, the supervisor's comments and corrections written down on the tracking notes, reports and drawings help the students to improve their works timely. Particularly, the students also receive feedbacks from a reviewer about their capstone projects. The assessments of the reviewer can help to pinpoint the strengths and weaknesses of their works. As a result, the students are able to improve their performance in the final oral defense for capstone project thereafter [*Exh.5.21: Tracking notes and reviews for projects*].

Timely feedback of formative assessments helps students to evaluate and modify their study plan in each semester. Students can even withdraw from the courses without academic penalty three weeks before the end of the semester according to HCMUTE regulations. The results of final examinations are assessed and announced to students within one week after the examination day on the portal system (http://online.hcmute.edu.vn/). By accessing this system, students can keep track of up-to-date records of studying results [*Exh.5.22: HCMUTE regulations on course withdrawal*].

5.5 Students have ready access to appeal procedure

HCMUTE has designed and applied the procedure for student appeal. In details, within one week after receiving the final score of a course on portal account, based on the marking scheme and answers published, a student can request to re-grade his/her examination. The re-grading process is done by an examiner who did not grade the examination to ensure objectiveness and fairness. The result of re-grading process is informed to the student one week later. If the student still does not satisfy with the result, he/she can request to see the examination and discuss with the examiners in person [*Exh.5.23: Appeal procedure*].

6. Academic Staff Quality

6.1 Academic staff planning is carried out to fulfill the needs for education, research and service

Based on the HCMUTE strategic plans for the year period of 2011-2016 vision to the year of 2020, FCE has its own strategic plan in which the demands, development orientation and

personnel planning are described and clarified. This strategic plan of FCE is a base to build a powerful force of lecturers with Master or Doctorate degrees.

The titles, duties and functions of each lecturer as well as FCE organization structure is made public. The faculty's management board includes Dean, two Vice Deans and one female secretary. Every year, FCE encourages the lecturers to apply for the titles of Professor to improve the quality of the staff [*Exh.6.1: Academic staff planning*].

The retirement ages for male and female lecturers are 55 and 60 respectively as regulated by the government. However, Professors and Associate Professors are welcome to extend their working time for several more years if they are still passionate in teaching. Pensions and other subsidies for retired lecturers are also considered under the university regulations. If a lecturer wants to resign, he or she needs to submit a letter of resignation to the Human Resources Management Office (HRMO) at least 45 days in advance and clarify the reasons for resigning from the position. On the other hand, HCMUTE also has the right to end the contract with lecturers due to some certain reasons such as lecturers' inability to satisfy work demands or making serious misconduct, and the employees are also informed about the termination 45 days in advance.

At the mid-term and at the end of the term, the self-evaluations of the plans are carried out. FCE evaluates the academic staff planning and proposes changes if necessary. Once there are changes in personnel, FCE holds meetings, makes final recommendations on the plans and sends them to the University for further modifications in academic staff planning. If the number of FCE PhD lecturers in 2011 was 7, this figure now is 18, including 16 PhD lecturers and 02 Associate Professors (an increase of 61% after 5 years since 2011) [*Exh.6.1: Academic staff planning; Exh.6.2: HR policies related to academic staff*].

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

With a high number of PhD holders compared to other faculties of HCMUTE as well as other universities in Vietnam, FCE together with HCMUTE measures and monitors the workload every year. The quality of FCE lecturers is shown as in Table 6.1 [*Exh.6.3: Teaching activity monitoring*].

Table 6.1: Number of Academic Staff and their FTEs (Reference date May 27, 2016)

Title	Male	Female	Total		Percentage of PhDs
			Headcounts	FTEs(*)	
Associate / Assistant Professors	2		2	2x1=2	100%
Full time lecturers (Construction engineering technology)	36	4	40	40x1=40	42.1%
Full time lecturers (non-Construction Engineering Technology)	16	7	23	23x0.37=8.51	66.7%
Visiting Professors/ lecturers	6	1	7	7x0.2=1.4	28.6%
Total	60	12	72	51.91	

(*) *FTE stands for Full-Time Equivalent. This is a unit to calculate the investment of time. 1 FTE equals to about 10-12 teaching and consulting hours per week (full-time employment). A staff member with a weekly appointment of 5-6 teaching and consulting hours per week is 0.5 FTE.*

According to the MOET regulations, the staff-to-student ratio should be smaller than 25. To ensure the quality of education, the ratio is kept rather stable year by year. The detailed FTE ratios of teaching staff to the number of students are represented in Table 6.2.

Table 6.2: Staff-to-student ratio

Academic year	Total FTEs of Academic Staff	Total FTEs of students	Staff-to-student Ratio
2011	40.37	594	14.7
2012	46.14	713	15.5
2013	47.30	761	16.1
2014	49.60	746	15.0
2015	51.91	735	14.2
2016	51.91	719	13.9

(Number of students is calculated as accumulation of 4 successive intakes minus the total drop-out number and plus the number of students who are late in graduating from previous intakes)

Lecturer workload in each semester is decided based on the HCMUTE regulations as well as teaching demand, qualifications of staff and the number of enrolled students for each course and the readiness of the lecturers. The real workloads are reckoned up (including teaching, scientific research, articles published on magazines, textbook writing, and service activities) every year. Based on the HCMUTE regulations [*Exh.6.4: HCMUTE financial planning and execution*], the required workload of teaching staff is shown in Table 6.3.

Table 6.3: The required workload of teaching staff

Academic titles	Teaching and consultant workload/year	Research workload/year	Community Service (No. of activity/year)
Assoc. Prof.	320h (10-11 teaching and consulting hours/week)	110h	4
PhD./ tenure	320h (10-11 teaching and consulting hours/week)	110h	4
Master of Science	280h (9-10 teaching and consulting hours/week)	90h	4
Engineer	280h (9-10 teaching and consulting hours/week)	90h	4

(Research equivalent hours are base d on the quality of research output. For example, publishing a SCI journal paper is equivalent to 400 research hours)

A large number of visiting lecturers coming from prestigious universities to lecture and exchange academy is another advantage to improve the quality of education, research and

service. To ensure lecturers have time on conducting scientific research as well as participating in extra activities such as organizing construction site visits, guiding students doing scientific research, etc., lecturers are not allowed teaching more than a certain threshold. The contribution of staff is evaluated based on the Key Performance Indicators (KPIs) system. This evaluation is a criterion to vote for awards, nomination, redeployment or salary increase every school year [*Exh.6.5: Assessment of academic staff performance; Exh.6.6: Emulation and rewards for academic staff*].

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

Based on the staff planning in the FCE strategic plan for the year period of 2011-2015 until the year of 2020, FCE has annual recruitment plans. The FCE's management board suggests the recruitment needs, academic titles as well as specific academic requirements. The university president will approve it and then all the recruitment information will be announced on the university's website and other social media.

As a unit of HCMUTE, FCE follows the strict recruitment process of the university. Based on the explicit competence criteria regulated for each lecturer, FCE lecturers are recruited to match with the needs of the university. Successful candidates must pass multiple rounds of testing and go through a probation period for at least 1 year. During this time, the probationary lecturers have to fulfill their duties under the guides of experienced and highly qualified lecturers. The performances of the probationary lecturers are then evaluated for extension of contract.

To adapt to global integration trend, the criteria for recruiting and appointing lecturers have been changed and adjusted. While the education attainment previously required for recruitment was a Master degree, candidates with a Doctorate degree are now attracted by a 10 million VND salary incentive as a step to improve the academic staff quality. In addition, a new policy effective from 2014 states that only Doctorate candidates who graduated from countries with English as the primary language will be recruited [*Exh.6.4: HCMUTE financial planning and execution; 6.7: Academic staff recruitment*].

In teaching, to guarantee the objectivity in score evaluation and teaching efficiency, each subject is taught by at least two lecturers who have appropriate professional knowledge. Lecturers with a doctorate or master degree are usually responsible for theoretical subjects that they specialize in, while practical subjects are given to experienced lecturers who have high vocational skills. Besides teaching and doing research, another common work of lecturers is to build curriculum, writing textbooks and improving lesson plans. These are considered as frequent duties that are brought into emulation targets and the annual evaluation of workload completion level. Teaching assistant policies of HCMUTE with specific regulations are used to assist qualified lecturers to complete their work [*Exh.6.3: Teaching activity monitoring*].

The rights and duties of each FCE lecturer are clearly defined and announced to all related individuals through the FCE homepage, email, etc. Senior lecturers are assigned to give guidance and share knowledge and valuable experience to young colleagues. Lecturers who teach the same courses establish professional groups to unify the contents, format of the exam, assessment criteria, and attend other lecturers' classes. All academic staff members are

accountable to the university and its stakeholders for the content taught in classes or implementation of intellectual property law, copyright, honesty and professional ethics. Each lecturer has to clearly show the correspondence between the course CLOs and the programme ELOs, course contents, teaching methods, teaching plans and assessment in the teaching portfolio. At the end of each semester, lecturers have to write reports on teaching activities, assessment method, student feedback, etc. to ensure the consistency of teaching as oriented by the curriculum. The consistency of the assessment methods with the course CLOs is demonstrated in the Correlation Matrix [*Exh.6.2: HR policies related to academic staff; Exh.6.5: Assessment of academic staff performance; Exh.6.7: Academic staff recruitment*].

Promotion policies and salary raises are also made public on the HCMUTE website. Based on the performance of the faculty staff, the faculty board will organize evaluating and voting meetings to identify the best individuals for the title of Emulators. The chosen individuals will be commended, awarded and also publicly considered for a salary raise ahead of time [*Exh.6.6: Emulation and rewards for academic staff*].

6.4 Competences of academic staff are identified and evaluated

Competencies of academic staff are identified and evaluated in three main aspects: teaching, research and service. Indeed, the university regulates explicit competence criteria for each of its staff to ensure the quality of the staff. Not only being good at skills to pass multiple rounds of testing when application, are successful good-at English candidates with PhD degrees only considered since 2015. Together with obtaining the pedagogical certificate, the lecturers will be offered a short contract up to 3 years. The number of FCE full-time academic staff is 44 in which there are 02 Associate Professors, 16 Doctors, 24 Masters and 02 others [*Exh.6.1: Academic staff planning; Exh.6.7: Academic staff recruitment*].

Based on the job description issued by the Faculty, FCE lecturers have a capability for designing and delivering a coherent teaching and learning curriculum, showing that the course syllabi matches the outcomes of the training programmes or the final test content is suitable with the course syllabi. In addition, the faculty always advocates innovating teaching methods, evaluation methods, applying modern means of information technology such as Power Point lectures, automobile system simulation software, and learning materials uploaded on E-learning website. To improve the teaching efficiency, each lecturer gives feedback on the teaching activities frequently during the teaching and learning process with a chain of activities known as “teach, analyze, assess and innovate”. Each lecturer also has feedback from their colleagues who attend their classes. These activities are done with specific plans and follow an agreed process in the whole university [*Exh.6.3: Teaching activity monitoring; Exh.6.8: Training activities for FCE academic staff*].

Research and service are other criteria to assess the competencies of the lecturers. FCE lecturers conduct research with the university level project, Ministry level project, and Nafosted project [*Exh.6.9: Research activities and related support policies*] as explained in more detail in sub-criterion 6.7. In addition, FCE lecturers also provide services to benefit stakeholders such as enrollment consultancy, attending Open Day, organizing internships as well as supporting students online or off-line through modern communication channels such as telephone, email, Facebook or the university website [*Exh.6.10: Service activities of FCE academic staff*].

Each lecturer must be able to improve teaching method and service through the feedback of student questionnaires surveyed at the course end. At the end of an academic year, the assessment of lecturers is carried out after gathering personal working achievement reports, reports of faculty's evaluation for lecturers**,** students' evaluation reports. The KPIs system of HCMUTE is an effective tool to evaluate the level of work completion. Before 2016, the self-assessment is done on papers. However from 2016, it is done through KPIs system**.**

The Department Heads evaluate the performances of their lecturers and discuss with the department members to reach the consensus. The faculty recommendation is then considered by the university's emulating and awarding board. The evaluation is based on working achievements, scientific research, making no mistakes at work during the year. The annual "Excellent Staff" awards at three levels, namely institution, ministry and government will be announced. The award is a good reference for further activities including salary raise for award recipients before schedules [*Exh.6.5: Assessment of academic staff performance; Exh.6.6: Emulation and rewards for academic staff*].

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

The university sets up an annual funding for training and retraining lecturers [*Exh.6.4: HCMUTE financial planning and execution*]. FCE lecturers are encouraged and supported to attend short-term and long-term training programmes in teaching and promoting professional development as well as technical expertise. The contents of the training courses relate to scientific research activities, teaching activities, teaching and assessment methods, regulations on intellectual property, and copyright, etc. At the end of each training course, attendants have to submit reports to the university. Typical training activities are carried out as follows:

- Sending the staff to study Master's or PhD courses in Vietnam and abroad
- Scientific seminars or conferences: workshops on strengthening research capabilities, conference on asphalt concrete, foundation technology, construction technology, etc.
- Training courses related to teaching activities: training courses of pedagogy, philosophy courses for lecturers, training courses on IT applications, training courses on effective working capability, abroad training course on educational programme accreditation, short-term training courses for leaders on quality insurance, conference on teaching methods, conference on building education curriculum or education programme, etc.
- Professional training courses on education management: BUILD-IT, VULII, Comet project: Skills, teaching methodology, SEAMEO: Education Leadership and management, conference on soft skills, abroad training course on COMET project, KPIs training courses, etc.
- Training courses related to foreign language: English training courses for academic staff at the university, English courses at English centers, assistance in English tests at ILA, sending staff to English training courses abroad
- Professional training such as courses on Building Information Modeling (BIM) application to construction, course on construction management, courses on bidding process, courses on lab management, etc.

The activities to fulfill the needs of training and development are carried out every year. There are two ways to identify training and developmental needs of the faculty academic staff:

- The first way is to consult the requirements set out in the university development strategy. According to the development strategy of the university, the university will notify plans for training and learning to all of the faculty and departments of the university. Based on the announcement, the FCE announces to all lecturers. The list of participating lecturers is prepared and sent back to the university to be considered for implementation of training courses. The training and development needs are identified and fulfilled every year with various related fields such as professional training courses, technical skills, and English skills.
- The second way is that the needs derive from the staff aspiration of training and development. The FCE lecturers suggest the needs of training and development and then the faculty reviews and proposes to the university to be basics for implementation of these training courses [*Exh.6.8: Training activities for FCE academic staff*].

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

HCMUTE has a suitable policy on performance management to motivate and support education, research and service that are made public on the university's website. Based on the self-assessment report of each lecturer at the end of each academic year, FCE evaluates the performance of each staff member and organizes evaluating and voting meetings to identify the best individuals for the title of Emulators. The individuals with glory will be commended and awarded and considered for a salary raise before schedule as well. The typical details are as follows:

- Academic staff awarded with "emulative titles at university level or ministry level" will be awarded with money and considered for salary increase ahead of schedule.
- Once a lecturer gets higher emulation titles such as government's Certificate of Merit, Labor Medals (First, Second or Third Class by the State), or other noble titles such as Meritorious Teacher or People's Teacher, Associate Professor, Professor, etc., the University has appropriate award policies for this staff.
- Lecturers who want to study Master's, PhD programmes in the country or abroad will have teaching load and other tasks reduced in order to facilitate the research and study tasks. In addition, he or she will be paid for tuition fee as regulated in a support policy of HCMUTE.
- Doctorate lecturer who graduated abroad will be rewarded 10 million VND once being recruited.
- The university has good policies to encourage doing research by many means such as bonuses for publishing research papers in prestigious journals
- Lecturers obtaining patents will be honored with the reward money
- Lecturers attending scientific research conference will receive support from the university [*Exh.6.5: Assessment of academic staff performance; Exh.6.6: Emulation and rewards for academic staff; Exh.6.9: Research activities and related support policies*].

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

There are two types of research conducted by the faculty staff: applied research and basic research. These activities are aligned to the vision and mission of the university and the faculty. The level of research grants are changed depending on the level of the projects (University-level lecturers' research projects, University-level lecturers' featured research projects and young lecturers' research projects), the level of the registered papers (ISI, SCI, SCIE, national papers or conference papers) [*Exh.6.1: Academic staff planning, Exh.6.9: Research activities and related support policies*]. The numbers of FCE research projects are shown in Table 6.4.

Table 6.4: Number of FCE lecturers' research projects (2011-2015)

Level of projects	Number of Research projects					Total
	2011	2012	2013	2014	2015	
University-level lecturers' research projects	15	8	8	5	6	**40**
University-level lecturers' featured research projects &young lecturers' research projects	1	2	8	10	9	**24**

In the past five years, the FCE staff have published many scientific papers on journals and conference proceedings. The numbers of FCE research publication per academic staff have been increasing significantly as shown in Table 6.5.

Table 6.5: Types and number of research publications

Academic year	Types of publication				Total	No. of publications per academic staff
	In-house/ Institutional	National	Regional	International		
2011	13	4	0	1	18	0.5
2012	27	3	0	2	32	0.8
2013	13	6	1	6	26	0.6
2014	17	14	2	12	45	1.0
2015	15	13	2	13	43	1.0

HCMUTE has created a simple procedure for lecturers to register, implement and monitor research projects. Many types of research activities [*Exh.6.9: Research activities and related support policies*] with the diversity in quantity are realized such as:

- Organizing monthly seminar of GACES and other conferences on topics of construction in which the activities are always monitored and benchmarked for improvement
- Doing research projects with various kinds of funds such as national level research projects, ministry level research projects, provincial and university level research projects
- Creating international collaborations in doing research and organizing and guiding students to attend contests such as Eureka Contest, Loa Thanh Prize, Holcim's Prize, "We are Civil Engineer", "The future Civil Engineer", etc.

7. Support Staff Quality

7.1 Support staff planning is carried out to fulfill the needs for education, research and service

Based on HCMUTE strategic plans for 2011-2016 vision to 2020, the support staff planning is carried out at each subunit of the University [*Exh.7.1: Support staff Planning*]. In the planning, the future developments of HR policy for support staff as well as HR challenges such as age distribution, the quality of support staff, etc. are clarified.

- As for the Faculty, the demands, development orientation and personnel planning of supporting staff planning on the faculty secretary and Laboratory Personnel is described and clarified in the FCE strategic plan.
- As for the other Subunits of the University, the plans on support staff are determined as regulated by HCMUTE. For example, the library has drawn up the staff developing plan for the 2013-2018 period and orientation towards 2020 for the purpose of increasing the quality of services as well as meeting the university's training demands.

The number of Master's and PhD degree holders is high to serve the needs for education, research and service as shown in the following tables:

- As for the library, total number of staff is 17. Among them, there are 2 Master's degree holders (11.8%) as shown in Table 7.1.

Table 7.1: Total number of library staff

Qualification	Total number of staff (Total: 17)
Master	2
B.A	9
College Graduate	5
Vocational School Graduate	1

- As for FCE laboratories, the laboratory staff plays essential roles in providing good services for students' learning and doing scientific research to ensure the curriculum's learning outcomes. Currently, FCE has five laboratories with qualification as shown in the following table.

Table 7.2: Laboratory and workshop staff

No	Laboratories and workshops	Person in charge
1	Mechanics Laboratory	Vuong Thi Ngoc Han
2	Structural Engineering Laboratory	Tran Tuan Kiet
3	Geotechnical Engineering Laboratory	Nguyen Minh Duc
4	Construction materials Laboratory	Nguyen Thi Thuy Hang
5	Workshop of construction practices	Nguyen Thi Anh Tuyet

Like academic staff planning, the policies on retirement and resignation of the support staff are clarified. The ages and procedures of retirement of male and female staff are 55 and 60

respectively that were regulated in documents about working rules released by the government. The pensions and other subsidies as regulated in the Labor Code and Social Insurance Law, the University also has special bonus for support staff once retiring.

In case of resignation, the support staff needs to submit a letter of resignation to the Human Resources Management Office at least 45 days before ending the tenure of office and clarify the reasons for resigning from the position. On the other hand, the university also has the right to end the contract with support staff due to some certain reasons such as staff's inability to satisfy working demands or making serious misconduct, and this also has to be informed to employees 45 days in advance [*Exh.7.2: HR Policies related to support staff*].

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

Recruitment and selection criteria for appointment, deployment and promotion of the support staff are carried out together with the University recruitment plan every year. To implement effective recruitment and transparency, the University has built the process of staff recruitment. Planning for staff recruitment is done in sequence based on the workload and the recruitment needs established by each subunit. The HMRO gathers recruitment needs of each unit and sends to the President for approval. The University announces the standards for vacancies via public means such as Youth newspaper, Education and Age newspapers, website, Facebook, etc.

The need of support staff at each subunit is estimated based on the current number of support staff, the number of student enrolled, etc. Each subunit submits the recruitment plan, the University president will approve and then all the recruitment information will be announced on the University's website and other social media.

Based on the explicit competence criteria required by the University for support staff, each candidate is evaluated carefully with a strict recruitment process including multiple rounds of testing such as IQ test, English test, informatics test and face-to-face interviews, etc. Duties allocated to support staff are appropriate to qualifications, experience, and aptitude and brought into emulation targets and the annual evaluation of workload completion level [*Exh.7.3: Assessment of support staff performance*] in which, the rights and duties of each member are clearly defined and announced to all related individuals. Senior support staff is assigned to give guidance and share the valuable knowledge to young colleagues.

Before becoming official support staff, individual have probation period for one year. The related head and HRMO verify the performance of the probation support staff before recognizing the probation accomplishment [*Exh7.4: Support staff recruitment*]. The performance of each support staff is evaluated and voted to identify the best individuals for the title of Emulators. Usually, every 3 years, the University has decisions to raise salary, however, the support staff the title of Emulators can be considered for a salary raise ahead of time and the decision is made public on the website [*Exh.7.5: Emulation and rewards for support staff*] as well.

7.3 Competences of support staff are identified and evaluated

Like academic staff, the competences of support staff are identified and evaluated to ensure the quality required by the University. Before becoming official support staff, each must pass

multiple rounds of testing such as IQ test, English test, informatics test and face-to-face interviews with evaluation criteria concerning physical appearance, knowledge, etc. The performances of the probationary staff during the probation period are then evaluated at the end of this period to admit the termination of the probation period. The list of support staff at each unit as well as the related duty is clarified, in which the number of support staff obtaining high Educational Degrees is available in the last 5 academic years as in Table 7.3. [*Exh.7.1: Support staff Planning; Exh.7.4: Support staff recruitment*]

Table 7.3: The number of support staff (Reference date: April 30, 2016)

Support staff	**Highest Educational Attainment**				**Total**
	High School	**Bachelor's**	**Master's**	**Doctoral**	
Library Personnel	1	14	2		17
Laboratory Personnel			5		5
IT Personnel	1	5	2		8
Student Services Personnel		1	3		4
Faculty Advisory Group	3	1		4	8
Youth and Student Associations	12			1	13
Academic Personnel		7	3	2	12
Health Care Personnel	2	1			3
Administrative Personnel	2	3	1		6
Admissions and Student affair's personnel		8	2	1	11
Public Relations personnel		5	1		6
Science and Technology Personnel		2	2	3	7
Academic inspectorate Personnel		6			6
Quality Assurance Personnel		3	3		6
Equipment and maintenance Personnel		10	2	1	13
Facility management Personnel		6	3		9
Personnel office's Personnel		7	1	1	9
Finance and Planning Personnel		9			9
International Affair's Personnel		7	1	2	10
Digital Learning Personnel		1	2		3
Guard team's Personnel	21				21
Total	42	96	33	15	186

The job description, function and the tasks of Departments, Centers of HCMUTE are regulated. The support staff was chosen with the right number and appropriate specialized

degrees to serve professionally for education, research and service with variety of supporting services as shown in Table 7.4.

Table 7.4: Supporting services

No.	Field of activities	Supporting units	Services
1	Academic	Academic Affairs	To consult students about learning fields such as course registrations, timetable adjustment.
			To consult and guide students about implementing Education law of MOET, Regulations of HCMUTE, etc.
			To consult students about withdrawing a course, choosing a course, open course and grade complaint.
			To consult students about graduation, in-debt credit, and other matters in related to graduate certificate and qualifications
			To consult international students
		Faculty	To guide students to personal learning planning scheme
			To consult students about choosing and to registering courses each semester.
			To consult students about learning methods, solving difficult problems on learning process
			To consult and to guide students about doing science research.
2	Social	Admissions and Student Affairs	To organize activities about regulations processes for first-year students.
			To consult students about implementing regulations of student activities, processes of training assessment, regulations of social work programme.
			To consult and support faculties in HCMUTE entrance exam
			To consult youth union, organize social work activities, social activity assessment.
			To consult student documents, pausing learning temporarily, re-entrance, dropping out of university, transferring to another university
			To consult students about rewards and disciplines
		Student Service Center	To support facilities, learning environment, social extra work activities.
			To organize student skill clubs and another clubs to experience skills.

3	Physical	Health and Medical Service	To consult students about health, anti-disease and health insurance fees.
4	Psychology	Student Services Center	To consult students to solve difficult life problems, family problems, sexual problems To consult educational and social psychology and student life.
5	Career	Public Relationship and Enterprises	To seek a job or part-time jobs To find a scholarship To contact with companies or enterprises to gain experience for students To organize seminar, to train soft skills for students.
		Student Services Center	To consult, to introduce to students a part-time job
			To train short-term technical training classes, soft skill classes for students
6	Finance	Admissions and Student Affairs	To consult students about a living allowance, school fees, social work allowance, reduced tuition document.
			To consult students about tuition, studying scholarships document for scholarships
			To consult students in difficult situations to borrow tuition supported by government.
7	Others	Student service center	To meet students daily to connect students with faculty consultants
			To organize international student festivals friendship services and international student exchanges
		Library	To introduce, to advertise information of HCMUTE library for students
			To guide students to find, to use documentation, e-books and related services
		Dormitory	To support students to register dormitory, internship regulations.

The tasks and workloads of each support staff are clarified. The workload of each support staff is managed properly in line with functions and duties designated by the University, for example the Computer and Network Center performs duties related to information technology in the University such as maintenance, software and facility installation as well as regular maintenance of office computers, personal computers, networks, University's and subunits' websites. The competence of support staff is also related to the devotion in serving students. The library is opened in not only office hours but also after hours during the whole semesters of every school-year to serve continuously the students of the University. Students can also get access to the library's online service with an abundant supply of e-books and learning materials or at https://www.facebook.com/hcmute.lib?fref=ts to give direct advice and support when necessary. In addition, support staff have to have capacity of self-assessment to serve

student better, for example, the library plans to conduct surveys to explore users' needs of materials as well as to evaluate the library's service quality for every two years [*Exh.7.6: Service activities of support staff*].

The progress and results of implementing these duties are checked by the relative management boards. The performance of the support staff is self-reported every year on assessment papers (before the year of 2016) and the KPIs system. In addition, the staff's and students' levels of satisfaction with the support staff that carried out every year is also another base to assess the performance. Subunit heads evaluate the performance of each support staff and then discuss with other member staff to evaluate the performance of each. The evaluation in terms of level of working achievements, scientific research, etc is to identify the best individuals for the title of Emulators. The individuals with glory will be commended and awarded and considered for a salary raise ahead of time as well. [*Exh.7.3: Assessment of support staff performance; Exh.7.5: Emulation and rewards for support staff*]

7.4 Training and developmental needs of support staff are identified and activities are implemented to fulfill them

The University has good policies to support the staff to enhance professional skills as well as fostering foreign language skills, information technology and specialist skills [*Exh.7.7: HCMUTE financial planning and execution*]**.** The training programmes will be held in short-term or long-term periods with typical training activities are as follows:

- Sending staff to study Master's or PhD courses with the major appropriate to the current job positions.
- Training courses related to service activities: office work training, soft skill training, training courses on effective working capacity, etc.
- Professional training courses on education management: Inaugural Workshop for developing Accreditation and quality Assurance systems, Conference on soft skills, KPIs training courses, Short-term training courses for leaders on quality insurance, courses on administrative management, etc.
- Training courses related to foreign language: English training courses for support staff at the University, English courses at English centers, Assistance in English tests at International Language Academy (ILA), sending staff to English training course abroad
- Professional training such as courses on book binding technology, tax professional training, digital library development, skills of document classification, utilization of electronic resources, IT applications, etc.

Like the case of academic staff, the training and developmental needs of the support staff are collected through the two ways as follows:

- Deriving from the University development strategy, the training and developmental needs of support staff are identified and fulfilled every year with various related fields such as professional training courses, technical skill , English skills, etc.
- Deriving from the staff aspiration of training and development, each support staff can suggest the needs of training and development and the correlated subunit reviews and proposes to the University for implementation [*Exh.7.8: Training activities for support staff*]

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

Support and academic staff enjoy good policies on performance management to motivate and support education, research and service. Based on the self-assessment report of each support staff at the end of each semester, each subunit evaluates the performance of every support staff based on the level of work completed and organizes voting meetings to identify the best individuals for the title of Emulators. The individuals with glory will be commended and awarded and considered for a salary raise before the schedule as well. There are typical policies on performance management done for support staff as follow:

- Support staff awarded with "emulative titles at University level or Ministry level" will be rewarded with money and considered for salary increase ahead of schedule.
- Once a staff gets higher emulation titles such as Government's Certificate of Merit, the Labor Medals (First, Second or Third Class by the State), etc. the University has policies to encourage and reward worthily.
- Support staff with excellent achievements in service activities will be awarded certificates of merit or cash [*Exh.7.5: Emulation and rewards for support staff*].

8. Student Quality and Support

8.1. The student intake policy and admission criteria are defined, communicated, published, and up-to-date

Before 2015 the student intake policy, which high school students had to sit for university entrance exam, followed MOET regulations. Since 2015, HCMUTE has applied its own intake policy. According to this policy, high school graduate candidates for admission to the CET programme must achieve one of the following criteria [*Exh.8.1: HCMUTE student intake policy and admission criteria*]

- Total score of Mathematics, Physics, and Chemistry (group A) or Mathematics, Physics, and English (group A1), or Mathematics, Literature, English (group D1) in an annual National High School Graduation Examination held in July by MOET higher than the cut-off score set by the HCMUTE based on the student admission quota from MOET
- Graduated from specialized high schools and have an average score of five consecutive terms of high school larger than 7.5 and are in top 10% of the HCMUTE annual admission quota.
- Being winners of International Olympic Awards.

The student intake policy also includes the financial supports as follows:

- Two scholarships for freshmen who get the highest enrollment scores;
- 100% tuition exemption available for students graduated from specialized high schools in the first semester and the consequent semesters if they achieve excellent academic results;
- 50% tuition exemption available for female students studying in all engineering fields

Annually, HCMUTE organize Open Day to inform the intake policy and admission criteria to more than 5000 high-school students visiting the HCMUTE's campus. On the Open Day, the FCE's Dean Board and Department Heads introduce the CET programme, job profile and

facilities, and consult the high school students about career and admission opportunities in person. The student intake policy and admission criteria are also communicated through such activities as press release, online consultancy, desktop consultancy at the university and high schools in different provinces and published on the websites of HCMUTE and FCE. In 2016, a Media Center and Press was established to effectively transfer up-to-date policies to students, specially the student intake policy.

In addition, the Presidential Board participate in press interviews in order to announce the annual intake policy, including the admission quota of each major, methods of enrollment, tuition fee, scholarships, supporting services, and students' activities. During 6 months before applying for universities, high school students can directly ask the Presidential and FCE's Dean Board about the intake policy, admission criteria, and training programmes of HCMUTE and FCE by phone anytime or during the consultancies lived on the YouTube channel in every Thursday evening. HCMUTE also coordinate with MOET and Tuoi Tre Newspaper to perform career consultancy and enrollment. By this way, students always approach to the up-to-date intake policy and admission criteria of HCMUTE and FCE [*Exh.8.2: Approaches to inform the HCMUTE student intake policy and admission criteria*].

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

The methods and criteria for selective students to the CET programme are clearly determined. Following the HCMUTE's student intake policy, the CET programme chooses students from results of the National High School Graduation Examination and student's transcript at high school level. Based on the objectives and content of the CET programme, mathematic competence is required of students and English capability is necessary. Therefore, admission criteria are dependent on scores of groups A, A1, and D1 in the annual National High School Graduation Examination and must satisfy one of the following conditions

- The cut-off scores much higher than MOET benchmark
- Students from specialized high schools having an average score of five consecutive terms of high school larger than 7.5 and are in top 10% of the HCMUTE annual admission quota.
- Winners of International Olympic Awards being admitted directly without having to take university entrance exam

To improve the quality and the size of the intake, especially female students, HCMUTE has such financial supports as scholarships and tuition exemption for excellent students, and 50% tuition reduction for female students in all engineering fields. Besides the good reputation, HCMUTE and FCE always conduct campaigns for enrollment advertisement and consultancy at HCMUTE and high schools in provinces to attract excellent students, particularly students from specialized high schools. As a result, from 2011 to 2015 the cut-off scores of selective applicants for admission to the CET programme increase and are always much higher than MOET benchmark as shown in Table 8.1 [*Exh.8.3: CET programme's cut-off scores*].

The improvement of the entering students' quality is also demonstrated in Figure 8.1 which shows that the scores admitted to the CET programme were the lowest in 2011 but the second-highest in 2015 when compared with those from other five prestigious universities, including Ho Chi Minh City University of Technology (HCMUT), Ho Chi Minh City

University of Architecture (UAH), Da Nang University of Technology (DUT), Ha Noi Architectural University (HAU) and National University of Civil Engineering (NUCE) [*Exh.8.4: Benchmark scores of other CET programmes*].

Table 8.1: Cut-off scores of CET programme (2011-2015)

	2011	**2012**	**2013**	**2014**	**2015**
Group A	17	17	18	18.5	22.25(*)
Group A1	-	16.5	18	18.5	22.25(*)
Group D1	-	16.5	18	18.5	22.25(*)
MOET benchmark for groups A, A1	13	13	13	13	15
MOET benchmark for group D1	13	13.5	13.5	13	15

(*) *These are equivalent scores computed from the cut-off ones in 2015 having the point of Mathematics multiplied by 2.*

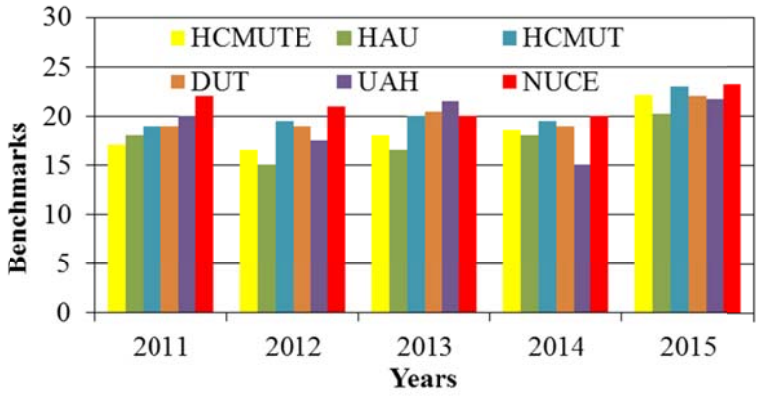


Figure 8.1: Comparison the admission scores of the CET programme with those from other prestigious universities from 2011 to 2015

The effect of the methods and criteria for selection of intake students is evaluated by monitoring and analyzing the intake of first year students and the total number of students enrolled in the CET programme in the following years as listed in Table 8.2 and Table 8.3, respectively [*Exh.8.5: Statistics of the number of students from 2011 to 2015*].

In Table 8.2, the number of offers for the CET programme sharply increased in 2012 because of high demand for civil engineers. In 2015, this figure decreased to the stable number of about 160 enrolled applicants in the three recent years. It means that the FCE's enrollment scheme has been adjusted to accurately predict the number of enrollments in 2015 as compared to those in year 2013 and 2014. Moreover, the number of enrolled students kept mostly unchanged although the cut-off scores highly increased in 2015.

From data in Table 8.3, after each academic year the number of drop-out in each cohort are computed and monitored to evaluate the quality of the intake students. The low and reducing number of dropout can be results of the good enrollment and consultant policies in recent years.

Table 8.2: Intake of first-year students (2011-2015)

Academic year	Applicants		
	No. Applied	No. Offered	No. Admitted/Enrolled
2011	1096	176	175
2012	1459	237	234
2013	971	180	161
2014	770	179	159
2015	654	158	158

Table 8.3: Total number of students (2011-2015)

Academic year	Students					
	1st year	2nd year	3rd year	4th year	> 4th year	Total
2011	175	174	106	109	30	594
2012	234	171	171	98	39	713
2013	161	229	169	171	31	761
2014	159	157	214	164	52	746
2015	158	157	158	211	51	735

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

HCMUTE has adequate systems for administrators, lecturers and students to monitor student progress, academic performance, and workload. These are the University Information System (UIS), the website http://online.hcmute.edu.vn/ and Dashboard (http://dashboard.hcmute.edu.vn/), which closely connect to each other.

The administrators of HCMUTE and FCE can access to the University Information System (UIS) and Dashboard to collect and analyze pass rates of courses and dropout rates in a cohort or a semester. From these data, the administrators evaluate the results of teaching, learning and assessment activities to improve if necessary or add classes for students to register if the pass rate of a course is low. At the end of each semester, if students do not achieve minimum requirements of accumulated credits and Grade Point Average (GPA) scores they will receive an academic warning by email and be consulted at desktop by a member of the FCE Dean Board to realize and improve themselves.

Each lecturer or student has a portal account on the website http://online.hcmute.edu.vn/ to follow the progress of student study. The lecturer who undertakes a course has the list of students registering for the course, and monitors the student learning progress within his/her course including formative and summative assessments by signing in with the portal account.

The student uses his/her own portal account to keep a good track of data related to student personal profiles, announcements from HCMUTE and lecturers, semester timetable, examination calendar, grades, and charts of GPA scores and credits accumulated in each semester as illustrated in Figure 8.2. Therefore, students are able to quickly access to their

learning results, make their own reasonable studying plan to complete the programme successfully and within the planned time.

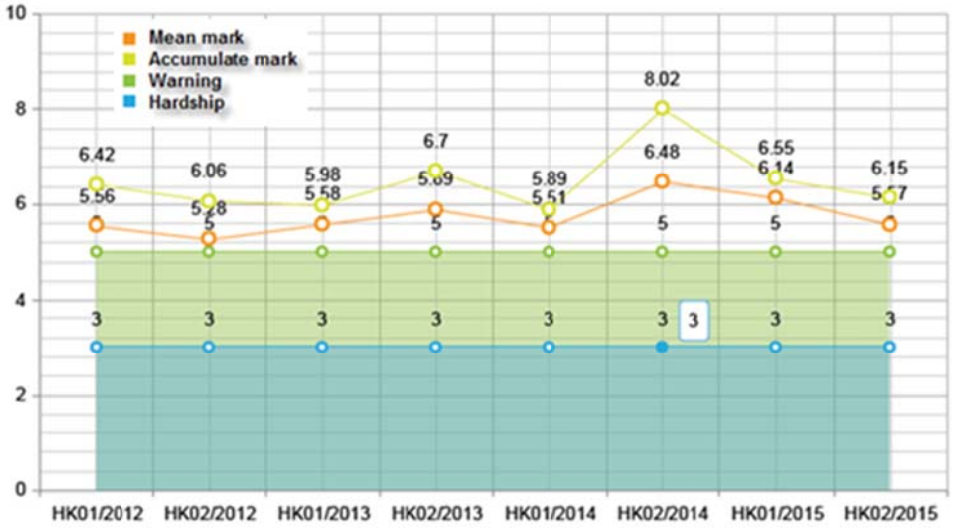


Figure 8.2: Statistics of GPA scores on a student's portal account

Except the last semester of 10 credits saving for doing a capstone project, the study load of the CET programme is divided equivalently over semesters, an average of 20 credits per semester or 20 hours in class per week. Statistic data show that an average student with a GPA point over 6.5 can complete the programme in the planned time. In recent years, about 65% of students graduate in time or advance. Although this figure is rising, it is not expected of FCE because many students do not accumulate number of credits to do a capstone project. FCE are conducting many solutions to improve the percentage of graduation in time such as organizing courses in the extra semester in summer, increasing activities of knowledge and skills, especially English, in the clubs.

By using the portal system, students register and withdraw courses according to their competence. The students can take more or less courses than the study plan of the CET programme. However, HCMUTE monitor student workload in each semester. Additionally, students can study maximum 10 credits in extra semesters in summer to redistribute their workload.

The monitoring system for ethics, morals, extra curriculum activities as well as providing student supports is through organizations and centers of HCMUTE such as the Student Association, the Youth Union, Student Affairs Office, and Student Services Center [*Exh.8.6: Regulations on monitoring students' extra curriculum activities*].

HCMUTE use a 10.0 scale for grading the achievements of students in the courses and classifies the results of students' studies based on Grade Point Average (GPA) scale of 10.0 or 4.0 as shown in Table 5.1. Right after students obtained academic or social scores, their academic or social GPA scores and classifications are updated on the monitor systems.

8.4 Academic advice, co-curricular activities, student competition, and other student support services are available to improve learning and employability.

HCMUTE and FCE have implemented many activities to improve learning and employability.

It is required for the first year students to participate into the orientation program during one week in the first semester. In this week, HCMUTE and FCE inform the freshmen about the regulations, policies and function of offices and departments, consult health, psychology and student life, introduce learning methods in university, and train to use the library system. FCE also introduce the facilities and the CET programme. Team building activities are organized by FCE's Young Union to help the freshmen to rapidly integrate into new environment [*Exh.8.7: Activities in the orientation week*].

HCMUTE and FCE have constructed the groups of consultants to discuss and consult students on matters related to studying, research, as well as issues about psychology and student life. The FCE's consultants, including a vice Dean responsible for training, a secretary, lecturers and senior students, always answer students' questions as well as support them to deal with academic problems rapidly via phone, email, online or in person. Especially, during the period of online registration for courses, which occurs one week before the starting of semester, the consultants coordinate with the Admission and Student Affairs Office (ASAO) to advice and solve problems concerning course options, change of options, interruption or termination of studies on time [*Exh.8.8: Reports on student consultancy*].

Besides providing advice for studying, the consultants also support students in terms of career opportunities, soft skill, seminar, final project, psychology, and society and student life. The consultants for psychology matters who are chosen among experienced psychology lecturers have aided students to prevent or overcome difficulties and psychological shocks during the learning progress.

In every semester, FCE Dean Board and Department Heads, and leaders of HCMUTE also organize dialogues with students to keep in touch with students' feedback, so that they can show their thoughts, expectation and difficulties in their studying; thus, FCE has solutions to improve the student learning and to make the university and the faculty better and better [*Exh.8.9: Reports on dialogues between FCE Dean Board and students*].

FCE has skill and English clubs which regularly organize topics on using construction software and English under guidance of invited professional engineers or experiential lecturers. Every year, FCE invites specialists, enterprises and alumni to present new trends in the construction technology. Moreover, the FCE's lecturers usually introduce and coat students to co-curricular activities such as internship, field trips and scientific research. Though these activities, students reinforce their soft skills and widen knowledge to meet the requirement of society's demands [*Exh.8.10: List of co-curricula's activities*].

To improve learning and employability, students can participate into competitions hosted by universities, associations or companies such as Title "We are Civil Engineering", Loa Thanh awards granted for excellent graduation theses in civil engineering, National Mechanics Olympics, the talented young scientists (Eureka), Holcim's prizes [*Exh.8.11: List of competition prizes*].

To support students to study effectively, especially doing capstone projects, an instructor directly guide a limited number of students. Topics organized by the skill and English clubs are closely related to content of the capstone projects. Moreover, to enhance self-learning ability of students, HCMUTE has E/M learning system (https://lms.hcmute.edu.vn/), teaching assistant system to support and help students in the learning process as well as self-study.

Besides, there are other available services to support student learning and employability. In addition to annual scholarships of HCMUTE, excellent students can receive scholarships granted by enterprises. Seminars and workshops, job fairs, CV writing workshop, enterprises training organized by FCE and HCMUTE have equipped students with transferable skills, and provided sufficient consultancy so that students have a good preparation for their future career [*Exh.8.12: List of supporting services*].

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

HCMUTE campus is green, clean with lots of facilities systems: library, dormitories, canteens, self-learning space, sport facilities, and clubs for education and research as well as personal well-being. HCMUTE has a wide and airy campus, with large sport fields, which are excellent places for sports and physical training (see Figure 8.3). Sport campaigns are launched regularly by the ASAO, Youth Union and Student Association. These provide students opportunities to keep fit, socialize and learn how to play and work in teams.

Figure 8.3: HCMUTE's main campus

Students are facilitated to participate into courses about social life and languages to enhance their life skills such as health education and life skills. Extra curriculum activities and group activities as sports and community services are supported and encouraged, as ways to impulse students to integrate into the campus life and enhance their awareness and responsibilities to the society (see Figure 8.4). The Student Services Center, which was founded in 2013, is also a place to support students in studying, jobs, entertainment, relaxation, physical training and living skills training. Students have information about the activities on HCMUTE and FCE's websites, announcements of the Student Services Center and students' email [*Exh.8.13: List of extra-curricular activities*].

HCMUTE cares about its student's health. Students of FCE are taken physical examination at admission and had a good and sufficient care of their health. According to the regulation of MOET, all students have to purchase health insurance. The university medical station is well equipped with sufficient medical tools to take care of emergency. HCMUTE has psychological consultants, who are chosen among experienced psychology lecturers, to aid students to overcome psychological difficulties the learning progress. Besides, the FCE's consultants also share social and psychology issues of the students.


Figure 8.4: Social activities of FCE students

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

HCMUTE has 2 Campuses on an area of 21 ha. Campus 1 is located at 01 Vo Van Ngan street, Thu Duc district and Campus 2 located at 484 Le Van Viet street, district 9, is about 10 minutes by Bus from Campus 1. The construction area is 128,128 m^2 including conference rooms, lecture halls, classrooms, library, study center, laboratories (LABs), workshops, dormitory, and stadium. HCMUTE has finished 4 construction works since 2007 with the total 54.000 m^2 including High Quality Building, Poly Study House, Central Building and Dormitory No. 2.A Building F1 of 9 floors will be built at the end of 2016, and so more the other buildings have been planned for construction based on 1/50000-scale planning map of the university. In summary, HCMUTE has good facilities and equipment for learning and research [*Exh.9.1: HCMUTE Campus Information*].

Based on the investment coming from the HCMUTE budget, government-financed national program, HCMUTE built and expanded the facilities and equipment; set up LABs for research, workshops with modern equipment. Every year, HCMUTE has scheduled plans for buying new equipment, repair and maintenance of offices, workshops and LABs so that the facilities and equipment of the faculty will be frequently renovated and updated to support the training and research [*Exh.9.2: Plan of updating the facilities and equipment*]. These plans are based on the strategic targets of the faculty [*Exh.9.3: FCE's strategic plans*].

HCMUTE have annually surveyed staffs and students about the working places, teaching and learning environment and service quality. After feedbacks, HCMUTE examines and requests the associated units to suggest solutions and methods [*Exh.9.4: Feedback and solutions for working places*].

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

The HCMUTE library on an area of 1430m^2 is located at the center of the campus and closely linked to teaching and learning areas. The library regulation is communicated on the website. By on-site reading, readers can explore 46,096 book titles with 48,505 items available at the reading room within which apart from Vietnamese learning resources, there are many foreign resources in English, French, German, and Russian. The library allows readers to borrow up to 14 items each semester and 6 reference materials every two weeks. Besides paper books,

the library holds many electronic materials published online on library website. There are thousands of electronic materials and books in civil engineering that fulfill the requirements of training and research of the faculty students. The library encourages and supports lecturers to write textbooks and references. FCE also has a self-study room where lecturers and students can access free materials [*Exh.9.5: Library resources*].

In addition to the electronic textbooks, the library also holds the e-resources which have been collected and put into use: free/paid e-database www.cesti.gov.vn; free e-resources downloaded from the Internet and stored in the library. For the sake of convenience, these e-resources have been uploaded and shared on the library website at http://lib.hcmute.edu.vn/. They include reference books, textbooks, project reports, dissertations, scientific research, journal article extracts, and MIT Open Course Ware. The update of e-resources or new materials is immediately announced to students via individual emails and on the library website [*Exh.9.6: E-resources*].

The library is regularly updated by annually sending notices to the faculties and departments to plan for new books. Based on the list of proposals, the library will buy new books to satisfy needs for lecturers and students. The variety of materials is then communicated to the university staffs. The library often organizes activities such as "exchange old books for new books", book fairs, seminars - specialized reports [*Exh.9.7: Announcement of new books, book exchange, and book fair*].

Table 9.1: Available documents in the HCMUTE and FCE library

No.	Type	Number of items of HCMUTE library	Number of items of FCE library
1	Vietnamese books	34574	100
2	English books	6664	40
3	French books	317	3
4	Germany books	93	-
5	Chinese books	10	-
6	Bachelor Theses	2074	100
7	Master Theses	4019	40
8	Reports	450	100
9	Standards	298	10
10	Textbooks	310603	-
11	Reference books	99627	20
12	Dissertations	2945	100
13	Scientific researches	1420	50
14	Journal article extracts	900 catalogues	20 catalogues
15	Newspapers, magazines, journals	253 types	30 types

To create good condition for exploring resources, the library is equipped computers and Wi-Fi system for the library campus. In 2015, the library updated management software with higher technology corresponding to the trend of mobile application and strong demand in exploring e-document on mobile. Due to information technology, the library not only serves the demand of readers to look up the documents and explore e-documents but also realize readers' aspirations promptly through weekly, monthly, yearly statistics. In addition, due to advanced technology, the library and readers can interact each other effectively and quickly by chat, message, email sending on the library homepage. The readers are able to look up documents, check the availability of book storage and register to lend books as soon as available [*Exh.9.8: Library infrastructure*].

HCMUTE purchased the right of usage of 20 accounts from National Science and Technology Information Centre in order to explore international resources. To enhance the cooperation, exchange the information resources, the library had joined actively the organizations, career associations like: Vietnamese Library Association, Vietnam Southern College Library Associations, Technology University Library Associations STE, Multi-faculty University Library Associations,... [*Exh.9.9: Exchange of information resources*].

HCMUTE library receives regularly the feedbacks of the readers by means of surveys, evaluate the satisfied level, the suggestions collecting in the direct interviews between HCMUTE leaders and students every semester. The library treats feedbacks and takes action to innovate continuously its service quality [*Exh.9.10: Feedback and improvement*].

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

FCE has one practical workshop and five laboratories which can facilitate sufficiently the training and research as listed in Table 9.2 [*Exh.9.11: FCE laboratories and workshops*].

Table 9.2: List of FCE laboratories and workshops

No	Name	Area	Section-in-charge
1	LAB of Mechanics	90 m^2	Department of Mechanics
2	LAB of Geotechnical Engineering	100 m^2	Department of Geotechnical Engineering
3	LAB of Construction Materials	140 m^2	Department of Structural Engineering
4	LAB of Structural Engineering	420 m^2	Department of Structural Engineering
5	Workshop of construction practices	100 m^2	Department of Construction Management
6	LAB of Bridge and Road	200 m^2	Department of Transportation Engineering

The LABs and workshops are regularly maintained every year to make sure they are not downgraded; meet the requirements of teaching and learning activities as well as scientific researches; ensure labor safety and healthy. HCMUTE supports the teaching materials every semester and buys tripling equipment annually [*Exh.9.2: Plan of updating the facilities and equipment*].

The equipment and software in the workshops and laboratories are regularly checked, repaired and upgraded, measuring tools which are periodically tested and adjusted under an approved procedure [*Exh.9.12: Adjustment of equipment*].The efficiency of equipment utilization is annually evaluated [*Exh.9.13: Report of equipment use*].

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

The IT application has been implemented widely throughout HCMUTE. In 2013, the university invested more than 20 billion VND to upgrade IT systems for the entire campus. HCMUTE does create PSC software system supporting the academic affair tasks, administrative management, facility management, library administration, human resources management, conducting surveys, etc. HCMUTE issues an account for each teacher and student under forms of @hcmute.edu.vn and @student.hcmute.edu.vn, respectively. In addition, an intranet http://eoffice.hcmute.edu.vn is also available. Furthermore, the faculties have their own websites to popularize and inform their information http://fceam.hcmute.edu.vn. Students can access http://online.hcmute.edu.vn to see marks, schedules, study information; access https://dkmh.hcmute.edu.vn to register subjects online; access online learning https://lms.hcmute.edu.vn [*Exh.9.14: IT facilities*].

In 2015, HCMUTE inaugurated a digital learning (DL) center equipped with the latest technology in video-conferencing and collaboration software and hardware. This facility allows HCMUTE to connect with Arizona State University (ASU) and other institutions of higher education around the world to create an interactive channel between faculty and students. These types of global interactions are aimed at increasing the competitiveness of HCMUTE graduates by preparing them with crucial skills needed in today's workforce, such as: team work, problem solving, project planning, presentation skills and English language training. The DL classroom is a US $300,000 co-investment between HCMUTE and HEEAP partners, specifically ASU, Intel and Pearson. The classroom has a capacity for 50 people arranged in 7 workstations, each one equipped with tools that support virtual collaboration https://dhs.hcmute.edu.vn.Thanks to this modern digital center, HCMUTE encourages lecturers using Blended learning, E/M learning. Up to now, over 1.000 lessons are performed and posted up on Internet. Actually, many forms of blended learning such as mobile learning and e-learning can presently be conducted at the university. This is sponsored by Pearson Company and supported by the DL Center [*Exh.9.15: Digital learning center*].

Wi-Fi system covers at Centre Building, high quality classrooms, some open learning sections, student service center section. The departments equipped Wi-Fi by themselves to serve the education and research. The staff and students are allowed using the free Internet and the access speed devolve on each person.

HCMUTE encouraged the application of IT in education and management in order to heighten working effectiveness and save material resources. As a result, to support more education and research, the strategic target of this academic year 2016 is Application of IoT in education and management [*Exh.9.16: Application of IoT in education and management*].

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

HCMUTE builds a green, clean and nonsmoker environment. From 2000, smoking is prohibited in the university campus. Environment, health and safety regulation at every laboratory/workshop must be strictly followed. Students must follow well all items of regulation. At the beginning of the practical course, the students have to pass a pretest of environment, health and safety regulation before entering the laboratories and workshop. In addition, at the end of each practice shift, all students are required to do cleaning for the whole workshop area. In case of emergency, the student should follow the emergency protocol, report to the lab director and call emergency number. The laboratories and workshops of FCE are also designed for support students with special needs [*Exh.9.17: Regulation, pre-test, emergency protocol*].

An important mission of the faculty is to assure lecturers and students good health and complete safety while teaching and learning at FCE. There are regulations to protect user's health and equipment safety in workshops and laboratories. The equipment are periodically checked and maintained. Besides, the fire prevention and fighting regulations are strictly followed in workshops and laboratories. There is always at least one person trained about fire and explosion prevention. The high quality fire extinguishers are located at the prescribed positions and checked regularly. During the practicing and learning at the laboratories and workshops, students must wear protective equipment [*Exh.9.18: Health and safety regulations*].

The Medical Center has to work on primary health care and manage the health records; manage and raise people's awareness about environmental sanitation, epidemic disease prevention, occupational and social diseases, and industrial hygiene; and do work related to health insurance and accident insurance for the university staff and students. The Medical Center also cooperates with internal or external functional organizations to conduct both regular and unscheduled inspection of food sanitation in the canteens, making sure that the university's staff and students are safe to eat their food. Besides the annual raising-awareness activities on health and sanitation, the Medical Center also counsels the university management to spray insecticides in order to prevent epidemics like dengue fever. Health insurance, accident insurance for teachers and students are performed annually; the medical examination periodically is carried out one time each year for all staff; and students have an initial medical examination on the day of the beginning of term [*Exh.9.19: Health care*].

The university staff, lecturers and students are provided psychophysiological advice, insurance, prevention of disease, therapeutic methods through direct consultancy, questionnaire, popularize school health to freshmen or email. Food safety is compiled observed in university and two dormitories. Besides, at LABs and workshops, industrial safety is also obeyed such as danger warning signs, medicine cabinets, preventing and fight fire equipment in campus. There is a security team on duty 24/24 and equipped uniform, tools, cultivated specialist skills as well as updated the safety information of the university location. The fence, cameras, fire equipment, exit signs, hotline… are checked, maintained regularly.

10. Quality Enhancement

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

In 2012, the new academic programme followed CDIO approach was designed. This programme consisted of 150 credits according to decision of the MOET (see the Table 10.1). During the designing process, there was participation of all the faculty lecturers, prestigious scientists in the civil engineering field from other universities, enterprises, students and alumni. The curriculum was designed and developed in the revision process strictly follows the university's procedure for designing and revising academic programmes [*Exh.10.1: The curriculum design and development*]:

- Lecturers contribute and prepare ELOs by expressing constructive opinions on the ELOs in the faculty's seminars after having analyzed the labor market and the employers' feedback.
- Through conferences on academic programme design, lecturers discuss and give opinions about the structure and content of the programme, design the course syllabi and map out the correlations among courses.
- Every semester, lecturers submit their course portfolio in which they reflect and give suggestions for syllabus change, and the departments conduct the meetings and collect ideas to enhance and update the academic programme from lecturers.

HCMUTE has been applying two ISO management procedures for the stakeholders' survey procedures on how much they are satisfied with the curriculum and for the students' survey procedures on their satisfaction during university time. Based on these procedures, students' feedback on how much they are satisfied with the curriculum and the ELOs of the programme has constantly been collected, so that reasonable and timely adjustments can be made before the students enter to the business community. They have contributed a big part in the programme development through their learning and giving feedback. Additionally, after each course, students can evaluate their lecturers, the courses and the assessment method of the courses by filling in an online questionnaire and a paper questionnaire and providing additional evaluating information. The results from the surveys are analyzed and synthesized before being delivered to the faculty staff. The results are used as a reference for lecturers to evaluate themselves and for the programme team to improve the syllabi. Thereby, more revisions and adjustments will be made to the programme in the following semester, which help enhance students' learning quality and teaching quality [*Exh.10.2: Students'survey into course evaluation and assessment*].

Also, at the beginning of each semester, there is meeting between students and Dean Board and Department Heads first, then at university level. From second semester of academic year 2015-2016, the meeting is completely innovated to online dialogue form. A dialogue in the form of phone calls and answers is live on the web and the university's facebook. During this meeting, students can have a voice in the revision of the programme's content, ELOs, courses, etc. The students' parents can also participate this meeting by directly call to the university's hotline or enter the university website. The lecturers then consider all the opinions and decide how they should change the curriculum. This way, the academic programme has always been

revised and adapted in recent years to meet the requirements of the society [*Exh.10.3: Leaders-student meeting*].

Besides lecturers and students, fresh graduates and alumni also provide their personal evaluation and satisfaction level of the curriculum. The faculty and university analyze their ideas to decide what modification should be made. The process of re-evaluation and revision is always conducted from the section level, the faculty level to the university level [*Exh.10.4: Newly graduated students and alumni's survey into curriculum evaluation*].

In addition, the opinions from employers, companies are also very valuable to ensure that this new academic programme reflect the requirements of the labor market. The faculty had conducted several conferences and invited the employers and externally specialized experts to attend, aiming to collect feedback and opinions. Moreover, there are some representatives from external businesses and FCE alumni who have been invited to join the faculty scientific board. This council decided the final ELOs of the new programme. Apparently, the faculty highly appreciates the importance of enterprises to the academic programme [*Exh.10.5: Employers' feedback*].

The evaluation and revision of the academic programme are frequently done every 2 years based on the feedback from the stakeholders and the evaluation and revision made at meetings of the faculty's scientific board [*Exh.10.6: Curriculum workshop 2015*]. Many important changes for the programme have been made, as mentioned in Table 10.2. To decrease the number of programme credits and to ensure the continuousness of the knowledge, some courses were integrated (see Table 10.3). To prepare for graduates seizing good opportunities when Vietnam participates in AEC and TPP, the FCE has integrated design codes from USA and Europe to some courses such as "Concrete structures", "Steel structures"... Also, some courses are taught by using lecture notes in English.

Table 10.1: Comparison between structures of 179- and 150- credit programs

Clusters	**179-credit curriculum (applied from 2008 to 2011)**	**150-credit curriculum (applied from 2012 to present)**
General courses	**61**	**56**
Introduction to CET	0	3
Mathematics and natural sciences	28	23
English	12	9
Information technology	5	3
Human sciences	4	6
Political education and General laws	12	12
Fundamental courses	**46**	**48**
Theory	44	39
Course projects	2	2

Experiment, Practice		7
Specialized courses	**65**	**36**
Theory	43	20
Course projects	4	4
Experimental, Practice	15	10
Internship	3	2
Capstone project	**7**	**10**
Total	**179**	**150**

Table 10.2: Proposals from stakeholders for adjustments of the programme

Academic year	Requirements/ Suggestions	Stakeholders	Fulfillments	Evidence
2012	Improve newly graduated students' ability in Communication in English for job profile	Alumni, Employers	Improve the quality of English courses and English criterion for graduation	[*Exh.10.7: Curriculum change 2012*]
	Orientation to Construction technology for new students	Students	Add the course: "Introduction to Construction Technology"	
	Enhance students' capacity to design	Lecturers, Alumni, Employers	Increase the number of credits for the capstone project from 7 to 10	
	- Reduce the number of credits - Inherited knowledge among related courses - Create the continuous of knowledge	Lecturers	Integrate the content of steel structures, structural mechanics, construction management & safety (see the table 10.3)	
2012-2013	Propose teaching assistance scheme	Lecturers	Designing regulations on teaching assistance	[*Exh.10.8: Decision on TA*]
2013-2014	Students have to spend days doing social activities during the programme	University	Set community service and social work as a requirement for graduation	[*Exh.10.9: Decision on Social activities*]

2015	Enhance students' capacity to design structure follow the international codes	Students, Alumni, Employers	Integrate design codes from USA and Europe to some courses such as concrete structures, steel structures	[*Exh.10.10: Curriculum change 2015*]
	Enhance students' technical English ability	Alumni, Employers	Use lecture notes in English for technical courses.	

Table 10.3: Some integrated courses in CET programme applied since 2012

No.	179-credit curriculum (applied from 2008 to2011)	Credits	150-credit curriculum (applied from 2012 to now)	Credits	Notes
1	Structural mechanics	4	Structural mechanics	4	Integrated
2	Finite element methods	3			
3	Steel structures	3	Steel structures	4	Integrated
4	Steel-R.C composite structures	3			
5	Construction machinery and safety	3	Construction management & safety	3	Integrated
6	Construction management and project	3			

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

The HCMUTE issued the ISO procedure for the curriculum design and development. The first version of this process was established in 2005 and then updated to the second version in 2015 [*Exh.10.11: Curriculum design and development process 2005 and 2015*]. The second version is closer than the first one. It clearly indicated that the design and development of curriculum must be based on the stakeholders' needs and feedback, and the review period is two years. Thank to this process, the CET curriculum is reviewed periodically to ensure that it is up-to-date. For each period, the academic programme was undergone frequent and periodical evaluations. Based on the feedback from the stakeholders such as employers, alumni, students and academic staff, FCE's scientific board will evaluate and adjust the academic programme in accordance with the scientific and technological development trend of the society. In parallel, the faculty updates and improves the academic programme by referencing other academic programs in Vietnam and abroad [*Exh.10.12: Minute of Scientific Board - programme adjustment*].

In 2012, the number of curriculum credits was reduced from 179 to 150 (see Table 10.1) according to the procedure established in 2005. In 2015, the academic programme has been slightly modified, less than 7% of total programme, to satisfy the demands of the stakeholders

after the Conference on the CDIO curriculum evaluation 2015. Moreover, FCE can actively modify up to 7% of the academic programme every year.

Generally, the academic programme is systematically evaluated. Each course is assessed by the section-in-charge every year and by the students at the end of every semester. The university also established different forms to evaluate lecturers who teach theoretical and practical subjects [*Exh.10.13: Course-by-course evaluation of lecturers*]. The programme content and the results from course evaluation are publicly updated on the FCE website.

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

The AAO and QAO advise the university Presidential Board of tasks to ensure the education quality of the university, to establish and implement the self-evaluation process for quality assurance with a pre-planned schedule. For example:

- Assigning and implementing needed tasks, collecting and analyzing data to be used for quality self-evaluation and accreditation programme.
- Together with other related units proposing to the university Presidential board the necessary modification in teaching methods, assessing curricula and constructing outcomes of study programs [*Exh.10.14: AAO, QAO Functions & ISO procedures*].

The teaching and learning quality is controlled by FCE, QAO. FCE appointed a Vice Dean to be responsible for teaching and quality assurance. He and Department Heads make plans of participating in lecturers' classes every semester to recommend their teaching improvement. Additionally, students' online feedback through http://online.hcmute.edu.vn, and survey on the formative assessment method delivered by lecturers at the end of each course, do help these courses to make timely improvement for the teaching quality and to ensure the teaching and learning methods and student assessments are relevant and aligned with ELOs [*Exh.10.15: Teaching and learning processes evaluation*].

Moreover, lecturers have to register for online teaching courses and apply hybrid learning, information and media technology into lectures with Power Point slides, videos, etc., and deliver courses in English or bilingual. These improvements simultaneously enhance students' English proficiency and align with the language request of FCE [*Exh.10.16: Online teaching and English or bilingual courses*].

Assessment methods do contribute to the fairness and output quality of teaching and learning activities. Since 2012, formative assessment results have been increased from 20% or 30% to 50% in all courses to assess more precisely the whole learning process of students and their self-learning activeness. In order to find out the most suitable assessment methods for every course to affect positively on students' learning capability, FCE does assessment experience sharing among lecturers in faculty; take opinions, proposes from colleagues and students on formative and summative assessments to improve the process. In 2015, the FCE held a conference on Investigation & Assessment Amelioration. From that conference time on, the FCE and all of its departments intend to encourage their lecturers to use open-examination (material usage allowed), which is a method to stimulate students' innovation and avoid students' self-limited review or simple learn-by-heart. Moreover, the FCE annually send lecturers to participate in training courses and workshops on teaching and assessment methods organized by HEEAP, VULII, COMET, BUILT-IT or Fulbright. The HCMUTE also invited

the Fulbright Professor to train the assessment methods for all lecturers [*Exh.10.17: Assessment Amelioration*].

10.4. Research output is used to enhance teaching and learning

In the present education, scientific research takes a key role to improve education quality and produce qualified manpower for increasing demands from the labor market. Therefore, the university encourages faculty members to join in research projects in addition to teaching work. Moreover, FCE also forms research team (GACES) and issues regulation for the team to promote their scientific research. FCE in specific and HCMUTE in general also stimulate all students to participate in scientific research by offering supporting policy.

The research stems from the need to resolve specific problems in the teaching process, to improve the efficiency achieved in the learning process.Lecturers participating in scientific research, in addition to published articles, can apply research results to improve the courses, update new knowledge into the courses. Besides, teachers have research experience can inspire and guide the student to do research [*Exh.10.18: Research output application*].

Students' doing research is a must to improve the learning quality. The encouragement of doing research among student aims at helping them applying what they have learned and using scientific and research methodology in order to solve problems in science and real life, which help students to build an active learning style. This helps improve teaching and training quality. Graduates who conducted at least a research at the university can easily fulfill the job requirements as well as the demands of postgraduate education. For that reason, a great number of FCE students have participated in scientific research projects and won a number of awards such as Holcim prize, Mechanics Olympic, Eureka, etc. [*Exh.10.19: Students research topics and prizes*].

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

The HCMUTE annually conducts surveys on students' satisfaction on support services and facilities. At the beginning of each semester, there is one meeting between the university, faculty leaders and students to collect ideas to enhance and update the support services and facilities [*Exh.10.20: Students' feedback on support services and facilities*]. As a result, the University and FCE concentrate on building and improving the quality of library, laboratories, IT facility and student services systematically.

As an annual activity, the university usually operates investment schemes to erect new buildings, as well as to upgrade and renovate its existing constructions. The spacious classrooms and laboratories are well equipped with sufficient modern facilities, fulfilling the requirement of advanced and innovative teaching and learning such as: digital classroom, LCD monitor and cameras. In addition, the annual facility maintenance and replacement is constantly performed in the campus [*Exh.10.21: Renovation, repairs and acquisition*].

Library: The library also can offer a very comfortable reading environment with modern facilities, an airy spacious reading room and librarians with professional service manner. Its working hours, regulations and guidelines are fully shown on the library website. In order to figure out the needs of students, the Library usually conducts surveys on students' satisfaction

and types of most frequently borrowed thus supplement the books accordingly [*Exh.10.22: The library's enhancement*].

Laboratory: The equipment in the workshops and laboratories are regularly checked and repaired, using measuring tools that are periodically tested and adjusted under an approved procedure. Any upgrade or supplementation of equipment carried out is a part of the plan made at the end of the previous academic, following the same procedure throughout the university [*Exh.10.23: Equipment calibration, maintenance and repairs*].

IT facility: In 2015, HCMUTE invested about one million US dollars to build the digital learning room, to upgrade the internet server and buy the education management software PSC. Thanks to this IT facility innovation, the lecturers can create the e-learning courses and the students can participate to these courses at anywhere (at home, library …). In addition, the lecturers themselves can access their personal page at http://online.hcmute.edu.vn/ to gain information about their salary and teaching schedules, inform make-up classes and import their students' marks into the system. Besides, they can learn about the students' feedback on their teaching style, content and methods just by clicking on the "Student's feedback" tab. On the same website, students now can register in courses, check their marks and equivalent subjects, and refer to the university's academic regulations.

Health services: The university and related units provide health services for students, academic and supporting staffs. The university supports students to find free services for health check. For all students, health insurance is mandatory. The Health Care Station of the university meets the standards of the Department of Health, HCMC in 2014. The university cooperates with the local Health Care Station to spray chemicals to prevent epidemic disease from insects, mosquito and mice. In the FCE, all labs are provided with medical cabinets and first aids [*Exh.10.24: Health services*].

Hygiene and Environment: The University hires sanitation workers from the Department of Hygiene and Environment to assure safe hygiene in all areas [*Exh.10.25: Hygiene and environment, Fire protection*].

Dormitory: The dormitory usually conducts surveys on students' satisfaction about the living and learning conditions, entertainment and sport activities in the environment of dormitory. Base on the results, the dormitory's services are evaluated and enhanced [*Exh.10.26: Dormitory's enhancement*].

Student Services Center: To enhance the quality of students' support services, the Student Services Center (SSC) organizes student skill clubs and another clubs to experience skills, and consults students to solve difficult life problems, family problems, and sexual problems. Besides, this center consults and introduces to students a part-time job. The students' satisfaction levels with the support of SSC are carried out every year. Base on this feedback, the SSC services are evaluated and enhanced [*Exh.10.27: Student service center enhancement*]

In summary, the infrastructure of HCMUTE in general and FCE in specific truly well satisfies the demands of the CET study program. The fully equipped and updated classrooms, laboratories, workshops, library, computer rooms and learning spaces effectively support students' learning activities. The detail of the innovation and update of the facilities has been

described in the criterion 9. The fresh and clean university campus is a healthy educational environment for students. Lecturers and students' health are carefully cared.

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

The stakeholder's feedback mechanisms are systematic: The quality of a curriculum is reflected through the feedback and evaluation of its stakeholders, including lecturers, students, alumni, employers and consultants. Their feedback and opinions are annually collected to improve the programme and gain their satisfaction. The HCMUTE has been applying the ISO management systems for the stakeholders' survey procedure (Table 10.4) [*Exh.10.28: Feedback mechanisms*].

Table 10.4: Stakeholders' survey procedure

Step	Content
1	**Information collection** The QAO and PRO design a plan to survey the stakeholders and create an evaluation form. The form is then delivered to the stakeholders by post or email or the online dialogue is organized to gather the feedback on the academic programme
2	**Information synthesis and analysis** After that, the QAO, PRO and experts synthesize and analyze the collected data, which results in a report of the survey findings
3	**The survey results are then sent to FCE** The FCE analyzes the strengths, weaknesses and proposes the improving solutions.
4	**Create an action plan for quality improvement** The faculty will implement these improving solutions in the next semester
5	**Evaluate the enhancement results and report to QAO** The FCE evaluates the enhancement results and sends the report and the evidences to QAO

Survey for feedback from students: The AAO and the QAO build the survey system to collect students' evaluation of courses and teaching activities (teaching methods, teaching content and assessment method, and pedagogical style). The results of students' feedback of each course are sent to lecturers [*Exh.10.29: Students' survey form*].

Survey for feedback from alumni:

The university and faculty have Alumni Committee at the university and faculty level. Every November, the Alumni Committee organizes meeting to update personal information [*Exh.10.30: FCE Alumni committee*].

To conduct the survey for feedback from alumni, a specific questionnaire is designed by FCE. The synthesis of alumni's feedback is accumulated, synthesized by the Alumni Committee and submitted to the faculty [*Exh.10.31: Alumni's survey form*].

Survey for feedback from staff:

The university and Faculty frequently get feedbacks from lecturers and support staff in closing conferences of academic years, conferences of staff and officers. Feedback from the lecturers and support staff play an important role to improve and enhance the quality of the programme and services of the functional units to support teaching and learning better and better [*Exh.10.32: Conferences of staff and officers*].

According to the report of survey of the University for staff satisfaction about the quality of services offered by supporting units, the majority of these units meet the satisfaction with qualified services and good working attitude.

In addition, The President Board meets with the staff every once a month on Thursday at the last week of the monthly. Officials, employees can submit comments via People's Inspection Boards, mailbox, email, etc.

Survey for feedback from the labor market: Annually, the PRO, ASAO, QAO and the FCE collect the feedback and evaluating comments from enterprises on the graduates' quality. The evaluation form is handed over directly to enterprises or by post. The questionnaire result was then analyzed and sent to the faculty with an aim to have continuous programme improvement [*Exh.10.33: Employers' survey form*].

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

The stakeholder's feedback mechanisms are continuously evaluated and enhanced upon each year. Previously, in order to collect feedback, the paper questionnaire was sent to the stakeholders by postal mail or at the seminars. After upgrading university's infrastructure network, from 2014, the feedback mechanisms were shifted to online mechanisms thanks to the support of PSC software. Thereby, stakeholders can give theirs feedbacks by responding the online survey.

The survey's questionnaires are also improved every year and survey's domains were expanded (see Table 10.5). Besides, the new types of survey were designed to completely gather the stakeholders' feedbacks, for example: survey for newly graduate after 3 months, students' satisfaction survey on service quality, and satisfaction survey of recruitment companies.

The survey procedure is also regularly evaluated and enhanced. The current survey procedure (Table 10.4) ensures the PDCA process.

To achieve the better efficiency in the stakeholder's feedback mechanisms, the HCMUTE and the FCE realized many enhancements. The meeting between university, faculty leaders and students was shifted from face to face meeting to online dialogue, through which change, the participation is also open to the students' parents and the other stakeholders. To promote the feedback of alumni and employers, the HCMUTE and the FCE also organize the seminars, the conferences on the curriculum, the ELOs and the job profile with the participation of alumni and employers. The FCE also sends via email the survey's questionnaires to the stakeholders. Besides, the FCE established the alumni association, invited the employers to the scientific board and signed the MOU with many companies to bring more opportunities for students, such as: internships, scholarships [*Exh.10.34: Feedback mechanisms enhancements*].

Table 10.5: Types of survey

No.	Survey's name	Object	Frequency /year	Implementation time	Implementation methods
1	Teaching quality survey	All students	2	In the late of each semester	Online (PSC) online.hcmute.edu.vn
2	Newly graduate survey	Students graduate after 3 months	2	1st: May 2nd: November	Online (PSC) danhgia.hcmute.edu.vn
3	Alumni survey	Students graduate after 1 year	1	October	Online - Google form
4	Student's satisfaction survey on service quality at HCMUTE	All students	1	January	Online (PSC) danhgia.hcmute.edu.vn
5	Workplace satisfaction of HCMUTE's staff survey	All current staffs at HCMUTE	1	October	Online - Google form
6	Employers' survey	Companies	1	October	Online - Google form

11. Output

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

At present, the university offices such as AAO, ASAO, QAO and FCE are responsible for the statistical analysis of pass and dropout rates at the end of every academic year. The analysis report is made and sent to the President. The Dean Board of each faculty could keep track of this report through the training management software.

Since 2014, the HCMUTE has implemented a model of quality assurance according to AUN-QA. The dashboard system has been used to manage and monitor the data with several activities as follows [*Exh.11.1: Dashboard system*].

- The faculty establishes expected pass rates and dropout rates at the beginning of each semester. All quality targets of the FCE have been clearly planned through a meeting between faculty members.
- The Dean and Deputy Deans of Faculty are responsible for monitoring the pass rates, dropout rates and graduated rates.

- The faculty writes a report on the course performance based on the data provided by the university offices at the end of each academic year. The report aims to find out main causes of low performance and propose suitable solutions to improve the course in the next semesters [*Exh.11.2: FCE training plan and report*].

In addition, HCMUTE has established the regulation and procedures to monitor and improve the pass rates and dropout rates since 2005. To graduate, the students must complete at least 150 credits of subjects with accumulatively average grade greater or equal to 5.0 in the 10-point scale [*Exh.11.3: Training system*]. To assist the interaction between students, lecturers and staff, the HCMUTE provides an online system (http://www.online.hcmute.edu.vn). The students can use this system to enroll in subjects every semester, check their marks, and follow the announcements of the university, etc. Meanwhile, the lecturers can use this system to enter marks for students at the middle and end of the course, and change teaching schedules, etc. In addition, they can use another system named E/M Learning System (http://www.lms.hcmute.edu.vn) to upload their lessons and respond to any course inquiries of the students [*Exh.11.4: Account and online reference*].

Based on the statistical data from the AAO, the average pass rates over the last ten cohorts are analyzed and shown in Table 11.1 [*Exh.11.5: Pass rate and dropout rate*]. The results indicate that the average pass rate was 87.0%, and the average dropout rate (after 3 years) was 13.0% from 2006 to 2011. The reasons for dropout problem were identified as follows: late in completing graduation practice courses, and unable to obtain the required English level [*Exh.11.2: FCE training plan and report*].

Table 11.1: Pass rates and dropout rates of FCE students in last 10 cohorts

Academic year	**Cohort size**	**% completed first degree in**			**% dropout during**			
		3 years	4 years	> 4 years	1st year	2nd years	3rd years	4th years & beyond
2006-2007	122	0	58.2	26.2	4.1	4.9	5.7	0.9
2007-2008	121	0	65.3	23.1	5.0	0.8	4.1	1.7
2008-2009	126	0	55.6	29.4	4.0	3.2	6.3	1.5
2009-2010	118	0	56.8	23.7	6.8	3.4	6.8	2.5
2010-2011	178	3.9	66.9	21.9	2.2	1.7	0.0	3.8
2011-2012	175	5.7	64.6	20.6	2.3	1.1	2.9	2.8
2012-2013	234				2.1	6.4	1.3	
2013-2014	161				2.5	0.6		
2014-2015	159				1.3			
2015-2016	158							

At the beginning of an academic year, the Board of Dean of the FCE widely announces the quality targets of training plan to its academic staff. The pass rates and dropout rates after 4.5 years of FCE students are mentioned in this plan as well. The performance of the training

plan from 2009 to 2011 is shown in Table 11.2. The results indicate that the actual pass and dropout rates are similar to the planned pass and dropout rates [*Exh.11.2: FCE training plan and report*].

Table 11.2: Planned vs. Actual rate of pass and dropout 2009-2011

Year	2009		2010		2011	
	Planned	Actual	Planned	Actual	Planned	Actual
Pass rate (%)	90.0	80.6	90.0	92.5	90.0	90.9
Dropout rate (%)	10.0	19.4	10.0	3.9	10.0	6.3

Note: Year 2012 intake and beyond are not yet to be graduated

Compared to other faculties in HCMUTE including Faculty of Vehicle and Energy Engineeing (FVEE), Faculty of Mechanical Engineering (FME) and Faculty of Electrical and Electronics Engineering (FEEE) [*Exh.11.6: SAR reports*], the average pass rate and dropout rate of FCE students from 2006 to 2011 are similar (Table 11.3).

Table 11.3: Comparison of average pass and dropout rate between faculties 2006-2011

Faculty	FCE	FVEE	FME	FEEE
Pass rate (%)	87.0	88.5	87.2	89.4
Dropout rate (%)	13.0	11.5	12.8	10.6

In order to reduce the failure rate, the HCMUTE and FCE have proposed many solutions as mentioned in Table 11.4 [*Exh.11.7: Solutions for enhancing pass rate*]. Thanks to these solutions, the dropout rate was significantly reduced in 2011 and 2010 compared to 2009.

Table 11.4: List of solutions for enhancing pass rate

No.	Reason for improvement	Solution
1	Students have difficulties in terms of academic requirements, student life, lab work, examination, voluntary activities, fieldwork, career opportunity, etc	Establish the consulting team at every faculty to help students to solve their problems
2	Conditions and procedure for registration of retraining are useful for students	Provide the procedure for registration of retraining for students who fail a few courses of study
3	Students get low scores for their subjects or their probability of dropout is currently high	Issue a list of students who have poor study progression every semester and send this list to the consulting board for offering timely assistance
4	The ability and knowledge of student do not meet the requirements of the training program	Transfer students who do not achieve enough 150 credits within a given time frame to lower training levels
5	Reducing dropout rate is one of the main missions of FCE	Organize periodical meetings to find the root causes for high dropout rate
6	Outside firms always require the graduates to be good at English and have computational skills in order to meet the requirements of work	Establish Skills and English Club to help students to increase their skills and knowledge

11.2 Average time to graduate is established, monitored and benchmarked for improvement

The average time necessary to complete an undergraduate degree in the HCMUTE is specified as 4 years, and it can be extended to 8 years maximum. From 2008 to 2011, FCE used the 179-credit education system. Since 2012, FCE has decreased the number of credits to 150 credits [*Exh.11.8: Regulation on HCMUTE's education program*].

Students are considered as on-time graduates if they can finish their required course works in 4 years. Based on the results shown in Table 11.1, the average rate of students who graduated within or less than 4 years from 2006 to 2011 was around 58.3%; whereas the average rate of students who graduated in more than 4 years was approximately 26.3%. It is easily seen that the rate of graduated students increased over the years. This suggests that the majority of the students preferred to complete the courses in the fixed schedule. A few students accounting for approximately 4.0% of the pass rate chose to do several courses ahead of the schedule [*Exh.11.9: Study duration*].

The average graduation time of FCE students was clearly planned and well monitored [*Exh.11.2: FCE training plan and report*]. The results show that the actual graduation time was greater than the planned values between 2009 and 2011 (Table 11.5).

Table 11.5: Planned vs. Actual rate of average graduation time 2009-2011

Year	2009		2010		2011	
	Planned	Achieved	Planned	Achieved	Planned	Achieved
Within 4 years (%)	60.0	56.8	60.0	66.9	60.0	64.6
More than 4 years (%)	20.0	23.7	20.0	21.9	20.0	20.6

Note: Year 2012 intake and beyond are not yet to be graduated

A benchmark for average graduation time is created for FCE and three other faculties that were mentioned above [*Exh.11.6: SAR reports*]. The results indicate that there is a similarity between faculties in the rate of student graduated within 4 years (Table 11.6).

Table 11.6: Comparison of average graduation time between faculties 2009-2011

Items	FCE	FVEE	FME	FEEE
Within 4 years (%)	61.2	60.8	57.9	62.7
More than 4 years (%)	24.2	27.7	29.3	25.2

Several reasons for late graduation have been found through the periodical meetings between lecturers and students, i.e., some subjects are tough to pass, time spent to obtain the required English certificate is longer than expected, students are late in registering subjects, most of students come from rural areas where background knowledge is limited, many students have to do part-time jobs, etc. In order to deal with these problems, HCMUTE and FCE have proposed many solutions as shown in Table 11.7 [*Exh.11.10: Solutions for improving rate of graduation*].

Table 11.7: List of solutions to ensure graduation within 4 years

No.	Reason for improvement	Solution
1	Students are late in registering subjects because they do not the plan of training program	Announce the expected annual learning and training plans in advance
2	Students tell that they meet a lot of inconveniences once registering the courses by using paper-based form	Develop the online course registration
3	Students, especially students who failed the courses, need more opportunities to complete their courses	Organize the extra semester in summer (also known as 3rd semester) besides two main semesters in every academic year
4	Students feel easier to select courses which are suitable to their ability	Create many elective courses and relevant courses in the curriculum
5	Obstacles are inevitable during study period; thus the students may need help from their faculty and lecturers	Set up the consulting board at every faculty
6	Students need an adequate encouragement to their studying efforts	Award scholarships for students who have excellent performance
7	For students who come from poor families, financial assistance is necessary	Establish small business shops where students can find a part-time jobs after class

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

The QAO has isssued ISO-based processes, which are used to collect information of HCMUTE's graduates through a printed questionnaire. It includes: (1) employability of graduates after 3 months of graduation; and (2) occupation status of graduates after 6 months of graduation. The survey results show that the probability of finding job of graduates was approximately 66.2% on average from 2011 to 2013 (Table 11.8) [*Exh.11.11: Survey forms and results*].

Table 11.8: Employability rate of HCMUTE graduates 2011-2013

Graduation time	3/2011	9/2011	3/2012	9/2012	3/2013	9/2013
Survey time	6/2011	1/2013	6/2012	1/2013	6/2013	1/2014
Number of graduates	1569	1230	1585	1749	1802	1917
Number of surveyed graduates who got job already	1066	779	1092	1072	1205	1015
Rate (%)	**68.0**	**63.3**	**68.9**	**61.3**	**66.9**	**68.9**
Average	**66.2**					

Since 2014 onwards, the QAO has conducted surveys through an online questionnaire. There are totally two surveys in June and December every year. The results indicate that 63.1% of

FCE's graduates get a job within 3 months of graduation on average from 2014 to 2016 (Table 11.9) [*Exh.11.11: Survey forms and results*].

Table 11.9: Employability rate of FCE graduates 2014-2016

Graduation time	3/2014	9/2014	3/2015	9/2015	3/2016
Survey time	6/2014	12/2014	6/2015	6/2015	6/2016
Immediately after graduation (%)	10.5	7.4	14.8	14.8	15.6
Within 1 month after graduation (%)	28.6	25.9	22.2	32.0	33.2
Within 3 months after graduation (%)	24.0	28.6	25.2	18.0	14.7
Still looking for a job (%)	36.9	38.1	34.1	31.8	33.7
Pursuing another plan in future (%)	0.0	0.0	3.7	3.4	2.8
Accumulation for duration of 3 months (%)	**63.1**	**61.9**	**62.2**	**64.8**	**63.5**
Average	**63.1**				

Recently, the percentage of graduates who have found a job and graduates who are still unemployed after 1 year of graduation has also been investigated. The survey has been conducted for all HCMUTE graduates who graduated in September 2014 and March 2015. The result indicates that the employment rate of HCMUTE graduates is very high with 94.1% (Table 11.10).

Table 11.10: Employability rate of HCMUTE graduates after 1 year of graduation

Graduation time	9/2014 & 3/2015
Survey time	3/2016
Number of graduates	2491
Number of surveyed graduates who got job already	2344
Rate (%)	94.1

Construction is defined as one of five majors having the highest percentage in finding job after graduation because the demand on building and industrial projects has been increasing significantly. According to the report of Ministry of Construction, the average employment rate of graduates from other 100 universities and colleges after 3 months of graduation is around 50% (see Table 11.11) [*Exh.11.12: Online social magazine*]; whereas that of HCMUTE's graduates is about 66.2% as mentioned above. In addition, compared to other faculties of HCMUTE, the rate of employability of FCE students is similar as shown in Table 11.12 [*Exh.11.6: SAR reports*]. These rates indicate that the quality of training of FCE meets the demand of society.

Table 11.11: Employability rate between universities after 3 months of graduation in 2015

University	**Rate of employability (%)**
HCMUTE	66.2
Other universities	50.0

Table 11.12: Comparison of the average rate of employability between faculties of HCMUTE after 3 months of graduation

Year	FCE	FVEE	FME	FEEE
2014	62.5	60.5	61.4	65.5
2015	63.5	66.6	67.1	66.2
2016	63.5	64.2	64.7	62.8

In order to increase the chance of getting job for students after graduation, the FCE as well as HCMUTE offices have kept good cooperation with outside companies. This action aims to share work experience, collect comments on training programme, and record status and information of alumni. The rate of employment is clearly mentioned in the HCMUTE's quality targets and FCE's annual quality plans according to particular conditions [*Exh.11.13: HCMUTE' quality target plan*; *Exh.11.2: FCE training plan and report*]. English and specialized computation skills are improved through the monthly extracurricular activities. In addition, the FCE has also organized seminars to help 4th year students to know how to write a curriculum vitae and improve their interview skills before graduation. Furthermore, the meetings with outside firms and alumni have been periodically held to make the training programme more suitable to the current requirements of practice. On the other hand, the FCE faculty members usually organize the field trip to help enhancing the opportunity of employment. Thanks to these actions, the graduates can find good jobs more easily. The list of some solutions for improving the rate of employment of graduates is shown in Table 11.13 [*Exh.11.14: Solutions for improving rate of employment*].

Table 11.13: List of solutions for improving the rate of employment

No.	Reason for improvement	Solution
1	Enhancing English ability and computation skills is a necessary need for the student's future career	Organize monthly extracurricular activities of Skill and English Clubs
2	Many fourth-year students are not good in writting their cirriculum vitae to apply for a job	Organize seminars for improving skills on writing curriculum vitae and interviews
3	Students need to practice what they have learned in class	Organize field trips to outside companies
4	Many students do not know how to find and apply for a job	Organize annual job fairs or technical workshop
5	Good knowledge and skills are required when students work on their thesis	Send students to outside companies to join the graduation practice coursebefore doing their thesis
6	Students always need the recommendation of the faculty so that they can participate in the graduation practice of the enterprises	Issue a letter of recommendation for practice course
7	Enhancing the connection to outside firms makes it easier for students to find graduation practice programs and find jobs	Sign Memorandum of Understanding (MOU) between FCE and outside companies

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

In the FCE's annual training plan, the types and quantity of research activities are clearly established based on some conditions such as number of students who have good academic results, number of topics given by lecturers, financial ability, and time necessary to do the research, etc. The FCE has recognized that research is essential for the growth of university. The RMTO has issued a guideline that helps student to do their research conveniently and efficiently. The guideline includes the following contents: types of research, types of participant, research conditions, research quantity, supporting services, and reward policies. According to the data from the RMTO, the types and quantity of FCE research projects are quite similar as shown in Table 11.14. In addition, many of FCE students' projects have won high prizes in scientific contests such as talent young scientists (Eureka), Loa Thanh awards and Holcim Prize [*Exh.11.15: Student research*].

Table 11.14: Number of FCE students' research projects 2011-2015

Level of projects	Number of research projects					Total
	2011	2012	2013	2014	2015	
University-level students' research projects	10	8	11	12	12	**53**

Compared to other faculties in HCMUTE, the types and quantity of research are benchmarked as shown in Table 11.15 [*Exh.11.6: SAR reports*]. The results indicate that the percentage of FCE students who did research projects is lower than that rate of other faculties.

In order to encourage students to join the research activities, the FCE formed the research group named Group of Advanced Compution in Engineering and Science (GACES) in 2012 (www.FCE.hcmute.edu.vn/research/GACES). This group organizes monthly seminars so that lecturers, postgraduate students and undergraduate students of FCE can report and share their research results. From 2012 to 2015, the GACES organized on average 10 seminars per year. In addition, connecting to outside firms and organization to find research topics is a strategic plan of the FCE [*Exh.11.15: Student research*].

Table 11.15: Number of HCMUTE students' research projects 2011-2015

Faculty	Number of enrolled students per year	Number of research projects					Average
		2011	2012	2013	2014	2015	
FCE	180	10 (5.6%)	8 (4.4%)	11 (6.1%)	12 (6.7%)	12 (6.7%)	**10.6 (5.9%)**
FVEE	300	13 (4.3%)	29 (9.7%)	10 (3.3%)	12 (4.0%)	11 (3.7%)	**15.0 (5.0%)**
FME	300	19 (6.3%)	40 (13.3%)	20 (6.7%)	10 (3.3%)	25 (8.3%)	**22.8 (7.6%)**
FEEE	360	29 (8.0%)	10 (2.8%)	27 (7.5%)	13 (3.6%)	45 (12.5%)	**24.8 (6.9%)**

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

A. Student feedback

The FCE students can find the full information about the training programme and its ELOs on the faculty website (http://fceam.hcmute.edu.vn/). In addition, lecturers have to inform the students of detailed syllabus of each subject, as well as methods of testing and assessment for learning at the beginning of the class.

An internet-based survey system, which is provided by the QAO, is usually used to let students send their feedbacks on lecturer's teaching activities at the end of each semester. The online questionnaire was adopted to conduct the survey in the last two years [*Exh.11.16: Student feedback*]. The survey questions focused on teaching methodology, teaching content, methods of testing and assessment, lecture preparation, and teacher's educational style. The results of survey are then analyzed and uploaded onto the university website and sent to the management team of each faculty. It indicates that 84.3% of lecturers obtain the good level of teaching assessment in 2015 and 86.8% in year 2016 (see Table 11.6). Only one lecturer had the level of assessment lower than 70% in 2016. The reason for low assessment found was that the lecturer's accent was hard for students to understand the contents of the course. In order to tackle this problem, the university regularly organizes training courses to improve the teaching skills for lecturers. The rates of assessment from students are benchmarked for the entire university (also see Table 11.16). The result proves that the rate of FCE lecturers, who had good assessment from student, is quite similar to others [*Exh.11.16: Student feedback*].

B. Graduates feedback

As mentioned earlier, the QAO conducts a survey to get feedback from graduates on their graduation day. The main contents of survey include: status of employment, assessment on suitability of the training programme, and course satisfaction level. The survey results in 2015 and 2016 indicated that more than 87% of graduates were satisfied with the training programme, and they felt that the training programme was fairly suitable to their ability [*Exh.11.17: Graduates feedback*]. Compared to other faculties in HCMUTE, the level of satisfaction of graduates is similar (Table 11.17) [*Exh.11.6: SAR reports*].

Table 11.16: Comparison of assessment from students between faculties

Year	FCE	FVEE	FME	FEEE
2015	84.3%	85.2%	84.8%	85.8%
2016	86.8%	87.1%	86.6%	88.4%

Table 11.17: Comparison of satisfaction level of graduates between faculties

Year	FCE	FVEE	FME	FEEE
2015	87.7%	89.1%	87.8%	88.4%
2016	88.2%	90.2%	86.9%	89.6%

Based on the feedback of graduates, the FCE has proposed several appropriate solutions to improve the quality of training programme. One of these solutions is that the consulting team in the faculty is established to help students to finish their study in the given time frame.

C. Stakeholders feedback

The HCMUTE, as well as FCE, organizes an annual conference to listen and collect feedback from its staff and lecturers. All these feedbacks have been recorded in the minute of meeting for prospective actions. The result shows that the feedback is useful to improve the quality of training programme [*Exh.11.18: Stakeholders feedback*].

In addition, HCMUTE has decided to make the annual survey on the satisfaction of outside companies to the quality of graduates since 2010. Through annual job fairs, a short questionnaire is sent to the representative of companies and partners to get their feedback. The contents of the questionnaire include number of courses in training programme, time needed for the courses, professional knowledge and skills, level of satisfaction with the graduates, etc. [*Exh.11.18: Stakeholders feedback*]. The results in 2015 and 2016 show that on average, the companies were 79.0% happy with the quality of the graduates from FCE (Table 11.18). The outside companies are only unsatisfied with the English ability of the graduates. In addition, the satisfaction level with FCE's graduates is similar to other faculties in HCMUTE [*Exh.11.6: SAR reports*].

Table 11.18: Comparison of satisfaction level of stakeholders between faculties

Year	FCE	FVEE	FME	FEEE
2015	78.6%	80.1%	80.8%	78.4%
2016	79.2%	78.8%	80.9%	81.5%

In order to improve the satisfaction level of stakeholders, HCMUTE has issued many appropriate solutions and policies. For lecturers and staff, some of the solutions can be described as follows: application of E/M Learning System which makes it easier for lecturers and staff to interact with students; regulation on teaching assistance which uses good students to help lecturers with solving course exercises in class; policy of promotion and salary raises for lecturers and staff who have good performance at work at the end of every year; and policy for encouraging lecturers to do research. In 2016, the FCE has established the Center for Civil Engineering Research and Application (CERA), which is expected to help students with their study and help lecturers with their research. On the other hand, the FCE has also organized many meetings between the faculty and related stakeholders to improve the training programme and increase the connection to outside firms [*Exh.11.19: Solutions for improvement based on stakeholders feedback*].

PART 3: STRENGTHS AND WEAKNESSES ANALYSIS

1. Criterion 1: Expected learning outcomes

Strengths:

- The ELOs of CET programme are clearly formulated and aligned with the programme objectives and the mission-vision of the university and faculty. ELOs are publicly disseminated to all relevant stakeholders via the FCE website
- The ELOs are distributed into 4 major categories and systematically mapped to the programme objectives: knowledge, professional skills, generic skills and professional development. The ELOs are translated into the programme, delivered to learners by courses throughout active teaching/learning environment and scientific research activities, and promote life-long learning.
- The ELOs are formulated based on standards set by MOET, feedback from stakeholders, programme goals, mission-vision of the university and faculty.
- Developing and assessing ELOs involve collaborative and transparent discussions with multiple stakeholders.

Possibilities for improvement:

- Feedback from alumni and employers is still diverse. An online tool is going to be developed to receive feedback from alumni and employers about the ELOs, curriculum and other activities related to the programme.

2. Criterion 2: Programme specification

Strengths:

- The programme specification is transparently available to the stakeholders. It is publicized on the FCE website, Open day, hard copy and posters hung on the academic bulletin board. Changes in the programme are quickly updated on website and posted on the board for announcement to relevant stakeholders.
- The programme specification clearly shows the programme objectives and ELOs together with teaching, learning and assessment strategies.

Possibilities for improvement:

- It may take longer time to update the English updated version of the FCE website due to the translation process. A Media Center has been established in 2016 to support the faculty.

3. Criterion 3: Programme structure and content

Strengths:

- The programme structure and content has a good balance of general, fundamental, and specialized knowledge.
- The programme structure is designed in such a way that the contents of difference courses support each other. The curriculum has both breadth and depth which help students to adapt easily with the real working environment. The teaching and learning methods and student assessment are constructively aligned to achieve ELOs.
- The programme is up-to-date and meets the requirements of the stakeholders and trends of international integration.

Possibilities for improvement:

- The elective courses to teach students leadership and macroscopic management should be increased. FCE will add some elective courses such as General management, Public relation, and so on into the curriculum that help students learn and attain more self-skills.
- FCE will consider explore moving internship to a semester before graduation to enhance its formative aspect.

4. Criterion 4: Teaching and learning approach

Strengths:

- The CET programme strategies for teaching and learning help students to understand and apply successful the provided knowledge into practice.
- Approaches such as active learning, project-based learning are well employed to stimulate students' activeness in learning. Students are motivated to apply theory into practice and research to solidify and deepen their understanding.
- The university, faculty and department have the quality assurance system for study programme, facilities and development of teaching staffs. This strategy is communicated and adjusted.

Possibilities for improvement:

- To further improve the educational quality, FCE has planned for reinforcing the online teaching, bilingual teaching and in-full-English teaching. However, this may take time to implement due to the limited English language competence of students.

5. Criterion 5: Student assessment

Strengths:

- The input student quality is high in comparison with other universities that enable to assure excellent student intake.
- A range of assessment methods is utilized for serving diagnostic, formative and summative purposes, and made known to students. The rubrics are also provided for examinations, project assessments, presentation, team assignments, experimental classrooms.
- Assessments covered CLOs and toward improvement of the programme quality.

Possibilities for improvement:

- Assessment methods for soft skills should be enriched.

6. Criterion 6: Academic staff quality

Strengths:

- There are enough qualified lecturers in HCMUTE and FCE to conduct the curriculum.
- Most of the PhD graduated abroad from developed countries such as France, Belgium, Japan, Korea, and Taiwan. Thus, they are equipped with knowledge of advanced technologies as well as modern teaching techniques. This is beneficial to the educational quality.
- The scientific research of FCE is well developed in which the number of international publications is high.

- Lecturers can continuously improve their professional skills thanks to many encouraging policies established by the university and the faculty.

Possibilities for improvement:

- FCE is recruiting more talented academic staff and planned that 55% of the faculty members will be PhD holders in 2018.

7. Criterion 7: Support staff quality

Strengths:

- Supporting staff are well-qualified and chosen thoroughly. They are efficient and willing to help students in both academic and administration activities.
- The performance of supporting staff is periodically evaluated by student. Based on these feedbacks, necessary actions will be implemented to improve the quality of supporting services.

Possibilities for improvement:

- Along with the development of the university, the standard of supporting services may need to be improved. Thus, the university has planned to expand number of supporting staff.

8. Criterion 8: Student quality and support

Strengths:

- Much strategy has been employing by the university to attract excellent students and ensure student input quality in which Open day and online direct consulting are highlighted. Therefore, the input quality of FCE's students is annually improved.
- HCMUTE has a Dashboard system in which lecturers and counselors base to keep track of the student progress, and to report timely to the administrators of department and faculty.

Possibilities for improvement:

- The input English proficiency is not good as expected since most of freshmen come from countryside areas where English teaching and learning are limited. To address this issue, HCMUTE has offered several methods to improve their English competence such as organize further English courses, create English environment where they can practice English.

9. Criterion 9: Facilities and infrastructures

Strengths:

- HCMUTE and FCE are able to provide a good support for learning and teaching as well as research activities of students and lecturers with a system of modern classrooms, well-equipped and frequently updated laboratories/workshops, libraries and computer rooms.
- The campus is a wide, fresh and clean area which is a healthy environment for students. Students' health is also carefully protected.

Possibilities for improvement:

- Despite the best efforts made by the university to annually update laboratory/workshop equipment, it is still impossible to gain the most modern systems for the

laboratories/workshops due to the rapid development of the technology and outside companies.

10. Criterion 10: Quality enhancement

Strengths:

- Evaluating and developing of curriculum are based on inputs of all relevant stakeholders.
- The curriculum will be annually evaluated and revised to meet the new requirements.
- Student feedback of teaching activities and curriculum are conducted every semester by the QAO.

Possibilities for improvement:

- The university, faculty and department will review contents, processes and quality of activities for the continuous improvements.

11. Criterion 11: Output

Strengths:

- Graduated students' quality is confirmed by the labor market. The students can adapt rapidly with new working environment and thus employing companies do not need to spend more time and cost to retrain them.
- High employability rate, over 63% of the graduated students get their job within 3 months since their graduation.

Possibilities for improvement:

- CET programme has not been accredited by oversea organization. Therefore, the plan for development of FCE is to be recognized by the regional (AUN) and international organizations (ABET).

PART 4: APPENDICES

Appendix 1: Mapping CLOs to the ELOs

Appendix 2: Programme Specification

Appendix 3: Curriculum Map

Appendix 4: Checklist for AUN-QA assessment at programme level

Appendix 5: Supporting documents and evidences

Appendix 1: Mapping CLOs to the ELOs

Semester	Code	Courses	Expected learning outcomes															
			1.1	1.2	1.3	2.1	2.2	2.3	2.4	2.5	3.1	3.2	3.3	4.1	4.2	4.3	4.4	4.5	4.6
1	MATH130101	Adv. Mathematics A1	✓			✓			✓	✓	✓	✓							
	MATH130201	Adv. Mathematics A2	✓			✓			✓	✓	✓	✓							
	LLCT150105	The Basic Principles of Marxism Leninism	✓							✓	✓			✓	✓				
	ENGL130137	English 1	✓								✓		✓						
	ICET130117	Introduction to CET	✓					✓	✓	✓	✓	✓	✓						
	VBPR131085	Visual Basic Programing	✓			✓			✓										
	PHED110513	Physical Education 1							✓		✓								
2	MATH130301	Adv. Mathematics A3	✓			✓			✓	✓	✓	✓							
	MATH130401	Probability & Applied Statistics	✓			✓			✓	✓	✓	✓							
	PHYS130102	Fundamental Physics 1	✓			✓					✓								
	GCHE130103	General Chemistry	✓			✓						✓							
	ENGL230237	English 2	✓								✓		✓						
	GELA220405	General Law	✓							✓	✓	✓							
	DGED121023	Descriptive Geometry and Engineering Drawing		✓		✓			✓	✓		✓	✓						
	FUME130221	Fundamentals of		✓		✓							✓						

Semester	Code	Courses	Expected learning outcomes															
			1.1	1.2	1.3	2.1	2.2	2.3	2.4	2.5	3.1	3.2	3.3	4.1	4.2	4.3	4.4	4.5	4.6
		Mechanics																	
	PHED110613	Physical Education 2							✓		✓								
3	ACMC120421	Computational Methods in Civil Engineering	✓			✓					✓		✓						
	LLCT120314	Ho Chi Minh's Ideology	✓						✓	✓	✓	✓							
	PHYS120202	Fundamental Physics 2	✓			✓					✓								
	PHYS110302	Physics Laboratory	✓				✓		✓		✓	✓							
	ENGL330337	English 3	✓								✓		✓						
	ARCH230217	Architecture		✓		✓		✓	✓		✓			✓		✓	✓		
	ENDP120317	*Engineering Drawing Practice*		✓								✓							
	ENGE220118	Engineering Geology		✓		✓					✓	✓							
	EGEP210218	*Engineering Geology Practice*		✓		✓	✓			✓	✓	✓							
	STMA240121	Strength of Materials		✓		✓							✓						
	PHED130715	Physical Education 3							✓		✓								
4	LLCT230214	Vietnamese Communist Party's Revolutionary Policies	✓							✓	✓	✓		✓					

Semester	Code	Courses	Expected learning outcomes															
			1.1	1.2	1.3	2.1	2.2	2.3	2.4	2.5	3.1	3.2	3.3	4.1	4.2	4.3	4.4	4.5	4.6
	SURV220119	Geodesic Survey		✓		✓			✓	✓	✓		✓						
	SOME240318	Soil Mechanics		✓		✓					✓		✓						
	SMTE210418	*Soil Mechanic Test*		✓		✓	✓			✓	✓	✓							
	STME240517	Structural Mechanics		✓		✓			✓		✓	✓	✓						
	METE210321	*Mechanical Test*		✓			✓			✓	✓	✓	✓						
	RCST240617	Reinforced Concrete Structures		✓		✓						✓	✓						
	COMA220717	Construction Materials		✓					✓		✓		✓						
5	SURP210219	*Geodesic Survey Practice*				✓	✓			✓	✓	✓	✓						
	RCBS320817	Reinforced Concrete Building Structures			✓	✓					✓		✓				✓		
	COTE340319	Construction Technique		✓	✓			✓	✓		✓	✓	✓				✓	✓	
	STST240917	Steel Structures		✓		✓			✓				✓						
	FOEN330518	Foundation Engineering			✓			✓			✓		✓			✓	✓		
	FENP310618	*Foundation Engineering Project*			✓	✓			✓	✓		✓	✓			✓	✓		
	RCSP211017	*Reinforced Concrete Structure Project*			✓	✓		✓	✓			✓	✓				✓		

Semester	Code	Courses	Expected learning outcomes															
			1.1	1.2	1.3	2.1	2.2	2.3	2.4	2.5	3.1	3.2	3.3	4.1	4.2	4.3	4.4	4.5	4.6
	WSSE221317	Water Supply & Sewerage Engineering		✓		✓			✓		✓								
	COMP211117	*Construction Material Practice*		✓			✓			✓	✓	✓							
6	DYST321917	Dynamics of Structures			✓	✓			✓		✓	✓	✓						
	ITCP421417	*Information Technology in Construction Practice*			✓	✓	✓				✓	✓							
	STTE321517	*Structural Test*					✓			✓	✓	✓	✓						
	CMSA330419	Construction Management & Safety		✓	✓	✓		✓	✓	✓	✓	✓	✓			✓			
	SBST321617	Steel Building Structures			✓	✓		✓			✓		✓						
	SSTP311717	*Steel Building Structure Project*			✓	✓		✓	✓	✓		✓	✓			✓	✓	✓	
	COTP320519	*Construction Technique Practice*		✓					✓	✓	✓	✓				✓		✓	
	RCBP311817	*Reinforced Concrete Building Structures Project*			✓	✓			✓	✓		✓	✓			✓			
	x	Social Sciences And Humanities 1	✓						✓						✓				

Semester	Code	Courses	Expected learning outcomes															
			1.1	1.2	1.3	2.1	2.2	2.3	2.4	2.5	3.1	3.2	3.3	4.1	4.2	4.3	4.4	4.5	4.6
	x	Social Sciences And Humanities 2	✓						✓						✓				
7	x	Social Sciences And Humanities 3	✓						✓						✓				
	TMCP310619	*Construction Technique & Management Project*		✓	✓			✓	✓	✓				✓	✓		✓	✓	
	COIP412217	*Construction Inspection Practice*					✓			✓	✓	✓	✓						✓
	ICMP411219	*Information Technology in Construction Management Practice*			✓	✓			✓	✓	✓		✓			✓	✓		
	COEC321119	Construction Economy			✓					✓	✓	✓		✓					
	PTEP421019	*Professional Tender Practice*			✓	✓			✓		✓		✓					✓	
	ENGP422017	*Internship*								✓	✓	✓		✓	✓	✓	✓	✓	✓
	Choose 1 of 2 courses																		
	HRBS421217	High-rise Building Structures			✓	✓			✓		✓		✓			✓	✓		
	PSCD422317	Pre-stressed Concrete Structures			✓	✓			✓		✓		✓			✓	✓		

Semester	Code	Courses	Expected learning outcomes																
			1.1	1.2	1.3	2.1	2.2	2.3	2.4	2.5	3.1	3.2	3.3	4.1	4.2	4.3	4.4	4.5	4.6
	Choose 1 of 2 courses																		
	FHRB420718	Foundation of High-Rise Building				✓		✓			✓	✓	✓	✓		✓	✓		
	SOIM420818	Foundation of Buildings on Weak Soils				✓		✓			✓	✓	✓	✓		✓	✓		
	Choose 1 of 3 courses																		
	PRMA420819	Project Management			✓	✓			✓	✓	✓	✓	✓					✓	✓
	QMSC420919	Quality Control & Supervision Consultant			✓	✓			✓	✓	✓	✓	✓					✓	✓
	CMRU421319	Construction Maintenance, Repair and Upgrade			✓	✓			✓	✓	✓	✓	✓					✓	✓
8	THES402117	**Caption Project**						✓	✓	✓		✓		✓		✓	✓	✓	
		Sum 380	**21**	**21**	**20**	**41**	**9**	**12**	**38**	**31**	**52**	**39**	**37**	**9**	**6**	**14**	**15**	**10**	**5**

Appendix 2: Programme Specification

Training major: **CONSTRUCTION ENGINEERING TECHNOLOGY**

Training level: Bachelor

Major code: 52510102

Date revised: August 2015

1. **Awarding institution:**

   HCMC University of Technology and Education

2. **Name of the final award:**

   Bachelor of Engineering (in Civil and Industrial Construction Engineering Technology)

3. **Mode of study: Full time**

   Type of study: Campus based

4. **Training time: 4 years**

   The normal period of study for a full-time bachelor's degree is four years and the maximum period is eight years.

5. **Admission criteria:**

   High school graduate candidates have total score of Mathematics, Physics, and Chemistry (group A) or Mathematics, Physics, and English (group A1), or Mathematics, Literature, English (group D1) in an annual National High School Graduation Examination held in July by MOET higher than the cut-off score set by the HCMUTE based on the student admission quota from MOET. The cut-off score will be published in August.

   Candidates, who graduated from specialized high schools, have an average score of five consecutive terms of high school larger than 7.5 and are in top 10% of the HCMUTE annual admission quota.

6. **Programme objectives:**

   The objectives of the CET programme are that most graduates within 2 to 3 years will

   1. Be proficient in the general knowledge of engineering science, the fundamental and specialized knowledge of construction engineering.
   2. Grow professionally in their careers through continuous development of technical and management skills, roles of responsibility in professional activities, and life-long learning ability.
   3. Adapt effectively in the professional environment, leadership and teamwork in the context of construction engineering.
   4. Be able to apply these knowledge and skills to design, develop and select sound solutions to construction engineering projects.

7. **Reference points used to inform the programme specification**

   The CDIO-based education that engineering graduates should be able to Conceive – Design – Implement – Operate engineering systems.

   Stakeholders' surveys

8. Expected learning outcomes

After successful completion the CET programme, graduates will be able to demonstrate and attain the following ELOs

1.1 Apply knowledge of mathematics and science.

1.2 Analyze core fundamental knowledge of construction engineering.

1.3 Analyze advanced fundamental knowledge of construction engineering necessary for construction engineering practice.

2.1 Analyze and solve construction engineering problems.

2.2 Measure and interpret experimental data related to construction materials and structures.

2.3 Select possible solutions of construction engineering within the context of society, enterprise and technique.

2.4 Adapt for life-long learning.

2.5 Perceive professional practice skills in construction engineering including professional and ethical responsibility.

3.1 Evaluate the goals and characteristics of individuals to engage technical collaboration with team members towards the sound solution of multi-disciplinary projects.

3.2 Choose various communication skills such as technical writing, sketching and drawing, persuasive arguments, and presentation to support the needs and character of the audience.

3.3 Demonstrate the ability to use English in construction engineering, with the emphasis on reading and writing skills.

4.1 Judge the impact of construction engineering solution in global, economic, environmental, and societal context, and vice versa.

4.2 Adapt different enterprise cultures and develop professional behaviors to work successfully in organizations.

4.3 Select appropriate models of construction engineering performance to meet desired needs within realistic constraints such as economy, environment, society, and sustainability.

4.4 Design a part or complete construction project by means of design experiences integrated throughout the professional component of the curriculum.

4.5 Develop appropriate processes of construction engineering practice.

4.6 Select suitable procedure to operate a construction project including inspection, maintenance, repair and upgrade.

9. Programme structures

The programme structure comprises of the following 8 semesters.

Semester	Code	Course	Number of credits		
			Theory	Practice	Total
1	MATH130101	Advanced Mathematics A1	3	0	3
	MATH130201	Advanced Mathematics A2	3	0	3
	LLCT150105	The Basic Principles of Marxism Leninism	5	0	5
	ENGL130137	English 1	3	0	3
	ICET130117	Introduction to Construction Engineering Technology	2	1	3
	VBPR131085	Visual Basic Programing	3	0	3
	PHED110513	Physical Education 1	1	0	1
2	MATH130301	Advanced Mathematics A3	3	0	3
	MATH130401	Probability & Applied Statistics	3	0	3
	PHYS130102	Fundamental Physics 1	3	0	3
	GCHE130103	General Chemistry	3	0	3
	ENGL230237	English 2	3	0	3
	GELA220405	General Law	2	0	2
	DGED121023	Descriptive Geometry and Engineering Drawing	2	0	2
	FUME130221	Fundamentals of Mechanics	3	0	3
	PHED110613	Physical Education 2	1	0	1
3	ACMC120421	Computational Methods in Civil Engineering	2	0	2
	LLCT120314	Ho Chi Minh's Ideology	2	0	2
	PHYS120202	Fundamental Physics 2	2	0	2
	PHYS110302	*Physics Laboratory*	0	1	1
	ENGL330337	English 3	3	0	3
	ARCH230217	Architecture	3	0	3
	ENDP120317	*Engineering Drawing Practice*	0	2	2
	ENGE220118	Engineering Geology	2	0	2
	EGEP210218	*Engineering Geology Practice*	0	1	1
	STMA240121	Strength of Materials	4	0	4
	PHED130715	Physical Education 3	3	0	3

Semester	Code	Course	Number of credits		
			Theory	Practice	Total
4	LLCT230214	Vietnamese Communist Party's Revolutionary Policies	3	0	3
	SURV220119	Geodesic Survey	2	0	2
	SOME240318	Soil Mechanics	4	0	4
	SMTE210418	*Soil Mechanic Test*	0	1	1
	STME240517	Structural Mechanics	4	0	4
	METE210321	*Mechanical Test*	0	1	1
	RCST240617	Reinforced Concrete Structures	4	0	4
	COMA220717	Construction Materials	2	0	2
5	SURP210219	*Geodesic Survey Practice*	0	1	1
	RCBS320817	Reinforced Concrete Building Structures	2	0	2
	COTE340319	Construction Technique	4	0	4
	STST240917	Steel Structures	4	0	4
	FOEN330518	Foundation Engineering	3	0	3
	FENP310618	*Foundation Engineering Project*	0	1	1
	RCSP211017	*Reinforced Concrete Structure Project*	0	1	1
	WSSE221317	Water Supply and Sewerage Engineering	2	0	2
	COMP211117	*Construction Material Practice*	0	1	1
6	DYST321917	Dynamics of Structures	2	0	2
	ITCP421417	*Information Technology in Construction Practice*	0	2	2
	STTE321517	*Structural Test*	0	2	2
	CMSA330419	Construction Management and Safety	3	0	3
	SBST321617	Steel Building Structures	2	0	2
	SSTP311717	*Steel Building Structure Project*	0	1	1
	COTP320519	*Construction Technique Practice*	0	2	2
	RCBP311817	*Reinforced Concrete Building Structures Project*	0	1	1
	(Selective)	Social Sciences and Humanities 1	2	0	2
	(Selective)	Social Sciences and Humanities 2	2	0	2

Semester	Code	Course	Number of credits		
			Theory	Practice	Total
	(Selective)	Social Sciences and Humanities 3	2	0	2
	TMCP310619	*Construction Technique and Management Project*	0	1	1
	COIP410719	*Construction Inspection Practice*	0	1	1
	ICMP411219	*Information Technology in Construction Management Practice*	0	1	1
	COEC321119	Construction Economy	2	0	2
	PTEP421019	*Professional Tender Practice*	0	2	2
	ENGP422017	*Internship*	0	2	2
	Choose 1 of 2 courses				
7	HRBS421217	High-rise Building Structures	2	0	2
	PSCD423018	Prestressed Concrete Structures	2	0	2
	Choose 1 of 2 courses				
	FHRB420718	Foundation of High-Rise Building	2	0	2
	SOIM420818	Foundation of Buildings on Weak Soils	2	0	2
	Choose 1 of 3 courses				
	PRMA420819	Project Management	2	0	2
	QMSC420919	Quality Control and Supervision Consultant	2	0	2
	CMRU421319	Construction Maintenance, Repair and Upgrade	2	0	2
8	THES402117	**Caption Project**	0	10	10

Note: Credits of Physical Education 1, 2, and 3 are not included in total 150 credits of the programme

10. Progression points

Students must obtain a mark of 5.0 out of 10.0 for all courses

In cases where a student fails to accumulate a GPA (scales of 10.0) of 3.0 for the first year, or 3.5 for the second year, or 4.0 for the third year or 4.5 from the fourth year or over allowable study time, he or she will be required to withdraw from the programme.

11. Special features:

A five-day introduction programme in the first week of the first year

A four-week internship at construction sites or structural design companies

The last semester for a capstone project that is orally defended

Five course's projects

Many courses related to experiments and practices

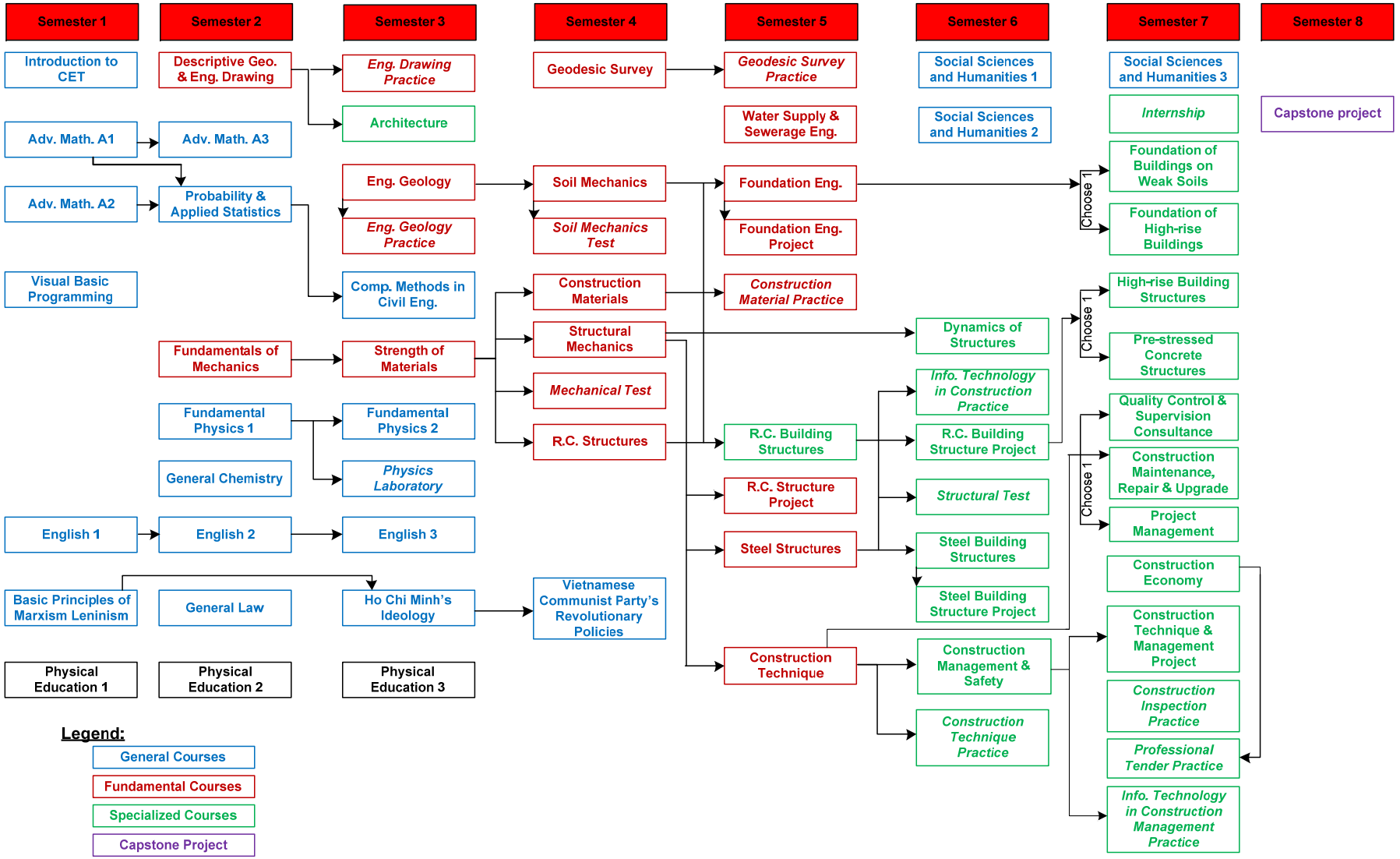
12. Job opportunities

Graduates can work in design, construction, consultancy and inspection of civil and industrial building projects as Structural Engineers, Quality and Quantity Supervisors, Consulting Construction Engineers, Contracting Construction Engineers, Site Engineers, etc.

13. Date of issue and revision

The programme was issued in August 2012 and revised in August 2015.

Appendix 3: Curriculum Map



Appendix 4: Checklist for AUN-QA assessment at programme level

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						x	
1.2	The expected learning outcomes cover both subject specific and generic (i.e. transferable) learning outcomes						x	
1.3	The expected learning outcomes clearly reflect the requirements of the stakeholders					x		
	Overall opinion	**5.67**						
2	**Programme Specification**							
2.1	The information in the programme specification is comprehensive and up-to-date						x	
2.2	The information in the course specification is comprehensive and up-to-date						x	
2.3	The programme and course descriptions are communicated and made available to the stakeholders						x	
	Overall opinion	**6.00**						
3	**Programme Structure and Content**							
3.1	The curriculum is designed based on constructive alignment with the expected learning outcomes					x		
3.2	The contribution made by each course to achieve the expected learning outcomes is clear						x	
3.3	The curriculum is logically structured, sequenced, integrated and up-to-date						x	
	Overall opinion	**5.67**						
4	**Teaching and Learning Approach**							
4.1	The educational philosophy is well articulated and communicated to all stakeholders					x		
4.2	Teaching and learning activities are constructively aligned to the achievement of the expected learning outcomes						x	
4.3	Teaching and learning activities enhance life-long learning					x		
	Overall opinion	**5.33**						
5	**Student Assessment**							
5.1	The student assessment is constructively aligned to the achievement of the expected learning					x		

	outcomes							
5.2	The student assessments including timelines, methods, regulations, weight distribution, rubrics and grading are explicit and communicated to students						x	
5.3	Methods including assessment rubrics and marking schemes are used to ensure validity, reliability and fairness of student's assessment						x	
5.4	Feedback of student assessment is timely and helps to improve learning					x		
5.5	Students have ready access to appeal procedure						x	
	Overall opinion	**5.60**						
6	**Academic Staff Quality**							
6.1	Academic staff planning is carried out to fulfill the needs for education, research and service						x	
6.2	Staff-to-student ratio and workload are measured and monitored to improve the quality of education, research and service					x		
6.3	Recruitment and selection criteria including ethics and academic freedom for appointment, deployment and promotion are determined and communicated					x		
6.4	Competences of academic staff are identified and evaluated					x		
6.5	Training and developmental needs of academic staff are identified and activities are implemented to fulfill them						x	
6.6	Performance management including rewards and recognition is implemented to motivate and support education, research and service						x	
6.7	The types and quantity of research by academic staff are established, monitored and benchmarked for improvement					x		
	Overall opinion	**5.42**						
7	**Support Staff Quality**							
7.1	Support staff planning is carried out to fulfill the needs for education, research and service					x		
7.2	Recruitment and selection criteria for appointment, deployment and promotion are determined and communicated					x		
7.3	Competences of support staff are identified and					x		

	evaluated							
7.4	Training and developmental needs of support staff are identified and activities are implemented to fulfill them						x	
7.5	Performance management including rewards and recognition is implemented to motivate and support education, research and service						x	
	Overall opinion	**5.40**						
8	**Student Quality and Support**							
8.1	The student intake policy and admission criteria are defined, communicated, published, and up-to-date						x	
8.2	The methods and criteria for the selection of students are determined and evaluated						x	
8.3	There is an adequate monitoring system for student progress, academic performance, and workload						x	
8.4	Academic advice, co-curricular activities, student competition, and other student support services are available to improve learning and employability					x		
8.5	The physical, social and psychological environment is conducive for education and research as well as personal well-being						x	
	Overall opinion	**5.80**						
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						x	
9.2	The library and its resources are adequate and updated to support education and research					x		
9.3	The laboratories and equipment are adequate and updated to support education and research						x	
9.4	The IT facilities including e-learning infrastructure are adequate and updated to support education and research						x	
9.5	The standards for environment, health and safety; and access for people with special needs are defined and implemented					x		
	Overall opinion	**5.60**						

10	**Quality Enhancement**							
10.1	Stakeholders' needs and feedback serve as input to curriculum design and development						x	
10.2	The curriculum design and development process is established and subjected to evaluation and enhancement					x		
10.3	The teaching and learning processes and student assessment are continuously reviewed and evaluated to ensure their relevance and alignment					x		
10.4	Research output is used to enhance teaching and learning					x		
10.5	Quality of support services and facilities (at the library, laboratory, IT facility and student services) is subjected to evaluation and enhancement					x		
10.6	The stakeholder's feedback mechanisms are systematic and subjected to evaluation and enhancement						x	
	Overall opinion	**5.33**						
11	**Output**							
11.1	The pass rates and dropout rates are established, monitored and benchmarked for improvement						x	
11.2	Average time to graduate is established, monitored and benchmarked for improvement						x	
11.3	Employability of graduates is established, monitored and benchmarked for improvement						x	
11.4	The types and quantity of research activities by students are established, monitored and benchmarked for improvement					x		
11.5	The satisfaction levels of stakeholders are established, monitored and benchmarked for improvement					x		
	Overall opinion	**5.60**						
Overall verdict		**5.58**						

Appendix 5: Supporting documents and evidences

No	Exh.	Title of Exhibition	Category
Criteria 1: Expected Learning Outcomes			
1	1.1	Revision of ELOs	
	1.1a	Plan for revision of CET programme in 2012, 2015	Document
	1.1b	Vision and Mission of HCMUTE and FCE	Image
	1.1c	FCE reports on job profile of civil engineers in 2012, 2015	Document
	1.1d	Report on ELOs and curriculum benchmarks of CET programme among some prestigious universities	Document
	1.1e	Survey reports on satisfaction level of stakeholders for the CET programme in 2012, 2015	Document
	1.1f	Meeting minutes of the FCE Academic and Scientific Committee on the ELOs and curriculum of CET programme in 2012, 2015	Document
	1.1g	HCMUTE decision on the promulgation of CET's ELOs in 2012	Decision
2	1.2	Approaches to ELOs	
	1.2a	ELOs posted on FCE website	Image
	1.2b	Meeting minutes of the FCE on writing syllabi of CET programme in 2012	Document
	1.2c	Syllabus of Introduction to CET course	Document
3	1.3	Extra-curricular activities	
	1.3a	List of students' research projects	Document
	1.3b	Activities of skill and English clubs	Document
	1.3c	List and images of specialized seminars	Image
	1.3d	List and images of site visits	Image
	1.3e	List of images of voluntary activities	Image
4	1.4	Feedback of stakeholders in 2012 and 2015	
	1.4a	Survey reports on satisfaction level of stakeholders for the CET programme in 2012, 2015	Document
	1.4b	Meeting minutes of the FCE Academic and Scientific Committee on the ELOs and curriculum of CET programme in 2011, 2015	Document
Criteria 2: Programme Specification			
5	2.1	Deployment of the programme specification	
	2.1a	MOET decision on opening new programme	Decision
	2.1b	HCMUTE decision on promulgation of CET programme	Decision

No	Exh.	Title of Exhibition	Category
	2.1c	List of teaching schedule and assigned lecturers for each semester	Document
	2.1d	List of lecturers assigned for writing course syllabi	Document
	2.1e	Plan for orientation week	Document
	2.1f	CET programme specification posted on FCE website	Image
6	2.2	Update on the programme specification	
	2.2a	ISO procedure for adjust studying programme	Document
	2.2b	Plan for revision of CET programme in 2012, 2015	Document
	2.2c	Meeting minutes of the FCE Academic and Scientific Committee on the ELOs and curriculum of CET programme in 2012, 2015	Document
7	2.3	Sample of course syllabus	
	2.3a	Syllabus of Steel Building Structures course	Document
8	2.4	Sample of course portfolio	
	2.4a	Portfolio of Steel Building Structures course	Document
9	2.5	Contents of the orientation week	
	2.5a	Plan for orientation week	Document
10	2.6	Sample of E/M learning course	
	2.6a	E/M learning of Dynamics of Structures course	Document
Criteria 3: Programme Structure and Content			
11	3.1	Sample of a course project	
	3.1a	Report and drawings of Steel Building Structures project	Document
12	3.2	Assessment rubrics	
	3.2a	Rubrics for capstone projects	Document
	3.2b	Rubrics for course projects	Document
	3.2c	Rubrics for presentations	Document
	3.2d	Rubrics for experimental and practical assessments	Document
13	3.3	Syllabi and Assessment rubrics	
	3.3a	Syllabus of Steel Structures course	Document
	3.3b	Syllabus of Steel Building Structures course	Document
	3.3c	Syllabus of Steel Building Structures project	Document
	3.3d	Rubrics for assessing Steel Building Structures project	Document
14	3.4	Sample of a capstone project	
	3.4a	Report and drawings of capstone project	Document

No	Exh.	Title of Exhibition	Category
15	3.5	Feedback of stakeholders in 2012 and 2015	
	3.5a	Survey reports on satisfaction level of stakeholders for the CET programme in 2012, 2015	Document
Criteria 4: Teaching and Learning Approach			
16	4.1	Activities to articulate FCE educational philosophy	
	4.1a	Some of workshops and training of active teaching and learning methods	Document
	4.1b	The pedagogical courses for lecturers.	Document
	4.1c	List of lecturers joining HEEAP, VULII workshop	Document
	4.1d	Plan for Orientation week.	Document
	4.1e	Open day activities, meeting between employers and faculty	Document
	4.1f	Introduction to CET course syllabus	Document
17	4.2	Sample of course's portfolio	Document
18	4.3	List of courses for pedagogical methods	
	4.3a	The pedagogical courses for lecturers	Document
	4.3b	Workshop on ABBET conducted by Fulbright Specialists, Professor John Vail Farr	Document
	4.3c	Higher education teaching methodologies, practical skills and assessment	Document
	4.3d	The AUN-QA training course for accomplishing programme assessment 2016	Document
19	4.4	Activities in Introduction to CET course	
	4.4a	Introduction to CET course syllabus	Document
	4.4b	Some pictures on self-modeling works of students	Image
20	4.5	Activities in Soil Mechanics course	
	4.5a	Soil Mechanics course syllabus	Document
	4.5b	Some homework of Soil Mechanics course	Document
21	4.6	Activities in Steel Building Structures course	
	4.6a	Steel Building Structures course syllabus	Document
	4.6b	Presentation activity of Steel Building Structures course	Document
22	4.7	Posters and Videos of practical/experimental courses	
	4.7a	Some posters of experimental courses	Image
	4.7b	Some video of Information Technology in Construction Practice course	Link of video
23	4.8	Activities in course and capstone projects	
	4.8a	Regulation on conducting course and capstone projects	Document
	4.8b	Sample of progress monitoring form for course project	Document

No	Exh.	Title of Exhibition	Category
	4.8c	Self-assessment report of capstone projects	Document
24	4.9	Regulations on and report of group working	Document
25	4.10	Reviews of employers on internship	Document
26	4.11	Prizes of students' competent contests	
	4.11a	National Mechanics Olympic prize	Image
	4.11b	Loa Thanh prize	Image
	4.11c	Talented young scientist prize	Image
27	4.12	Activities supporting teaching and learning processes	
	4.12a	Activities of the consultancy team of FCE	Document
	4.12b	Activities of Teaching Assistants of FCE	Document
28	4.13	Evaluations of teaching and learning processes	
	4.13a	Self-assessment of lecturers.	Document
	4.13b	Class observation.	Document
	4.13c	Online evaluation of courses.	Document/ Link/ Website
29	4.14	Activities in English clubs	Document/ Image
30	4.15	Sample of a capstone project	Document
31	4.16	Guidelines for course projects	Document
32	4.17	Sample of internship report	Document
33	4.18	Activities in scientific research.	Decision
34	4.19	Activities adapting to multicultural environment	Document
Criteria 5: Student Assessment			
35	5.1	Student enrollment project	Document
36	5.2	Results of English pre-tests	
	5.2a	Regulations of AAO on Entrance English placement	Document
	5.2b	Results of Entrance English Placement	
37	5.3	Procedure and sample of writing examination and marking guides	
	5.3a	Samples of progress examination and final examination of a theoretical course	Document
	5.3b	Marking guides of a theoretical courses	Document
	5.3c	Marking guides of internship and course projects	Document
	5.3d	Marking guides of capstone project	Document

No	Exh.	Title of Exhibition	Category
	5.3 e	Procedure for examination design, safeguard, replication, receive & delivery, spot and Safeguards	Document
	5.3f	Sample of a checklist of exam's verification	Document
38	5.4	Syllabi of theoretical, experimental, practical courses, and course projects	
	5.4a	Sample of a theoretical course syllabus	Document
	5.4b	Sample of an experimental course syllabus	Document
	5.4c	Sample of a course project syllabus	Document
	5.4d	Sample of a practical course syllabus	Document
	5.4f	Sample of a checklist of exam's verification	Document
39	5.5	Diagnostic assessments	
	5.5a	Samples of quiz test, 1 minute test, non-marking test for diagnostic purposes	Document
	5.5b	Samples of laboratory regulations	Document
40	5.6	Assessments of capstone projects	
	5.6a	HCMUTE regulations on graduation requirements	Decision
	5.6b	Capstone Project Syllabus	Document
	5.6c	Lists of Capstone Project Oral Defense Students and Committees	Document
	5.6e	Lists of Capstone Project Students	Document
	5.6f	List of assigned supervisors and reviewers	Document
41	5.7	Regulations of university and college in credit system	Decision
42	5.8	Course syllabi on FCE's website and E/M learning system	
	5.8a	Example of course syllabus on FCE's website	Document
	5.8b	Example of course syllabus on E/M learning system	Document
43	5.9	Survey on final course evaluation	
	5.9a	Samples of course survey	Document
	5.9b	HCMUTE regulation on course survey	Document
44	5.10	HCMUTE regulations on CDIO framework programme	Document
45	5.11	Marking schemes in writing examination and answers	
	5.11a	Marking schemes in final examination and answers	Document
	5.11b	Marking schemes in progress examination and answers	Document
	5.11c	Samples of marking schemes in progress examination and answers in LMS website	Document
	5.11d	Samples of marking schemes in final examination and answers in FCE website	Document

No	Exh.	Title of Exhibition	Category
46	5.12	Assessment of experimental and practical courses	
	5.12a	Sample of rubric assessment of students for group presentation of practical courses	Document
	5.12b	Samples of group working testing results in experimental courses	Document
	5.12c	Sample of rubric assessment of students for final assessment of experimental course and practical courses	Document
47	5.13	Assessments of course projects	
	5.13a	Samples of assessment results of students for project course: supervisor and reviewer assessments	Document
	5.13b	Samples of rubrics for the assessment of project course	Document
48	5.14	Assessment of capstone project	
	5.14a	Rubrics assessment system for capstone project	Document
49	5.15	PDCA reports on assessment rubrics	
	5.15a	PDCA reports on rubrics assessment system in FCE	Document
50	5.16	Assessment of students' social responsibility	
	5.16a	Assessment of social responsibility for students	Document
	5.16b	Regulation for student scholarship	Document
51	5.17	Workshops on student's assessment	
	5.17a	HCMUTE seminars on teaching and assessment improvement for young lecturers	Document
	5.17b	HCMUTE seminar on active teaching & learning and course learning outcome assessment methods	Document
	5.17c	FCE workshop of sharing and exchanging assessment experience	Document
52	5.18	Examination feedback of students	
	5.18a	Samples of student feedback about writing examination	Document
53	5.19	Regulations on teaching assistants	Document
54	5.20	Feedback on experimental and practical courses	
55	5.20a	Samples of testing reports of student for experimental courses	Document
	5.20b	Samples of testing reports of student for practical courses	Document
56	5.21	Tracking notes and reviews for projects	
	5.21a	Sample of tracking notes for project courses	Document
	5.21b	Sample of progress tracking notes for capstone project	Document
	5.21c	Sample of reviewer's comments for capstone project	Document

No	Exh.	Title of Exhibition	Category
57	5.22	HCMUTE regulations on course withdrawn	Document
58	5.23	Appeal procedure	
	5.23a	Procedure of marking test papers and remarking	Document
	5.23b	Student appeal procedure	Document
	5.23c	Samples of student appeal cases	Document
Criteria 6: Academic Staff Quality			
59	6.1	Academic staff Planning	
	6.1a	HCMUTE HR Planning	Decision
	6.1b	FCE Development strategy	Document
	6.1c	HCMUTE HR Report	Document
	6.1d	FCE Introduction & organization	Document
	6.1e	List of visiting lecturers of FCE	Document
	6.1f	List of FCE staff	Document
	6.1g	Lecturer's title accreditation	Decision
60	6.2	HR policies related to Academic staff	
	6.2a	Professor title registration announcement	Decision
	6.2b	Retirement regulations	Decision
	6.2c	Education Law execution	Decision
	6.2d	Retirement announced on the homepage	Document
	6.2e	Insurance policies	Decision
	6.2f	Promotion and designation regulations	Decision
	6.2g	Job description for FCE academic staff	Decision
61	6.3	Teaching activity monitoring	
	6.3a	A course outline	Document
	6.3b	Teaching schedule of a Department	Document
	6.3c	Tutor Policies for academic staff	Decision
	6.3d	Semester ending report of a course	Document
	6.3e	Teaching Profile of a course	Document
	6.3f	Teaching-learning activity report	Document
	6.3g	Course syllabi matching the outcomes of the training programs	Document
	6.3h	Final test content matching with the course syllabi	Document
	6.3i	Variety of instructional media used to consult students.	Document
	6.3j	Teaching observation report	Document

No	Exh.	Title of Exhibition	Category
	6.3k	Teaching observation plan	Document
	6.3l	Teaching observation process	Decision
62	6.4	HCMUTE financial planning and execution	
	6.4a	HCMUTE Internal expenses	Decision
	6.4b	HCMUTE financial revenue and expenditure report	Document
63	6.5	Assessment of academic staff performance	
	6.5a	KPIs system	Decision
	6.5b	Lecturer's satisfaction surveys	Document
	6.5c	Student surveys on service satisfaction.	Document
	6.5d	Quality Assurance report on teaching activities	Decision
	6.5e	Self-assessment report	Document
	6.5f	Personal planning report	Document
	6.5g	Supervision of HCMUTE education inspectors to teaching activities	Document
64	6.6	Emulation and rewards for academic staff	
	6.6a	Emulation titles for academic staff	Document
	6.6b	Decision on Salary increase for academic staff	Decision
	6.6c	Announcement of Salary increase for academic staff	Decision
	6.6c	Emulation instruction for academic staff	Decision
	6.6d	Lecturer title nomination for academic staff	Document
	6.6e	Emulation reviewing records of FCE	Document
65	6.7	Academic staff recruitment	
	6.7a	Standards for lecturers	Decision
	6.7b	HCMUTE Recruitment statistics	Document
	6.7c	FCE Recruitment proposal	Document
	6.7d	Recruitment announced on the homepage	Document
	6.7e	Academic staff recruitment process	Document
	6.7f	Criteria checklist for academic staff candidates	Document
	6.7g	Probation guides for academic staff	Decision
	6.7h	Probation ending documents of academic staff	Document
	6.7i	HCMUTE adjusted standards for lecturers	Decision
	6.7j	HCMUTE recruitment proposal	Document
	6.7k	Decision for probation officer	Decision
	6.7l	The required eligibility for academic staff to end the	Decision

No	Exh.	Title of Exhibition	Category
		probation period	
66	6.8	Training activities for FCE academic staff	
	6.8a	Lecturer fostering announcement	Decision
	6.8b	List of training courses for academic staff	Document
	6.8c	Announcement for performance report submission	Decision
	6.8d	Training course announcement	Decision
	6.8e	English test results of academic staff	Document
	6.8f	Professor title application	Decision
	6.8g	FCE training course proposal	Document
	6.8h	HR training and development process	Document
67	6.9	Research activities and related support policies	
	6.9a	List of publications of FCE staff	Document
	6.9b	List of research projects of FCE staff	Document
	6.9c	Records for publication bonus of academic staff	Document
	6.9d	HCMUTE Support for conference presentations	Decision
	6.9e	FCE research domains	Document
	6.9f	GACES group activities	Document
	6.9g	International cooperation records	Document
	6.9h	List of organized scientific conferences	Document
	6.9i	Process of implementation of University level research projects	Document
68	6.10	Service activities of FCE academic staff	
	6.10a	Consultant on student enrollment	Document
	6.10b	FCE staff attending Open Day festival	Document
	6.10c	FCE staff organizing Internship trips	Document
	6.10d	FCE staff taking part in student consultant	Document
	6.10e	FCE staff organizing job hunting activities	Document
Criteria 7: Support Staff Quality			
69	7.1	Support staff Planning	
	7.1a	HCMUTE HR Planning	Decision
	7.1b	FCE Development strategy	Document
	7.1c	HCMUTE HR Report	Document
	7.1d	Lib HR Planning	Decision
	7.1e	Decision on Department & center functions	Decision

No	Exh.	Title of Exhibition	Category
	7.1f	Decision on IT center functions	Decision
70	7.2	HR Policies related to support staff	
	7.2a	Retirement regulations for support staff	Decision
	7.2b	Education Law execution	Decision
	7.2c	Retirement announced on the homepage	Document
	7.2d	Insurance policies for support staff	Decision
	7.2e	Promotion and designation regulations	Decision
71	7.3	Assessment of support staff performance	
	7.3a	KPIs system	Decision
	7.3b	Support staff's satisfaction surveys	Document
	7.3c	Student surveys for satisfaction evaluation	Document
	7.3d	Self-assessment report of support staff	Document
72	7.4	Support staff recruitment	
	7.4a	HCMUTE recruitment statistics	Document
	7.4b	Recruitment announced on the homepage	Document
	7.4c	Support staff recruitment process	Document
	7.4d	Criteria checklist for a support staff candidates	Document
	7.4e	Decision for probation officer of support staff	Decision
	7.4f	Probation ending documents of support staff	Document
	7.4g	HCMUTE recruitment proposal	Document
	7.4h	The required eligibility for support staff to end the probation period	Decision
	7.4i	Proposal submitted by subunits of HCMUTE for recruitment of support staff	Document
73	7.5	Emulation and rewards for support staff	
	7.5a	Emulation guides for support staff	Decision
	7.5b	Emulation titles for support staff	Document
	7.5c	Salary increase decision for support staff	Decision
	7.5d	Salary increase announcement for support staff	Decision
	7.5e	Emulation reviewing records conducted by a subunit	Document
	7.5f	Decision on awarding support staff with outstanding achievements	Decision
74	7.6	Service activities of support staff	
	7.6a	Library service announced on the homepage	Document
	7.6b	Student survey for the Lib's service improvement	Document

No	Exh.	Title of Exhibition	Category
	7.6c	Support staff attending Open Day festival	Document
	7.6d	Student consultant activities of support staff	Document
	7.6e	Job hunting activities of support staff	Document
	7.6f	List of students supported by student services center at school year of 2013-2014	Document
	7.6g	List of staff support borrowing rooms for student service activities	Document
	7.6h	List of students applying part time jobs introduced by the support staff	Document
75	7.7	HCMUTE financial planning and execution	
	7.7a	HCMUTE Internal expenses	Decision
	7.7b	HCMUTE financial revenue and expenditure report	Document
76	7.8	Training activities for support staff	
	7.8a	Training-fostering plans for support staff	Decision
	7.8b	List of training courses for support staff	Document
	7.8c	Announcement for performance report submission	Decision
	7.8d	Training course announcement for support staff	Decision
	7.8e	English test results for support staff	Document
	7.8f	HR training and development process	Document
Criteria 8: Student Quality and Support			
77	8.1	HCMUTE student intake policy and admission criteria	Document
	8.1a	Enrollment regulations	
	8.1b	Student enrollment scheme	
	8.1c	Enrollment announcement 2011- 2014	
78	8.2	Approaches to inform the HCMUTE student intake policy and admission criteria	Document Image, Video
79	8.3	CET programme's cut-off scores	Document
80	8.4	Benchmark scores of other CET programmes	Document, Website
81	8.5	Statistics of the number of students from 2011 to 2015	Document
82	8.6	Regulations on monitoring students' extra curriculum activities	Document
83	8.7	Activities in the orientation week	Document
84	8.8	Reports on student consultancy	Document
85	8.9	Reports on dialogues between FCE Dean Board and students	Document
	8.9a	Seminar Plan of dialogue between HCMUTE, FCE	

No	Exh.	Title of Exhibition	Category
		Administrators and Students	
	8.9b	Summary of Student's Inquiries - Conclusions and Solution Guidance of HCMUTE's President	
	8.9c	Solutions for late graduated students	
86	8.10	List of co-curricula's activities	Document
	8.10a	Soft skill seminars	Image
	8.10b	Career orientation seminars	
	8.10c	Factory visits or internship	
87	8.11	List of competition prizes	Document
	8.11a	Student awards	Image
	8.11b	"We are Civil Engineering" competition	
88	8.12	List of supporting services	Document
	8.12a	Library	
	8.12b	Scholarships	
	8.12c	English Club	
	8.12d	Teaching assistant	
	8.12e	Science research	
	8.12f	Part-time jobs	
89	8.13	List of extra-curricular activities	Document Image
Criteria 9: Facilities and Infrastructures			
90	9.1	HCMUTE Campus Information	
	9.1a	HCMUTE Map in 2030	Image
	9.1b	Construction area	Document
	9.1c	4 construction works and construction plan for F1 building	Image
91	9.2	Plan of updating the facilities and equipment	
	9.2a	FCE plan for buying new equipment	Document
	9.2b	FCE plan for repair and maintenance of offices, workshops and LABs	Document
92	9.3	FCE's strategic plans	
	9.3a	Medium-term strategic plan 2011-2015 with vision 2020	Document
93	9.4	Feedback and solutions for working places	
	9.4a	Feedback and solutions for working places, teaching and learning environment and service quality	Document
94	9.5	Library resources	
	9.5a	Regulation of library & website	Document
	9.5b	List of civil engineering books	Document

No	Exh.	Title of Exhibition	Category
	9.5c	Announcement of compiling books	Document
	9.5d	FCE's library	Image
95	9.6	E-resources	
	9.6a	Sample of e-databases	Image
	9.6b	Link e-library	Image
	9.6c	List of electronic textbooks	Document
96	9.7	Announcement of new books, book exchange, book fair	
	9.7a	Announcement of new books	Document
	9.7b	Exchange new books for old books	Image
	9.7c	Book fair	Image
97	9.8	Library infrastructure	
	9.8a	Library facilities	Image
	9.8b	Interaction of library and readers	Image
	9.8c	Wi-Fi system for the library	Document
98	9.9	Exchange of information resources	
	9.9a	Vietnamese Library Association	Document
	9.9b	Technology University Library Assciation STE	Document
99	9.10	Feedback and improvement	Document
100	9.11	FCE laboratories and workshops	Image
101	9.12	Adjustment of equipment	Document
102	9.13	Report of equipment use	Document
103	9.14	IT facilities	
	9.14a	Update IT system	Document
	9.14b	PSC software	Image
	9.14c	FCE's website	Image
	9.14d	Information of marks, schedules, classrooms	Image
	9.14e	Register subject online	Image
	9.14f	Online learning	Image
104	9.15	Digital learning center	
	9.15a	Digital learning center facilities	Image
	9.15b	Number of e-learning course	Document
	9.15c	Moodle system	Image
105	9.16	Application of IoT in education and management	Document
106	9.17	Regulation, pre-test, emergency protocol	

No	Exh.	Title of Exhibition	Category
	9.17a	Laboratory and Workshop regulations	Document
	9.17b	Sample of pre-test on environment, health and safety	Document
	9.17c	Emergency protocol	Image
107	9.18	Health and safety regulations	
	9.18a	Maintenance of equipment	Document
	9.18b	Fire prevention and fighting regulations	Document
	9.18c	Training on fire and explosion prevention	Decision
	9.18d	Fire extinguishers	Image
	9.18e	Protective clothes	Image
108	9.19	Health care	
	9.19a	Health insurance and accident insurance for the university staff and students	Document
	9.19b	Inspection of food sanitation	Document
	9.19c	Spraying insecticides	Document
	9.19d	Periodic examination	Document
Criteria 10: Quality Enhancement			
109	10.1	The curriculum design and development	
	10.1a	Curriculum from 187 credits to 150 credits	Decision
	10.1b	The curriculum design and development – 2005	Document
	10.1c	Stakeholders' feedback	Document
	10.1d	Meeting minutes of scientific board	Document
	10.1e	Meeting minutes of departments	Document
	10.1f	The curriculum 2012	Document
110	10.2	Students' survey into course evaluation and assessment	
	10.2a	Online survey result	Document
	11.2b	Paper survey and result	Document
111	10.3	Leaders –students meeting	
	10.3a	Face to face meeting minutes from 2012 to 2016	Document
	10.3b	Online dialogue link	Document
112	10.4	Newly graduated students and alumni's survey into curriculum evaluation	
	10.4a	Newly graduated students survey and result	Document
	10.4b	Alumni survey and result	Document
113	10.5	Employers' feedback	
	10.5a	Employers' feedback into academic programme design	Document
	10.5b	Scientific board members	Decision

No	Exh.	Title of Exhibition	Category
114	10.6	Curriculum workshop 2015	
	10.6a	Workshop plan and schedule	Document
	10.6b	Stakeholders' feedback	Document
	10.6c	Departments reports	Document
	10.6d	Meeting minutes of workshop	Document
	10.6e	Departments meeting minutes on courses' modifications	Document
115	10.7	Curriculum change 2012	
	10.7a	Stakeholders' feedback	Document
	10.7b	Scientific board's meeting minutes for adjustment of curriculum 2012	Document
	10.7c	Decisions on CET ELOs and curriculum 2012	Decision
	10.7d	The curriculum 2012	Document
116	10.8	Decision on teaching assistance	Decision
117	10.9	Decision on social activities	Decision
118	10.10	Curriculum change 2015	
	10.10a	Departments meeting minutes on courses' modifications	Document
	10.10b	List of courses used English lecture notes	Document
119	10.11	Curriculum design and development process 2005 and 2015	
	10.11a	Curriculum design and development procedure 2005	Document
	10.11b	Curriculum design and development procedure 2015	Document
120	10.12	Minute of Scientific Board - programme adjustment	
	10.12a	Meeting minutes of scientific board on programme adjustment 2012	Document
	10.12b	Meeting minutes of scientific board on programme adjustment 2015	Document
121	10.13	Course-by-course evaluation of lecturers	
	10.13a	Students' survey form on the course content	Document
	10.13b	Minutes form of teaching visiting in practice course	Document
	10.13c	Minutes form of teaching visiting in theory course	Document
122	10.14	AAO,QAO Functions & ISO procedures	
	10.14a	Functions and Responsibilities of AAO,QAO	Document
	10.14b	Planning and implementing teaching procedure	Document
	10.14c	Inspecting and examining the compliance with teaching statute of lecturer procedure	Document
	10.14d	Class observation procedure	Document
	10.14e	Planning and implementing examination procedure	Document
	10.14f	Composing and keeping confidentially the test, replicating subjective test, delivering, receiving the test and grade procedure	Document

No	Exh.	Title of Exhibition	Category
	10.14g	Monitoring final examination procedure	Document
123	10.15	Teaching and learning processes evaluation	
	10.15a	Functions and Responsibilities of AAO	Document
	10.15b	List of teaching visiting courses	Document
	10.15c	Reports on teaching recommendation	Document
	10.15d	Students' feedback: Report of changes	Document
124	10.16	Online teaching and English or bilingual courses	
	10.16a	List of registration for online teaching course	Document
	10.16b	List of English or bilingual courses	Document
125	10.17	Assessment Amelioration	
	10.17a	Students' survey and feedback on assessment methods and results	Document Document
	10.17b	Departments reports on assessment methods	Document
	10.17c	The minutes of the conference on Investigation & Assessment Amelioration	Document
	10.17d	List of FCE lecturers participated to the training course, conference on assessment methods (HEEAP, Fulbright), and evidence	
126	10.18	Research output application	
	10.18a	List of research projects of lecturers	Document
	10.18b	Research reports	Document
	10.18c	Meeting minutes of departments on application of research outputs to the courses	Document
	11.18d	List of courses applied the research outputs	Document
127	10.19	Students research topics and prizes	
	10.19a	List of research projects of students	Document
	10.19b	Students' research prizes for 5 years	Document
128	10.20	Students' feedback on support services and facilities	Document
129	10.21	Renovation, repairs and acquisition	
	10.21a	Renovation, repairs and acquisition of HCMUTE	Document
	10.21b	Renovation, repairs and acquisition of FCE	Document
130	10.22	The library's enhancement	
	10.22a	Students' survey and feedback on library service	Document
	10.22b	Digital library and library website	Image & website
	10.22c	Synthesis of number of books of library need to buy annual	Document
131	10.23	Equipment calibration, maintenance and repairs	
	10.23a	Equipment calibration, maintenance and repairs procedure	Procedure
	10.23b	FCE's plan for equipment calibration, maintenance and	Document

No	Exh.	Title of Exhibition	Category
		repairs	
132	10.24	Health services	
	10.24a	Functions and Responsibilities of Health center	Document
	10.24b	Plan for health check	Document
133	10.25	Hygiene and environment, Fire protection	Document
134	10.26	Dormitory's enhancement	Document
135	10.27	Student Service Center enhancement	Document
136	10.28	Feedback mechanisms	
	10.28a	Evaluating student's satisfaction in the course procedure	Document
	10.28b	Evaluating stakeholder's satisfaction with curriculum procedure	Document
137	10.29	Students' survey form	Document
138	10.30	FCE Alumni committee	Document
139	10.31	Alumni's survey form	
140	10.32	Conferences of staff and officers	
	10.32a	Conference plan and procedure	Document
	10.32b	Staff's survey form	Document
141	10.33	Employers' survey form	Document
	10.34	Feedback mechanisms enhancements	
	10.34a	Online dialogue link	Website
	10.34b	Memorandum of understanding between FCE and companies	Document
	10.34c	Online feedback of students about the teaching process	Document
	10.34d	The analysis of the strengths, weaknesses and proposition of the improving solutions of FCE	Document
	10.34e	The results after implementation of improving solutions	Document
Criteria 11: Output			
142	11.1	Dashboard system for managing student activities	Image
143	11.2	FCE training plan and report	
	11.2a	Quality targets of FCE's annual training plan	Document
	11.2b	Report of FCE's annual training plan performance	Document
144	11.3	Training system	
	11.3a	Decision No. 43/2007/QD-BGDDT about Regulation for credit-based training system in the universities and colleges	Decision
	11.3b	Students' Handbook	Document
145	11.4	Accounts and online reference	
	11.4a	Instruction of use for student accounts and online reference	Document
	11.4b	Instruction of use for lecturer accounts and online reference	Document

No	Exh.	Title of Exhibition	Category
146	11.5	Pass rates and dropout rates of FCE students	Document
147	11.6	SAR reports	
	11.6a	SAR report of Faculty of Vehicle and Energy Engineeing (FVEE)	Document
	11.6b	SAR report of Faculty of Mechanical Engineering (FME)	Document
	11.6c	SAR report of Faculty of Electrical and Electronics Engineering (FEEE)	Document
148	11.7	Solutions for enhancing pass rate	
	11.7a	Regulation for student consulting responsibility	Document
	11.7b	Decision No. 389/QĐ-ĐHSPKT-CTHSSV in regards to the regulations on consultancy for students	Decision
	11.7c	Decision No. 402/QD-DHSPKT-CTHSSV about foundation of the consultants	Decision
	11.7d	Procedure for registration of retrain for failed students or leaving school for dropout students	Document
		List of warned students	Document
	11.7e	Minute of meeting between Board of Dean and faculty staff;	Document
	11.7f	Minute of meeting between lecturers and students in 2015 and 2016	Document
	11.7g	Activity plan of Skill and English Club	Document
	11.7h		Document
149	11.8	Regulation on HCMUTE's education program	Document
150	11.9	Study duration	
	11.9a	Summary of average study duration	Document
	11.9b	Consolidated list of ahead-of-schedule graduates in the last 3 years	Document
151	11.10	Solutions for improving rate of graduation	
	11.10a	Workshop for improving the quality of FCE training program in 2015	Document
	11.10b	Learning plan in each semester	Document
	11.10c	Course online registration guide	Document
	11.10d	Announcement for course online registration and amendment	Document
	11.10e	Plan for summer (3rd) semester	Document
	11.10f	FCE's undergraduate level training program	Document
	11.10g	Regulation for scholarships for high score students	Document
	11.10h	Decision No.522/QĐ-ĐHSPKT-TCCB on establishment of youth business shops	Decision
152	11.11	Survey forms and results	
	11.11a	Survey form for 3 month-graduated and 6 month-graduated students	Document
			Document
	11.11b	Survey results of graduated students from 2011 to 2013	Document

No	Exh.	Title of Exhibition	Category
	11.11c	Survey results of graduated students from 2014 to 2016	Document
153	11.12	http://thanhnien.vn/giao-duc/ty-le-co-viec-lam-dep-den-kho-tin-642012.html	Document
154	11.13	HCMUTE' quality target plan	Document
155	11.14	Solutions for improving rate of employment	
	11.14a	Forum of Skill and English Club	Document
	11.14b	Some images of seminar on writing curriculum vitae and interview	Image
	11.14c	Some images of FCE student's field trip	Image
	11.14d	Invitation letter for Job Fair day	Document
	11.14e	Organization plan for Job Fair Day	Document
	11.14f	List of industrial participants on Job Fair Day	Document
	11.14g	Letter of recommendation for practice course	Document
	11.14h	Memorandum of Understanding (MOU) between FCE and outside companies	Document
156	11.15	Student research	
	11.15a	Guideline for students in doing research	Document
	11.15b	List of research projects of teachers and students	Document
	11.15c	List of FCE students achieving scientific research awards	Document
	11.15d	Announcement of GACES monthly seminars	Document
157	11.16	Student feedback	
	11.16a	Survey form for student feedback on teaching activities	Document
	11.16b	Results on student's feedback on teaching activities in 2015 and 2016	Document
	11.16c	Announcement on organizing the training course about pedagogic major	Document
158	11.17	Graduates feedback	
	11.17a	Survey form for FCE graduates	Document
	11.17b	Results on graduates' feedback on training program	Document
159	11.18	Stakeholders feedback	
	11.18a	Annual conference of the university's staffs and lecturers	Document
	11.18b	Survey form for the satisfaction level of outside companies to graduated students	Document
	11.18c	Results on the satisfaction level of outside companies to graduated students	Document
160	11.19	Solutions for improvement based on stakeholders feedback	
	11.19a	E/M Learning application	Document
	11.19b	Regulation on teaching assistance	Document

No	Exh.	Title of Exhibition	Category
	11.19c	Policy for promotion and salary raise for lecturers and staff	Document
	11.19d	Policy for lecturer research	Document
	11.19e	Decision on establishment of Center of Civil Engineering Research and Application (CERA)	Decision

SELF - ASSESSMENT REPORT FOR AUN-QA

HCMUTE

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FACULTY OF CIVIL ENGINEERING

BACHELOR OF ENGINEERING

IN CONSTRUCTION ENGINEERING TECHNOLOGY

AUN-QA A Touch of Quality

The 74th AUN Quality Assessment at Programme Level

December 07 - 09, 2016