ASIIN Seal & European Label

Accreditation Report

Bachelor's Degree Programmes
Civil Engineering
Environmental Engineering

Provided by
International University – Viet Nam National University Ho Chi Minh City

Version: 25th March 2025

Table of Content

A About the Accreditation Process

Name of the degree programme (in original language)	(Official) English translation of the name	Labels applied for [1]	Previous accreditation (issuing agency, validity)	Involved Technical Committees (TC)[2]
Kỹ sư Kỹ thuật Xây dựng	Civil Engineering	ASIIN, EUR-ACE® Label	-	03
Kỹ sư Kỹ thuật Môi trường	Environmental Engineering	ASIIN, EUR-ACE® Label	-	03
Date of the contract: 28.04.2022 **Submission of the final version of the self-assessment report:** 13.07.2023 **Date of the onsite visit:** 04. – 05.10.2023 **at:** International University – Viet Nam National University Ho Chi Minh City				
Peer panel: Univ.-Prof. Dr.-Ing. Tim Ricken, University of Stuttgart Prof. Dr.-Ing. Ulrich Neuhof, Erfurt University of Applied Sciences Assoc. Prof. Nguyen Thi Anh Tuyet, Hanoi University of Science and Technology Dr. Christoph Schetter, KAMMERDIENER PEEGUT Baugesellschaft mbH & Co. KG Hai Yan Le, student at Danang University of Science and Technology				
Representative of the ASIIN headquarter: Yanna Sumkötter				
Responsible decision-making committee: Accreditation Commission for Degree Programmes				
Criteria used: European Standards and Guidelines as of May 15, 2015				

[1] ASIIN Seal for degree programmes; EUR-ACE® Label: European Label for Engineering Programmes
[2] TC: Technical Committee for the following subject areas: TC 03 - Civil Engineering, Geodesy and Architecture

ASIIN General Criteria, as of March 28, 2023 Subject-Specific Criteria of Technical Committee 03 – Civil Engineering, Geodesy and Architecture as of September 28, 2012	

B Characteristics of the Degree Programmes

a) Name	Final degree (original/English translation)	b) Areas of Specialization	c) Corresponding level of the EQF[3]	d) Mode of Study	e) Double/Joint Degree	f) Duration	g) Credit points/unit	h) Intake rhythm & First time of offer
Civil Engineering	Kỹ sư Kỹ thuật Xây dựng/ Bachelor of Engineering in Civil Engineering	--	6	Full time	--	8 semesters	152 Vietnamese credits (~257.66 ECTS)	January 2011
Environmental Engineering	Kỹ sư Kỹ thuật Môi trường / Bachelor of Engineering in Environmental Engineering.	--	6	Full time	--	8 semesters	150 Vietnamese credits (~257.79 ECTS)	September 2017

The Bachelor's degree programme Civil Engineering is managed by School of Civil Engineering and Management, while the Bachelor's degree programme Environmental Engineering is under the responsibility of the School of Chemical and Environmental Engineering, both academic units of Ho Chi Minh City International University (HCMIU). HCMIU is a member of Vietnam National University – Ho Chi Minh City (VNUHCM), a ministerial-level university in Vietnam.

Established in 2003, HCMIU is the first public university in Vietnam that uses English as the primary language in teaching and researching. With ten schools and two departments, the university offers various academic programmes, including 23 Bachelor's, 12 Master's and 5 Doctoral degrees, across various fields of study.

HCMIU's vision is to "become one of the leading research universities in Asia, with the aim of nurturing talent and providing high-quality labour for both domestic and international workforces". Its missions are:

- "To become an international higher education institution with a Vietnamese cultural identity;
- To pioneer in adopting an advanced and autonomous higher education governance model;

[3] EQF = The European Qualifications Framework for lifelong learning

- To offer higher education programs in a wide range of areas, all accredited by regional and international accreditation organizations;
- To enhance internationalization by using English as the medium of instruction. Students are trained to become global citizens with a high self-awareness of their social responsibility for a long-term, sustainable development;
- To pursue excellence in basic and applied research in order to meet the demand for innovative and sustainable development of industries, provinces and regions; to promote connectiveness by means of collaboration activities and social services."

HCMIU has established partnerships with international universities and organisations, promoting worldwide exposure and academic exchanges. It actively engages with the local community through various outreach programmes, contributing to Vietnam's development.

The Department of Civil Engineering, the predecessor of the School of Civil Engineering and Management (CEM), was established in 2011. The School is committed to bring state-of-the-art knowledge in the field of Civil Engineering as well as English communication skills to students so that they can quickly adapt to changes in construction technologies. The CEM School also aims to be nationally and internationally recognized for its excellence in both research and teaching, and to be the main provider of civil engineers, who have strong technical knowledge and English skills, in Vietnam. Currently, CEM school offers two Bachelor's programmes (Civil Engineering and Construction Management).

In 2011, the CEM school introduced the Bachelor's degree Civil Engineering (CE), a 4-year Bachelor's programme, which is presented with the following profile in the University's self-assessment report:

- PO - 1: Graduates of the programme will be successful in tackling open-ended civil engineering problems in a quantitative and systematic approach;
- PO - 2: Graduates of the programme will be motivated to continuously expand their knowledge, be creative and innovative in their contributions to the field of civil engineering;
- PO - 3: Graduates of the programme will possess the ability to design and manage civil engineering projects in an ethical and professional manner

In 2017, the Department of Environmental Engineering, one of the predecessors of the School of Chemical and Engineering (CEE), was established with the vision "to be one of the top schools in Vietnam specializing in environmental education, research and community services" and the mission of "Education, research, and community service in environmental

fields". The School is committed to offer high quality education with internationally accredited academic programmes, offer excellent research including basic research with substantial intelligence, and applied research to meet the practical demand of industrial, local and social development, play a positive and pioneer role in providing solutions for environmental issues locally and nationally as well as assess and continuously improve for maintaining and enhancing the quality of teaching, learning, research and other supporting activities. Currently, CEE school offers two Bachelor's programmes (Environmental Engineering and Chemical Engineering).

In 2017, the CEE school introduced the Bachelor's degree Environmental Engineering (EV), a 4-year Bachelor's programme, which is presented with the following profile in the University's self-assessment report:

- PO - 1: Graduates will have general, fundamental and advanced knowledge focusing on the field of environmental engineering: water-wastewater treatment, air pollution control engineering, and solid waste management in order to solve environmental issues and continue their study at a higher level.
- PO - 2: Graduates should have an ability to identify the problem, clarify the specification, consider possible solutions, design, implement, and operate environmental treatment systems adapting to the social demand and national regulations.
- PO - 3: Graduates should have professional skills and attitude, adequate soft skills to communicate and work effectively in a team with diverging characteristics to solve environmental engineering problems.

C Peer Report for the ASIIN Seal[4]

1. The Degree Programme: Concept, content & implementation

Criterion 1.1 Objectives and learning outcomes of a degree programme (intended qualifications profile)

Evidence:

- Self-Assessment Report
- Curricula for both degree programmes
- Module handbooks for both degree programmes
- Objective-module-matrix per programme
- Diploma Supplements
- Websites for both schools and study programmes
- Discussions during the audit

Preliminary assessment and analysis of the experts:

The experts refer to the respective ASIIN Subject-Specific Criteria (SSC) of the Technical Committee 3 (Civil Engineering, Geodesy and Architecture), the objective-module-matrix for each degree programme, the matching learning objectives and the modules as a basis for judging whether the intended learning outcomes of the Bachelor's degree programmes Civil Engineering and Environmental Engineering correspond with the competences as outlined by the SSC. The descriptions of the qualification objectives are comprehensive and include the achieved competencies and possible career opportunities of the graduates.

The International University – Viet Nam National University Ho Chi Minh City (HCMIU) has described programme objectives (POs) and intended learning outcomes (ILOs) for each of the two degree programmes under review. While the POs are developed based on the vision and mission of the university as well as the respective faculty and are rather general

[4] This part of the report applies also for the assessment for the European subject-specific labels. After the conclusion of the procedure, the stated requirements and/or recommendations and the deadlines are equally valid for the ASIIN seal as well as for the sought subject-specific label.

and concise, the ILOs describe in greater detail the competences the students should acquire during their studies. Furthermore, there are regular revision processes in place that take into account feedback by external and internal stakeholders. A major revision including consultations of stakeholders takes place every five years for the two degree programmes, a minor revision every two years.

The experts note that the development of ILOs of the study programmes involves both internal and external stakeholders so that the curricula can be adapted and modified according to the needs of the industry and the graduates on a regular basis. For example, HCMIU regularly conducts surveys, through which the different stakeholders get the chance to assess the programmes and their main objectives. Based on this feedback HCMIU adapts the degree programmes if necessary. Internal stakeholders include all of HCMIU members (students, teaching staff, and non-academic employees), while the external stakeholders include the industry, alumni, the government, and society.

At the end of their studies, graduates of the Bachelor's degree programme Civil Engineering have acquired fundamental knowledge in the civil engineering field (e.g., construction geology, material science, construction physics, surveying, structural theory, technical design, construction informatics, soil mechanics, fluid mechanics, and computational techniques, analyzing data for design, build, and appraisal construction) and are able to apply this knowledge in investment projects and understand their economic, environmental and social impacts. They should be able to recognize the need for and be able to engage in lifelong learning in order to work efficiently in situations in which new technologies emerge regularly, as well as take part in developing new technologies by engaging in research works having the ability to interpret and use empirical datasets, integrate technical literature and databases to solve specific civil engineering problems or fill knowledge gaps. They know how to use techniques, skills, and modern engineering tools necessary for engineering practice, including identifying tasks of civil engineering, analyzing, abstracting, and formulating, along with being able to develop concepts, plans, and methods for proof and forecast (e.g., documented evidence for stability, energy efficiency, noise protection, flood protection, water supply). Moreover, they have gained a solid understanding of the impacts of civil engineering solutions in a global and social context as well as of contemporary issues in civil engineering on the national, regional, and global scale. Therefore, graduates of this study programme are capable of working in different sectors, such as government, consultant and design firms, construction companies and research institutions.

The aim of the Bachelor's degree programme Environmental Engineering is to produce graduates who are able to apply knowledge of mathematics, natural sciences and engineering to analyze and solve problems in the fields of environmental engineering. Graduates of this programme know how to design and conduct classical and modern experimentations,

as well as to analyze and interpret data. Moreover, they must be able to design environmental systems, components or processes to meet desired needs within realistic constraints such as economic, environment, occupational health and safety. They are also capable of understanding the impact of environmental engineering solutions in a global, economic, environmental and social context as well as using the techniques, skills and modern technical tools necessary for technical practice in environmental engineering. Consequently, graduates of this programme are capable of working in different sectors, such as government agencies, engineering consulting firms, engineering offices with a focus on the environment, hydraulic engineering and urban water management, sewage treatment plants, construction and machine construction companies with a focus on environmental technology and environmental research institutes.

Next to the professional skills, the students of both study programmes are supposed to acquire personal and social skills such as critical and creative thinking, communication skills, adaptability, the capacity to work in (international) teams, and leadership skills. In addition, they should be able to solve problems through research and the application of different concepts and methods.

In the experts' opinion, the intended qualification profiles of both degree programmes are clear, plausible and allow students to take up an occupation, which corresponds to their qualification. They learn that the graduates of HCMIU are much sought after in the labor market. The industry representatives emphasize the high quality of the graduates of both programmes under review and students as well as graduates are satisfied with and well aware of their good job perspectives. Therefore, the experts gain the impression that the graduates are well prepared for entering the labour market and can find adequate jobs in Vietnam.
In summary, the experts conclude that, in formulating the intended learning outcomes for the two degree programmes, the university has followed the the EUR-ACE framework standards of engineering programmes and the Subject-Specific Criteria of the ASIIN Technical Committee 03 for Civil Engineering, Geodesy and Architecture. The experts confirm that the study aims and learning outcomes of the two Bachelor's degree programmes correspond to level 6 of the European Qualifications Framework. They aim at the acquisition of specific competences and are described in a brief and concise way. They are well-anchored, binding and easily accessible to all stakeholders.

Criterion 1.2 Name of the degree programmes

Evidence:

- Self-Assessment Report

- Diploma Supplements

Preliminary assessment and analysis of the experts:
The experts confirm that the English translation and the original Vietnamese names of both degree programmes under review correspond with the intended aims and learning outcomes as well as the main course language (Vietnamese).

Criterion 1.3 Curriculum

Evidence:

- Self-Assessment Report
- Cooperation Agreements
- Curricula for both degree programmes
- Module handbooks for both degree programmes
- Student handbooks
- Websites for both schools and study programmes
- Discussions during the audit

Preliminary assessment and analysis of the experts:
Structure and content

The Civil Engineering degree programme is managed by the School of Civil Engineering and Management while the Environmental Engineering degree programme is managed by the School of Chemical and Environmental Engineering.

The curricula of the two study programmes under consideration are reviewed by the experts in order to identify whether the described programme objectives and learning outcomes can be achieved by the available modules. Course descriptions as well as overviews and competence-subject matrices matching the general learning objectives and the module contents were provided for a thorough analysis. As the module descriptions are still based on the outdated curricula of both programmes from 2020 and 2021 respectively, the experts urge HCMIU to submit the complete and latest version of the module descriptions

(from 2023) and make them accessible for students and teaching staff. In the Self-Assessment Report, the university gives a detailed overview of how the competences acquired with the presented curricula match the individual EUR-ACE learning outcomes.

Both bachelor's degree programmes are designed for 4 years and offered as full-time study programmes. To complete the Civil Engineering programme, students must complete at least 152 credit points (equivalent to approximately 257.7 ECTS points). The Environmental Engineering programme comprises 150 credit points (equivalent to approximately 257.7 ECTS points). Students are expected to complete each study programme within four years. They can extend their study time if needed; the maximum time allowed for students to finish the programmes is seven years.

At HCMIU, an academic year is divided into two regular and summer semesters. The summer semester is typically reserved for internships. Still, additional courses are also offered during this period, which lasts for eight weeks (seven weeks for teaching and one for final exams). A regular semester consists of 20 weeks (15 weeks for teaching, two weeks for mid-term exams, two weeks for final exams and one week for reserve). To what extent HCMIU must ensure that the credits are equally balanced over all semesters, including the credits from the summer semester will be discussed in detail under criterion 1.5.

The programme structure is outlined in the Self-Assessment Report. There are four blocks of knowledge in each of the two curricula:

CE Programme	*EV Programme*
The courses of the CE program can be grouped into four modules: (I) General knowledge; (II) Core knowledge; (III) Specialization knowledge; and (IV) Professional practice and research	The courses of the EV program can be grouped into four modules: (I) General knowledge; (II) fundamental knowledge, (III) Professional knowledge; (IV) Internship and thesis

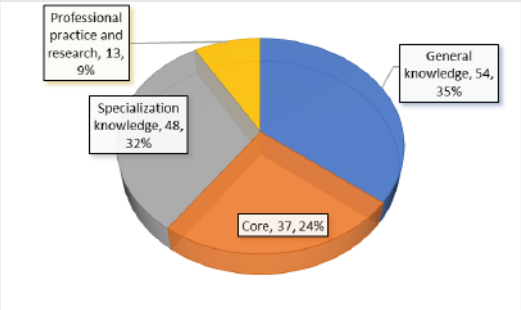

Figure 1. Summary of the CE program modules (Total Credits = 152/257.66 ECTS)

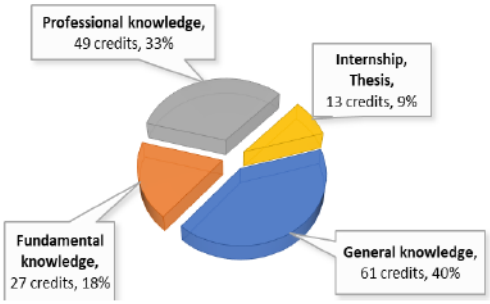

Figure 2. Summary of the program modules (Total Credits = 150/257.79 ECTS)

- The general knowledge module (54 credits/ 85.27 ECTS, 35.53%): provides students with social and political knowledge that help them to become good citizens. It also provides students background in math, physics, and chemistry which are essential for studying other courses in an engineering program. This includes politics, humanity, English, social sciences, natural sciences, military education, physical education and other general education courses.	**- The general knowledge module (61 credits/97.02 ECTS, 40%):** provides the fundamental knowledge courses to expand the student mindsets, capacity, and worldview. The general education includes the courses of (1) Social, Art and humanity science – Political theory, (2) natural science, Mathematics, Technology and Environment, Management, (3) Academic English, (4) Physical training, and (5) Military training.
- The core major knowledge module (37 credits/ 62.64 ECTS, 24.34%): provides required basic knowledge in civil engineering. It aims to train students with basic skills for major courses such as programming, conducting experiments, forming and solving basic problems of civil engineering. This includes Engineering Mechanics, Mechanics of Materials, Structural Analysis, Construction Materials, Fluid Mechanics, Soil Mechanics, Hydrology and Hydraulics, Computational Methods and Computer-Aided Design and Drafting.	- **The fundamental knowledge module (27 credits/44.92 ECTS, 18%):** This module provides a set of engineering fundamental courses. All courses in this module are compulsory. The contents of these courses are essential to apply in all fields of EV.
The specialization knowledge module (48 credits/ 78.73 ECTS, 31.58%): consists of both compulsory and elective courses. This module provides knowledge and skills in specific fields of civil engineering. It gives the students career orientation. Compulsory courses include Structural engineering (reinforced concrete, steel structures, foundation engineering), Construction Engineering and Management, Surveying, Water Suppy & Sewergae while elective courses include Bridge Engineering, Tall Buildings, Hydraulics Structures, and Dynamics of Structures.	**- The professional knowledge module (49 credits/83.94 ECTS, 33%):** (1) The Specialized module consists of both compulsory and elective courses and (2) Assistance knowledge, Methods and Tools. This module provides knowledge and skills in a specific field of Environmental Engineering.
The professional practice and research module (13 credits/ 31.02 ECTS, 8.55%): aims to hone students' research and practical skills. It will instruct students in research methodology and common practices used in civil engineering, to	**- The module of internship and thesis (13 credits/31.91 ECTS, 9%):** provides students opportunities to practice necessary skills and attitude to fulfill a bachelor degree. This module includes internship, pre-thesis and thesis.

develop essential skills in conceptualizing and designing, and to apply those skills in designing, inspecting, managing, and constructing engineering projects. This module includes internship and thesis. The students are required to do an internship in construction companies to take opportunities to learn in a professional environment and get first approach to labor market. In the final year, students will be able to do their research work in the graduation thesis.	

According to this structure, in the first year, students mainly take general courses from subject areas such as mathematics, natural sciences, social sciences, humanities, and economics with the same content for all students in both Schools. From the second year on, students can take part in core courses and specialized courses in their respective field. Furthermore, after consultation with their academic advisor, students can select electives/specialization courses according to their personal interests. During their studies, all students must spend two months to study and work in companies for their internship. In the final year, students have to complete their Bachelor's thesis. For both internship and thesis, students have to submit their reports, present and defend it in front of a panel.

The internship in both degree programmes is conducted through collaboration with companies or other external institutions. Taken full-time, the internship usually lasts two months which is valued by the students as this allows them to apply the skills they learned in the programmes in a real working environment. The students point out that the university is very supportive in finding placements for the internship and always encourages them to gain as much practical experience as possible. The university has established useful guidelines for these internships and every student has one advisor at the company and one at the university to ensure that the work contributes to achieving the programme's learning outcomes. The assessment methods to evaluate this phase is comprehensive and includes a written report and a presentation of their results in front of a panel of two lecturers. The evaluation takes into account the aspects work plan, discipline, teamwork, programme implementation, and activity report. However, the students express the wish to be exposed to even more practice during their studies, for example by extending the duration of the internship. They believe that this would help them to familiarise themselves with all the processes within the company, to manage projects holistically, prepare them even better for the labour market and would be appreciated by the industry. The industry representatives confirm this impression during the audit discussions. Therefore, the expert recommend to extend the duration of the internship.

In addition, the experts note that programming languages are only treated marginally in the Civil Engineering degree programme. While students of the curriculum are taught how to use Python, the experts think that it could be useful to also add other programming language like for instance C++, Python 2 or Revit. As these tools are nowadays an essential and absolutely necessary basis for engineering calculations, the experts recommend to strengthen the students' programming skills.

Moreover, with regard to the Environmental Engineering degree programme, the experts ask about the core knowledge that, according to the module descriptions, hasn't been demonstrated in the fundamental knowledge modules. Also the number of analytical laboratory related credits seems to be relatively high, while the number of project credits is pretty low. From the programme coordinators they learn that compared to the Civil Engineering degree programme, the Environmental Engineering curriculum includes more theoretical content than projects as this is especially important for the fundamentals related to hydraulics. Therefore, the new curriculum from 2023 includes more laboratory work and four main projects. While the compulsory projects I and II focus on water supply and waste water, the newly added projects are elective and treat solid waste management (project III) and air pollution control (project IV). Each of the projects is worth 4 Vietnamese credits and includes theoretical and laboratory classes (3+1 Vietnamese credits). The experts appreciate the newly added projects as they offer students the possibility to further specialize according to their interests. With regard to project I, they however think that students should master and be able to apply the fundamental knowledge about hydraulics and mass transfer learned to solve a specific problem. This would also be a foundation for students to carry out the next projects, which focus on how to calculate and design waste treatment systems as well as analyse, evaluate and select appropriate waste treatment technology options. Therefore, they recommend to include more fundamental knowledge about hydraulics and mass transfer in the project I.

Furthermore, during the audits discussions the students express the wish to include more contents about modelling, climate change and sustainability in the Environmental Engineering curriculum. The lecturers explain that the module dealing with environmental science also includes a chapter about sustainability development and climate change. Moreover, within the framework of the module about applied statistics in environment, students have the possibility to join a weekly seminar that also includes examples related to climate change mitigation modelling. The respective teacher reports that she inserts models used in research projects in the lecture. Additionally, the lecturers state that topics like sustainability and renewable energy are mainly covered in the Bachelor's degree programme Chemical Engineering that is also managed by the School of Chemical and Environmental Engineering. The experts appreciate that these topics are to a certain degree included in the curriculum. However, as these topics tend to be addressed marginally and in parts of

modules only and students have explicitly pointed out the relevance of these topics for the Ho Chi Minh City region, the experts recommend to include more electives that deal with sustainability, climate change and modelling.

Since HCMIU is an international university whose degree programmes are taught, learned and communicated in English, the experts discuss with the programme coordinators and students of both degree programmes what offers exist in order to strengthen students' and lecturers' English skills. The programme coordinators explain that in all study programmes, students have the possibility to join the English study club, which is offered by the Language Centre. In addition, students are obliged to achieve the required IELTS 5.5 or equivalent in order to graduate from their Bachelor's studies. In order to become a full-time lecturer, teachers at HCMIU in turn need to acquire IELTS 7.0. The students confirm that all modules (except for the political modules as well as physical education) are taught in English and that English textbooks are used. However, they also emphasise that the English language skills of the students differ greatly from one to another and that it is difficult to balance out these heterogeneous requirements. In addition, the English requirements have often been the reason for extended study periods in the past. The industry representatives confirm this statement. Therefore, the experts recommend to provide additional English training to students and lecturers.

Finally, the experts ask how the teaching staff and the prospective employers evaluate the soft skills of the students. They learn that the students from HCMIU are particularly resilient in many respects: both in terms of competition and in terms of their perseverance. In spite of this, the industry representatives also underline that specific soft skills as entrepreneurship could still be improved. Consequently, the experts recommend to strengthen the soft skills of the students through designated coursework or integration into existing coursework, in particular entrepreneurship.

After reviewing the study plans and module descriptions of the two degree programmes under review, the experts conclude that the curricula enable students – besides the mentioned small restrictions – to achieve the intended learning outcomes of the programmes and that they are in line with both the SSC of the Technical Committee Civil Engineering, Geodesy and Architecture and the EUR-ACE framework standards of engineering programmes. The experts also confirm that the programmes are regularly reviewed and changes are made if requested by the stakeholders.

International mobility

HCMIU admits international students through a procedure established by the Center for International Mobility at the Office of External and Public Relations. For example, in the past five years, 15 international students from Europe, the US and Asia participated in a

course offered by the Civil Engineering programme, while 9 international students participated in an exchange programme within the Environmental Engineering programme.

According to the University's website information, exchange partner institutions for the two Bachelor's programmes under review include universities in the US, Germany, Sweden and Indonesia, among others. Credits acquired abroad are recognised at HCMIU if the course is equivalent (70 % or above) to a course at HCMIU regarding content, teaching pedagogy, objectives, and students' workload.

Students interested in studying abroad can receive a scholarship and financial aid if they meet specific requirements. These opportunities are based on the student's academic achievements and social contributions. The Center for International Mobility also collaborates with European Universities to obtain extra financial support for local students who wish to participate in mobility programmes under the Erasmus+ programme. In addition, excellent students can apply for scholarships directly from the Vietnamese government to study abroad.

HCMIU has established memorandums of understanding with international institutes in the subject-specific fields of civil and environmental engineering to support students' practice and research. These partners offer annual scholarships to the students to support their stay abroad. Their academic or professional staff supervise students during the internship, research project and thesis. The expert group is provided with a list of students who pursued internships, research projects, and thesis abroad. Based on this information, the experts confirm that in the past five years, mainly internships and research projects have been developed in partnership with institutions located in countries such as Spain, Germany, Japan, the US, Taiwan, and Thailand.

In their discussion with the experts, the students confirm the existence of opportunities for international academic mobility. The experts appreciate the efforts to promote international mobility and encourage HCMIU to continue in this direction. However, they also see the need for more international exchange opportunities. As an international university, HCMIU should aim to increase the number of incoming and outgoing engineering students. During the audit discussions, students express a clear interest in more places and better endowed scholarships for long and short-term stays abroad. The number of available places in the exchange programmes is still limited. HCMIU can only provide limited amount of places and travel grants, while the demand from students is rising. The lack of available places and financial support hinders students from joining the outgoing programmes. Also inviting more international guest lecturers to give classes or seminars in the programmes would for instance be beneficial to foster exchange opportunities. Therefore, the experts recommend to increase the efforts to further

internationalise HCMIU by establishing more international cooperations, conferences and publications as well as exchange programmes, by offering more and better-endowed scholarships and by better communicating the existing offers to the students.

Criterion 1.4 Admission requirements

Evidence:

- Self-Assessment Report
- University website
- Admission regulations
- Curricula for both degree programmes
- Discussions during the audit

Preliminary assessment and analysis of the experts:
According to the Self-Assessment Report, admission to the two Bachelor's degree programmes is conducted once a year in September. Information about the admission procedure is available on the University's website and thus accessible to all stakeholders.

The Office of Undergraduate Academic Affairs (OUAA), in cooperation with the Office of Student Services (OSS), are responsible for advertising all academic programmes. For example, the OUAA conducts career orientation sessions and campus tours to reach students in various high schools in Vietnam. In addition, HCMIU publishes its new and existing programmes in well-established newspapers.

Since the academic year 2017-2018, the admission to HCMIU is based on either one of the following six admission paths:

1. National High School Graduation Exam: based on the score of three subjects, which students have registered for their expected programs.
2. Best Academic Records of students from designated high schools.
3. Direct admission according to the Ministry of Education and Training regulations, candidates who won, for example., the National Excellent Student Prize, the National Science and Technology Prize.
4. Results from the Scholastic Aptitude Exam held by Vietnam National University, Ho Chi Minh City (VNUHCM).
5. Admission for candidates with an International Baccalaureate. International students must pass an interview with the Admission Committee to be admitted to HCMIU.

6. Academic Records during the 10th, 11th and 12th grades of designated high schools.

As both degree programmes under review are taught, learned and communicated in English, students who do not have TOEFL or IELTS certificates will have to take an English placement test, similar to the TOEFL test, offered by the university besides the entrance examination. Based on their English proficiency, they will be placed in different levels: IE0, IE1, IE2, IE3 (Intensive English) and Specialised English AE1 and AE2.

The selection from either path is made by taking the candidates with the highest scores down until the corresponding quota is filled. Most of the students at HCMIU are admitted via the first two paths, but the quota for each scheme varies each year depending on HCMIU's recruitment strategy.

The Vietnamese Ministry of Education and Training will organise the Annual National High School Graduation Exam every summer. All high school students in Vietnam must take part in this exam. It covers several subjects, such as Mathematics, Foreign Languages, Physics, Chemistry, Literature, and History and lasts 3 - 4 days. Based on the scores on the exam and their preferences, prospective students get admitted to the different universities in Vietnam.

In addition, the two National Universities in Hanoi and Ho Chi Minh conduct their own admission exam, the so-called National University Competency Assessment Test. The National Universities have introduced this test to give high school graduates another chance to get admitted into university studies. It only lasts about 3 - 4 hours and consists of several questions and problems to assess the applicant's knowledge and skills in different subjects.

2017-2022 data for both programmes show that the number of applicants has exceeded the available places. In the last six years, numbers have ranged from 179 to 415 applications for a maximum of 17 to 80 study places for the Civil Engineering degree programme, while there have been 59 to 289 applications for a maximum of 3 to 73 study places for the Environmental Engineering degree programme. Applications in 2020 and 2021 were significantly lower than before due to the COVID-19 pandemic.

Most students get access to the Bachelor's programmes under review via paths 1 and 4. Although, many students are offered a study place, less than 50 % enrol in the programmes. This is due to the complex admission system in Vietnam and the different admissions pathways. As a result, many students apply to several universities and then decline an offered place. Moreover, especially the offered study places in the Environmental Engineering degree programme declined in the past two years. According to the

programme coordinators, HCMIU used to recruit a lot more students, but most of them dropped out after the first year, because they couldn't meet the English requirements. In order to prevent drop-outs and attract new students in the future, HCMIU intensified the advertising of their programmes as well as the range of English courses on offer.

The detailed numbers are shown in the following tables:

Table 1: Applications, Offered Places, and Enrolled Students for Civil Engineering

Academic Year	Applicants – Civil Engineering Program		
	No. Applied	No. Offered	No. Admitted/Enrolled
2017	252	80	38
2018	415	75	25
2019	363	75	22
2020	179	30	10
2021	250	39	19
2022	301	17	11

Table 2: Applications, Offered Places, and Enrolled Students for Environmental Engineering

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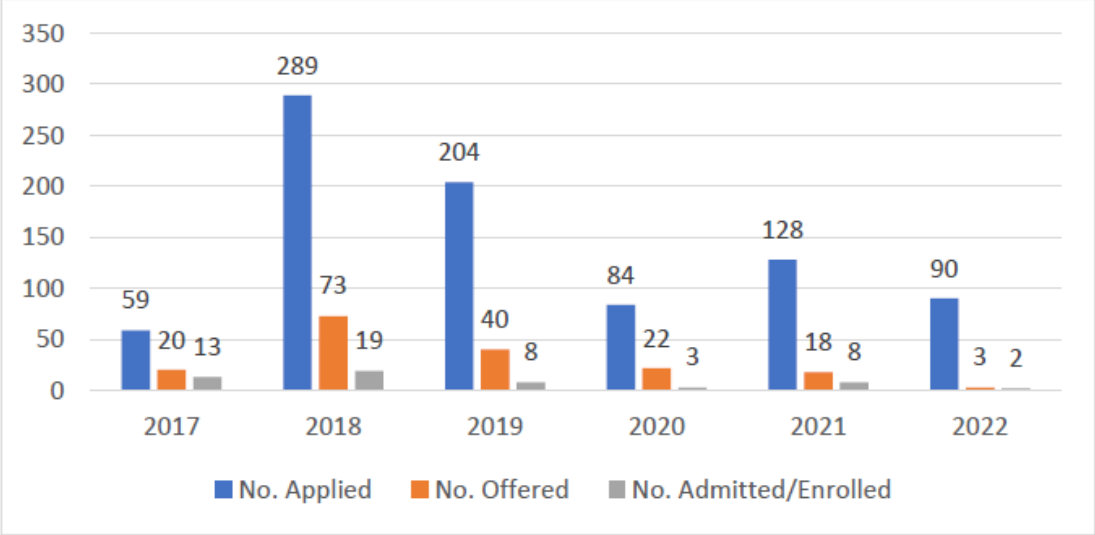

The tuition fee for the two Bachelor's degree programmes is about 39 million VNĐ (1,502 €) per year per student. HCMIU is part of the national university system, so it follows national regulations in this matter.

The Academic Affairs Office awards scholarships to students with excellent performance. In addition, students can also receive scholarships from external sources such as companies, non-government organisations, alumni, and individuals.

Among the scholarships available at HCMIU are the Admission Scholarship and the Encouragement Scholarship. Directed to the top 5% of offered applicants in the entrance examination, the Admission Scholarship covers the full or half of the fees of the scholarship holder for four years. Additionally, each semester, the Encouragement Scholarship chooses one of the best students in each class, based on their GPA and the number of credits taken, to receive up to 12 million VNĐ (463 €) per semester.

HCMIU has a policy to award tuition fee waivers for five student groups: (1) students with meritorious services to the revolution or the relatives of people with meritorious services to the revolution; (2) students orphans of both parents; (3) students with disabilities in poor or near-poor households; (4) students of ethnic minorities in poor or near-poor households; (5) students of very few ethnic minorities.

Students during the interview testify that they are informed in detail about the requirements and the necessary steps to apply for admission into both degree programmes under review.

The experts see evidence that both Schools are keeping track of its students' progress and achievements. In this way, an instrument is in place to monitor the performance records of students with various enrolment backgrounds.

In their assessment, the experts find the admission rules to be binding, transparent, and based on HCMIU's written regulations. They confirm that the admission requirements support the students in achieving the intended learning outcomes. Regarding the credit for transfer students, adequate policies are in place.

Criterion 1.5 Workload and Credits

Evidence:

- Self-Assessment Report
- Curricula for both degree programmes
- Module handbooks for both degree programmes
- Academic Regulations
- Student handbooks
- Discussions during the audit

Preliminary assessment and analysis of the experts:

According to the legal requirements, the total credit load is 152 Vietnamese credits (equivalent to 257.7 ECTS) for the Bachelor's degree programme Civil Engineering and 150 Vietnamese credits (equivalent to 257.7 ECTS) for the Bachelor's degree programme Environmental Engineering. The workload is spread relatively evenly over the semesters. Moreover, the effective number of credits the students can take depends on their achievements in the previous semester. In the two degree programmes, students need to take at least 12 credits and a maximum up to 24 credits in one semester. The workload of the last two semesters in the Bachelor's degree programmes are markedly reduced to give the students enough time for their theses as well as to already start looking for a job. This mechanism is supposed to ensure that the students can realistically handle the workload. It also means that theoretically, students can finish their studies in less than 8 semesters, although this is relatively rare due to the high workload in general.

In the Vietnamese system, each credit is equivalent to 15 periods of theoretical lecture in class or 30 to 45 periods of practical laboratory work with additional 30 periods of self-study. In the internship, it is equivalent to 45 to 90 periods, while in the project work and the thesis it is equivalent to 45 to 60 periods. One period lasts 50 minutes. The workload calculation is depicted in the following table:

Table 13: Workload of some forms of study

Form of study for 1 credit	Periods	In-class hours	Self-study hours	Total hours
Theoretical lecture	15	12.5	30	42.5
Practice in Laboratory	30-45	25-37.5	30	55-67.5
Quizzes in class	30-45	25-37.5	30	55-67.5
Assignment	30-45	25-37.5	30	55-67.5
Project, Thesis	45-60	37.5-50	30	67.5-80
Internship	45-90	37.5-75	30	67.5-105

According to the ECTS credit system, 1 ECTS equals 25-30 hours of students' workload. As a result, there cannot be the same conversion rate between Vietnamese credits and ECTS points for all courses. HCMIU assumes that 1 ECTS is equal to 27.5 hours. For theoretical lectures, the rate would be 1.54 and for practical work 2. Moreover, HCMIU specifies a range of possible applicable periods for laboratory work, quizzes in class, assignments, project work, internships and thesis. These can therefore vary from student to student and are not fixed.

Moreover, with regard to the workload of the thesis module in both degree programmes under review, the experts ask the students how much time they have in order to write their thesis and how much time it actually takes to finish it. From the Bachelor's students they learn that usually 12 weeks are required to finish the Bachelor's thesis which is worth 10 Vietnamese credits (24.55 ECTS, according to module handbook). According to the Vietnamese credit calculation, this would mean 670.5 up to 800 hours (10 x 67.5-80), whereas 24.55 ECTS would require 675.1 hours. Therefore, the experts underline that the workload and credit calculation is faulty and inconsistent in several ways. The experts point out that it is necessary to eliminate the inconsistencies in the workload and credit calculation of the Vietnamese as well as the ECTS system. HCMIU must follow the ECTS Users' Guide and define how many hours of students' total workload are required for one ECTS point (including lecture hours and self-study hours). Furthermore, 700 to 750 hours of work within 12 weeks would mean approximately 60 hours of work per week, which is well above the average 40 hours per week.

During the discussions with the programme coordinators and the students, the experts learn that so far there has been no specific survey asking the students to evaluate the amount of time they spend outside the classroom for preparing the classes and studying for the exams. Since this is necessary according to the ECTS framework, the experts suggest asking the students directly about their experiences. This could be done by including respective questions in the course questionnaires. The experts point out that the Schools

should follow the ECTS Users' Guide, while determining the students' total workload. This is the time typically required by students to complete all learning activities (such as lectures, seminars, projects, practical work, self-study and examinations).

In other words, a seminar and a lecture may require the same number of contact hours, but one may require significantly greater workload than the other because of differing amounts of independent preparation by students. Typically, the estimated workload will result from the sum of:

- the contact hours for the educational component (number of contact hours per week x number of weeks),
- the time spent in individual or group work required to complete the educational component successfully (i.e. preparation beforehand and finalising of notes after attendance at a lecture, seminar or laboratory work; collection and selection of relevant material; required revision, study of that material; writing of papers/projects/dissertation; practical work, e.g. in a laboratory),
- the time required to prepare for and undergo the assessment procedure (e.g. exams).

Since workload is an estimation of the average time spent by students to achieve the expected learning outcomes, the actual time spent by an individual student may differ from this estimate. Individual students differ because some progress more quickly, while others progress more slowly. Therefore, the workload estimation should be based on the time an "average student" spends on self-study and preparation for classes and exams. The initial estimation of workload should be regularly refined through monitoring and student feedback.

Furthermore, during the audit discussion the experts inquire to what extent the summer semester is included in the curricula. From the programme coordinators they learn that a summer semester lasts 8 weeks and comprises a maximum of 14 credits. This means that the workload per week is twice as high for students compared to regular semesters, to ensure that the learning material can be completed in 8 weeks. The summer semester is typically reserved for internships, but can also include general knowledge courses that are optional. This mechanism should offer students the possibility to shorten their study period or to retake exams in case of failure. If students do not wish to complete the planned modules in the summer semester, they can postpone them to the following semester, which in turn postpones further modules from other semesters. The students confirm that the workload is high in the summer semester as they attend 5 to 6 periods per day. In order to avoid an unevenly distributed workload over the different semesters, the experts suggest to shift compulsory modules to the regular semesters and to make transparent that the summer

semester courses are optional. Consequently, the experts underline that HCMIU must ensure that the credits are equally balanced over all semesters, including the credits from the summer semester.

As the statistical data provided by HCMIU shows, the average length of study was between 4 and 4,5 years in both Bachelor's degree programmes in the last 5 years. According to the SAR, this is due to all the written examinations and also due to the fact that they have research and a final thesis or work next to studying. Moreover, for the Bachelor's degree programmes, the lack of English certificates (which are one of the graduation requirements) is a common issue. Therefore, the faculty puts a lot of effort into motivating the graduating students to take the English proficient certification in advance to meet the requirement. In addition, other co-curricular or extra-curricular programmes have been organized to help students improve their English skills, especially English for their specializations. To what extent the English training for both students and teachers could still be improved is discussed in more detail under criterion 1.3.

Additionally, the experts see that almost all students complete the degree programmes because, on average, there have only been 22 %, 4 % and 8 % of the Civil Engineering students and 24 %, 35 % and 13 % of the Environmental Engineering students for the batches 2017, 2018 and 2019 who dropped out of the degree programmes. The experts understand that the downward trend of the drop-out rate suggests an improvement in student retention and that the data verifies that both degree programmes under review can be completed in the expected period.

During the audit, the students emphasise that they consider the workload high but manageable and that it is possible to finish the degree programmes within the expected four years, respectively.

Criterion 1.6 Didactic and Teaching Methodology

Evidence:

- Self-Assessment Report
- Student handbooks
- Module Handbooks for both degree programmes
- Curricula for both degree programmes
- Course evaluations
- Discussions during the audit

Preliminary assessment and analysis of the experts:

In its Self-Assessment Report, HCMIU records that appropriate didactical instruments and methods are implemented for the two Bachelor's degree programmes under review. The variations in learning methods and tools are adjusted to the level of knowledge, skills, and competences set in each course.

To enhance the learning experience, structured activities like tutorials, homework, assignments (reading or problem-based exercises), and practical activities are included in the curricula. Students are encouraged to use different tools, including reading textbooks, referring to documents and scientific papers, taking notes during lectures and doing Internet searches to complete homework and quizzes. Some courses also include group project assignments to help students develop teamwork, communication, and leadership skills. The assignments and exercises enable students to develop abilities in critical thinking, written/oral communication, data acquisition, problem-solving, and presentation of academic work. HCMIU aims to support the transition from a teacher-centred to a student-oriented and outcome-based education, involving students in learning and developing their thinking and analytical skills.

The most common learning method is the class session, with several courses offering laboratory practice. Lecturers generally prepare presentations to aid the teaching process. With individual or group assignments, such as discussions, presentations, or written tasks, students are expected to improve their academic and soft skills. Laboratory work covers collecting and post-processing data, reporting, discussions, and presentations. Additionally, practical activities should familiarise students with academic research methods. Moreover, students are encouraged to participate in scientific seminars, clubs and workshops (i.e. soft skill talkshow, English Club and IU start up) as well as conferences organised by the university or outside institutions. Students participate in a research project led by faculty members or researchers outside the university.

To support teaching and learning activities at HCMIU, all classrooms and laboratories are equipped with computers, projectors, and internet access. To help students achieve the intended learning outcomes and facilitate adequate learning and teaching methods, HCMIU has implemented an e-learning platform (Blackboard) where students and teachers can interact. Through this tool, lectures, textbooks, reading materials, and study documents are uploaded in advance for students. Online quizzes/assignments and group discussions are available via Blackboard, allowing more lecturer-student communication after class hours. In addition, students have full access to the Central Library of HCMIU. The university's e-learning system has helped teachers utilise different instructional strategies, such as flipped classrooms and blended learning.

Since 2016, the Office of Human Resources Management has organised various training sessions on teaching methods and pedagogy for lecturers. Experts from institutes worldwide are invited to conduct these sessions. Lecturers are also given opportunities to participate in training sessions organised by the Vietnamese National University (VNU-HCM). Furthermore, they can attend seminars on sharing experiments in teaching methods and course learning outcome assessments organised by other members of VNU-HCM. Through these sessions or seminars, lecturers can improve their knowledge and skills in pedagogy.

In addition, each student has an Edusoft account, where the academic progress and results can be accessed. Students make course registration every semester through the Edusoft system, which has information on prerequisite courses, courses to study for individual students, and courses available in a particular semester. The score of each course will be displayed at the end of the semester.

In summary, the experts can confirm that a variety of learning methods are used and that they are aligned with the intended learning outcomes. In the discussions with students, the experts learn that they are generally satisfied with the quality of teaching and learning in the programmes under review. Gathering systematic feedback on the quality of teaching and learning can be achieved through the course evaluation survey conducted at the end of each semester, which serves as a valuable source of information.

Final assessment of the experts after the comment of the Higher Education Institution regarding criterion 1:

Criterion 1.3:

With regard to the recommendation to extend the duration of the internship, HCMIU explains that with regard to the CE programme, the CEM school agrees that the internship plays a critical role in the program by helping senior students to gain professional working experience and the engineering sense before carrying out their final steps (i.e., graduation thesis). The CEM school keeps signing MOUs with companies from various fields in order to offer students different options for their placement. The CEM school also understands the students' wish to be exposed to more practical work during their studies. Unfortunately, after considering various aspects in which the students' learning progress was weighted critically, the internship duration couldn’t be changed. The reason is that the internship is taken full-time (i.e., during the internship, the students are required to participate in the assigned companies for the entire working days); therefore, the internship is carried out during the summer semester and can’t be extended to the two major semesters otherwise their learning progress is affected. Alternatively, at this time, the CEM school

revised the CE programme with a practical orientation. In particular, the revised course entitled “CE100 Introduction to Civil Engineering” offers the students more practical credits that allow them to visit, study in the field, and understand practical engineering. HCMIU submits the corresponding curriculum together with its response statement. With regard to the EV programme, the number of internship credits in the revised curriculum in 2023 has increased from 2 to 8, including three internships (Internship 1, Internship 2, and Internship 3). While internship 1 will be conducted in the fifth semester, internships 2 and 3 will take place in summer semesters. Hence, the duration of internship 1 can be extended to one semester (about 15 weeks). Furthermore, while the minimum period for internships 2 and 3 is officially 8 weeks, students can start doing the internships early by consulting an advisor in advance. The experts appreciate the mentioned changes in both programmes and believe that the increased credit points for the internships in the EV programme as well as the added practical orientation in the CE programme will support students in being exposed to more practical work during their studies. Therefore, the experts consider this recommendation to be fulfilled.

With regard to the recommendation to strengthen the CE students' programming skills, HCMIU states that besides Python, the CEM school advocates with the ASIIN experts about the need for other programming languages (e.g., C++, Python 2). Hence, following the ASIIN experts' suggestion, the CEM school added the elective module “IT116 C Programming” to the new curriculum 2023. In addition, in the revised programme for 2023, the CEM school added the module “CM310IU Building Information Management”, intending to introduce the students' skills required by the current labour market. Following the “CM310IU BIM” syllabus, Revit, as well as some other potential BIM tools (e.g., Navisworks, Archicad, Bently Architecture, OPS), will be introduced in the 4-5th week. Therefore, the experts consider this recommendation to be fulfilled.

Regarding the recommendation to include more fundamental knowledge about hydraulics and mass transfer in the project I of the EV programme, HCMIU clarifies in its response statement that project III and IV have 1 and 2 credits, respectively. Moreover, HCMIU confirms that project I already includes essential knowledge about hydraulics and mass transfer. Students must calculate head loss and hydraulic profile through the treatment units in order to organize the treatment units and determine whether flow can be driven by gravity or pumping is required to elevate the head so that flow by gravity may occur. Furthermore, mass transfer in water treatment can be found in gas-liquid processes (e.g., aeration and CO2 stripping for iron and manganese removal in groundwater treatment, or ozonation, chlorination...), liquid-solid processes (e.g., ion exchange and adsorption...). To ensure that this knowledge is covered in project I, HCMIU revised the corresponding module descrip-

tions and added a separate section on the hydraulic profile of treatment units (i.e., Calculation of the hydraulic profile of the water treatment system), while mass transfer is integrated during the calculation of the treatment processes/units mentioned above. The experts appreciate the given explanations as well as the revision of the module descriptions. Therefore, the experts consider this recommendation to be fulfilled.

With regard to the recommendation to include more electives that deal with sustainability, climate change and modelling in the EV programme, HCMIU states that they intend to add three electives to the EV curriculum, including “Climate Change Mitigation and Adaptation”, “Sustainable Development: Theory and Policy”, and “Environmental Modeling”. The module descriptions of these additional courses have been submitted by HCMIU together with its response statement. The procedure for this revision of the EV programme is conducted following the IU guideline. As a first step, the addition of these courses has been approved by the CEE’ school council. Recently, HCMIU sent an official letter about this programme revision to the Office of Undergraduate Academic Affairs for final approval. As soon as the procedure is completed, HCMIU will make the latest version of the EV revised programme in 2024 accessible for students and teaching staff. The experts appreciate these changes including additional modules that deal with the requested topics. However, as the plans have not yet been finalised, the experts continue to adhere to the recommendation.

With regard to the recommendation to provide additional English training to students and lecturers in both programmes, HCMIU confirms that English requirements have been a significant issue causing the IU students' extended study periods in the past. Therefore, the University has operated a Writing Center, many English clubs, competitions, and challenges to provide students with opportunities to enhance their English skills. The Academic advisors of both CEM and CEE school often encourage the students to join those clubs and activities. Students who participate in those activities are rewarded with training-ranking scores. Moreover, annually, the University evaluates the need for training courses (including English) for the Staff and Lecturers. Both CEM and CEE school will continue to promote and support instructors and staff to participate in short-term training courses organized by VNUHCM and IU to improve English skills. The plan and decision of these short-term training courses in 2022 and 2023 of VNUHCM and IU are provided together with HCMIU’s response statement. The experts appreciate the importance that HCMIU is appointing to this matter. However, as both students and industry representatives underlined the urgency of this matter and as the mentioned plans have not yet been finalised, the experts continue to adhere to the recommendation.

Regarding the recommendation to strengthen the soft skills of the students through designated coursework or integration into existing coursework, in particular entrepreneurship,

HCMIU explains that in the new curriculum 2023, the CEM school added the “BA151IU Entrepreneurship and Small Business Management” as an elective course. This course provides general skills and knowledge of start-up development that adapts to the industry's requirements. For EV programme, the CEE school also agrees that entrepreneurship skills, though already available in a course in the EV programme (i.e., “IT120IU: Entrepreneurship”, 3 credits), can be strengthened through designated coursework or integration into existing coursework. Accordingly, the CEE school added this content to one course (i.e. “ENEE2001IU: Introduction to Environmental Engineering”). In addition, they published in the CEE website the related activities from the Center for Innovation and Technology Transfer (CITT) who organizes entrepreneurship skills trainings and events for students. The experts appreciate that HCMIU took this recommendation into consideration for both programmes. Given the added courses that are supposed to strengthen the soft skills of the students, they consider this recommendation to be fulfilled.

Regarding the recommendation to increase the efforts to further internationalise HCMIU by establishing more international cooperations, conferences and publications as well as exchange programmes, by offering more and better-endowed scholarships and by better communicating the existing offers to the students, HCMIU explains that enhancing international academic mobility, including international articulation programs, student exchanges, and research cooperation, is among their core development strategies. With regard to the CE programme, an enormous amount of information about international internship scholarships is available on the CEM website and Fanpage of IU student exchange & Study Abroad Programme. These opportunities support a significant number of engineering students from IU to pursue short- and long-term studies abroad. Among them, the CEM school has recently reached Digital Inter-Institutional Agreements regarding the mobility for learners and staff (Higher Education student and Staff Mobility between the Gheorghe Asachi Technical University of IASI and IU, VNU HCMC). According to this agreement, both universities are willing to exchange 4 students and 4 staff members per academic year who wish to carry out their mobility within the subject area of building and civil engineering. The students are provided various supports, including incoming mobile participants with special needs, finding accommodation, securing visas for incoming and outbound mobile participants, and insurance. Furthermore, HCMIU, as well as CEM school, work closely with its peers from prestigious universities in Europe (Germany, Austria, Norway, Lithuania, Romania, Netherlands, and France), Asia (Korea, Taiwan, Japan, and Hong Kong), and Canada to seek cooperation opportunities. As a result, 14 MOAs (1 renewed), 12 MOUs (1 renewed), 2 Inter-Institutional agreements, 2 One-way Agreements, 1 Addendum, and 1 Agreement relevant to CEM School were released that increased the available places and scholarships for students in exchange programmes. These agreements focus on student

exchanges, staff exchanges, research cooperation, articulation, and scholarships. Moreover, the CEM school invited many international professors from the University in Hong Kong, Taiwan, and Australia to give classes or seminars on exciting topics relevant to the programme. These activities have drawn attention and explored several potential exchange opportunities for CEM students. Recently, The Bachelor of Civil Engineering (Honors) articulation programme between the School of Engineering, Deakin University, and the CEM school has been officially established. This articulation programme provides chances for students to pursue international programmes at a reasonable cost and for the faculties of both schools to join potential research cooperation.

As for the EV programme, the CEE school agrees that chances for CEE students to intern, research abroad, and welcome international students are currently still limited. This may be partly due to CEE's youth, as the school has been established from two majors of environmental engineering and chemical engineering in September 2022. As an international university, HCMIU is aware of the value of international cooperation and has made significant efforts. In comparison to previous periods when the EV major was managed in a single department (EV department), the number of meetings with partners, MOUs signed, and students participating in internships abroad has increased significantly under the direction of CEE school. Hence, the CEE school is optimistic that international cooperation and study abroad opportunities, as well as welcoming international students to CEE school will improve in the future. HCMIU provides the updated number of EV students exchange and international students at CEE, the MOU signed, and Strategic Partners Meetings together with its response statement. Up to now, there are a total of 10 international students participating in a course offered by EV and 7 EV students exchanging abroad, 3 MOU signed, 1 Recognition of Prior Learning (RPL) for EV programme between HCMIU and Deakin University (Australia), and 6 meetings between CEE School and International Strategic Partners from Canada, Australia, Sweden, Latvia, and Taiwan. The experts appreciate the numerous efforts that HCMIU is making in the area of mobility and support the continued pursuit of these efforts. Since HCMIU is an international university, these plans should be prioritised. Therefore, the experts continue to adhere to this recommendation.

Criterion 1.5:

With regard to the average study duration in both programmes, HCMIU underlines that from the batch of 2023 onwards, all HCMIU engineering programmes including the CE as well as the EV programme have been redesigned with a standard duration of 4.5 years. However, students can complete the programmes in 4 years upon their learning capacity. The experts appreciate this information and approve of it.

2. Exams: System, Concept and Organisation

Criterion 2 Exams: System, concept and organisation

Evidence:

- Self-Assessment Report
- Module handbooks for both degree programmes
- Exam regulations
- Cooperation agreements with industry
- Report templates
- Thesis guidelines
- Sample of exams and theses
- Discussions during the audit

Preliminary assessment and analysis of the experts:
HCMIU presents the general rules for the examination and assessment systems applicable to the Bachelor's programmes under review. Exams for both Bachelor's degree programmes follow detailed policies by the University.

The most common type of evaluation used is written examinations. However, other examination forms may contribute to the final grade. Written examinations typically include short answers, essays, problem-solving or case-based questions, and calculation problems. Some lecturers also give multiple-choice or true-false questions in examinations or quizzes. The grade from laboratory work usually consists of laboratory skills, discussions, reports, and oral exams.

The final grade of a course is a combination of the midterm and final exams, quizzes, assignments, homework, presentations, and lab exams and reports. Students' overall performance throughout the semester is formally monitored through course grades. Most courses also include practical sessions, allowing students to gain hands-on laboratory experience.

Successfully passed exams are evaluated by lectures with a grading system based on a 100-point scale: Excellent (90 ≤ score ≤ 100), Very-good (80 ≤ score < 90), Good (70 ≤ score < 80), Average good (60 ≤ score < 70) and Fair (50 ≤ score < 60). To pass the course, a student must obtain at least 50 out of 100 points in the course's total score. For mid-term and final exams, the teacher should deliver the grades within two weeks after the test date.

The students learn about mid-term and final exams via the University's academic calendar. The midterm and final exams occur in the 8th to 9th and 19th to 20th weeks of the semester, respectively. The examination forms are specified in the course descriptions available to the students via the University´s website and the online platform Edusoft.

As described in Criterion 1.3, the internship is conducted through collaboration with industry partners and research centres in the field typical and appropriate for the study programmes, nationally and internationally. Students join the course in the summer after the 6th semester; they work for two months, equivalent to 6-8 weeks or 135 hours. The internship is approved and supervised by an academic advisor and an onsite supervisor at the host institution. At the end of the internship, students write a report and present their results to a committee. The evaluation considers the work plan, discipline, teamwork, plan implementation, and activity report. The internship score is an average of the supervisor's and committee's scores.

For the research project, the course registration, performance, and assessment procedures are similar to those of the internship. During the project, students will work in a research group and implement their knowledge under the supervision of the project lead. The project score will be an average of the scores given by both the supervisor and the committee. As stated in the Self-Assessment Report, the Bachelor's thesis is the final assignment for the last year of the Bachelor's programmes under review. It is considered a crucial assessment of whether the students have achieved the intended learning outcomes. The regulations for thesis examination are communicated to students through the student handbook and the department's website. To undertake a thesis, students must have completed at least 117 credits and should not be under any academic admonishment. A supervisor is assigned to students who are working on their thesis, and they assist with the research project.

The Bachelor's thesis consists of three stages: (1) proposal, (2) midterm progressing state, and (3) final thesis. The thesis duration is three months, equivalent to 450 hours. The project is conducted independently under the guidance of one supervisor. The thesis topics focus on classic topics in civil engineering with a focus on structural engineering and construction management in the Bachelor's degree programme in Civil Engineering. The Bachelor's degree programme in Environmental Engineering covers topics from the areas of hydraulic engineering, wastewater technology, wastewater treatment and classic environmental topics.

Its goal is to provide students with a comprehensive understanding of theoretical knowledge and its practical application, as well as to familiarise them with methods of argumentation and the process of making valid points based on research. The thesis also aims to help students develop a more academic perspective. Both the student and supervisors might decide the topic and content of the project. In many cases, lecturers offer

particular topics connected to their research. Students are requested to provide evidence of supervision arrangement to the department through a thesis registration form. In the middle of the thesis implementation period, the department conducts a progress review to verify progress and identify any obstacles or violations. Students present the results to a Graduation Defense Committee formed at the respective School, the reviewer, and their supervisor.

During the audit discussions, the experts inquire whether students also conduct their Bachelor's thesis outside HCMIU. From the industry representatives they learn that so far they only support students during their internship. However, the representatives emphasise that the possibility of developing the thesis in cooperation with the companies would open up many useful opportunities for the students as well as for the companies. Students would be able to work on topics from the practice area involving real projects, and hard as well as soft skills. The companies could in turn recruit suitable candidates. Therefore, the experts recommend to offer students the possibility to prepare their thesis in collaboration with industry.

At the beginning of the semester, students get all course and exam-related information from their academic advisor and can access the course syllabus via the digital platform Blackboard. At the end of the semester, students can also access their grades privately through the platform. Should a student be unable to attend an exam due to unforeseen circumstances such as illness, an accident, or the death of a family member, they must inform the department by the deadline specified in the university's policy. To re-sit the exam at a later time, the student must submit a form requesting permission along with supporting evidence.

Students who fail a course must attend it again in the next semester. The number of repetitions is unlimited. Students who have passed a course, but want to improve their score may also take it again. Students with unsatisfactory academic performance will receive an academic warning. The academic warning is issued if a student violates one of the regulations, such as failing to complete more than 50 % of the registered credits for the semester, finishing the semester with an average grade of less than 35 (out of 100) or less than 40 in the last two consecutive semesters. Students will be suspended when receiving more than two academic warnings.

As an international university, HCMIU uses English as the medium of instruction. Students have to obtain IELTS 5.5 or equivalent as a graduation requirement. Students who still need to meet the required English level can apply for jobs but must prepare to sit for a new upcoming test. According to HCMIU's Academic Regulation, students who fail to graduate are granted certificates for modules accumulated during their study duration.

During the on-site visit, the experts had access to a selection of exams and final projects. They confirm that these represent an adequate level of knowledge as required by the EQF level 6 for the two Bachelor's programmes. The forms of exams are oriented in-line with the envisaged learning outcomes of the respective courses, and the workload is allocated in an acceptable way.

The experts conclude that the criteria regarding the examinations system, concept, and organization are fulfilled and that the examinations are suitable to verify whether the intended learning outcomes are achieved or not.

Final assessment of the experts after the comment of the Higher Education Institution regarding criterion 2:

As HCMIU does not further comment on this criterion, the experts continue to adhere to their previous assessment.

3. Resources

Criterion 3.1 Staff and Development

Evidence:

- Self-Assessment Report
- Staff handbooks for both degree programmes including CVs of all teachers
- Recruitment plan
- Training course plan for academic staff
- Discussions during the audit

Preliminary assessment and analysis of the experts:

HR Resources

HCMIU's teaching staff are categorised as professors, associate professors, and lecturers. The academic position of each staff member is based on research activities, publications, academic education, supervision of students, and other supporting activities. All full-time teaching staff members are expected to be involved in teaching/advising, research, and administrative services. However, the workload can be distributed differently between the three areas from teacher to teacher, depending on the academic position. For example, full professors spend more time on research activities and less on teaching than associate professors or lecturers.

The permanent teaching staff serving the Civil Engineering degree programme comprises 1 full professor, 3 associate professors and 26 lecturers (5 PhD and 2 Master's degree holders as well as 1 PhD candidate). For the Environmental Engineering degree programme, there are 1 associate professor and 11 lecturers (4 PhD holders). On frequent occasions, the programme invites guest lecturers from other members of VNU-HCM and international universities and institutes to teach parts of various core and major courses, as well as to supervise students for their internships, research projects, and theses.

The Vietnamese government has set specific staff-student ratios for universities. The ideal ratio of staff to active students is 1:20. Currently, the Civil Engineering degree programme has a ratio of 1:4.7, while the Environmental Engineering degree programme has a ratio of 1:3.4. The experts learn that a plan exists to develop the School's human resources to fulfil the academic requirements across the programmes, to take higher degrees, recruit more PhD holders in the future and invite more visiting lecturers. To implement a new staff recruitment plan, a formal letter of request must be submitted to the Human Resources Department, along with the proposed recruitment requirements. The Human Resources Department reviews the request and forwards it to the President of HCMIU for approval. Once approved, the vacancy will be advertised on HCMIU's website and other media platforms.

As part of the recruitment process at HCMIU, candidates must give a presentation on their research activities, and their teaching abilities are thoroughly assessed. To be eligible for teaching positions, applicants must hold a PhD degree, and it is frequently required to have post-doctoral research experience from a developed country with relevant expertise. Furthermore, they are required to be accredited in English by a professional committee, consisting of school and university leaders. In addition, candidates for a teaching staff position must have practical scientific research experience demonstrated through scientific publication records. Several teachers at both Schools have graduated from international universities (examples include France, the Netherlands, Japan, Korea, the UK and the USA). The experts appreciate this international background.

The teaching staff's composition, scientific orientation and qualifications, as specified in the Staff Handbook, are suitable for successfully implementing and sustaining the Bachelor's program under review. Nevertheless, with regard to the low amount of full professors in the Bachelor's degree programme Civil Engineering and the absence of full professors in the Bachelor's degree programme Environmental Engineering, the experts learn from the programme coordinators that this is a common situation in many degree programmes in Vietnam, because the appointment of a full professor position is not only under the authority of the university. The academic position of each staff relies on regulations by the Vietnamese Ministry of Education that determines certain standards for reaching the next level. In Vietnam, in order to be promoted to the position of full professor, it is necessary

to satisfy the state-required standards and be evaluated by the State Council of Professors. The satisfaction of these standards is time-consuming and includes complex administrative procedures. Every year nationwide, only a few candidates in the field of engineering meet the standards and are granted full professor's certificates from the State Council of Professors. The experts understand these circumstances, but in order to promote scientific excellence in terms of publications and project experience, e.g. in light of the development of both degree programmes according to the university focus and the strategic plan and the ability to gradually build the research expertise that allows Master's and PhD supervision, the experts recommend to increase the number of full and associated professors in both degree programmes.

During the discussions with the students, the experts ask to what extent HCMIU invites experts from industry and integrates them into the curricula. From the students they learn that guest lecturers mostly come from national and international universities. Some lecturers also regularly invite industry experts who take on certain topics within courses and appear as guest speakers once a month, for example. The industry representatives confirm that they are being invited by HCMIU to give short seminars about subject-specific topic like for instance sustainable construction or BIM. As the students express the wish to include industry experts more into existing courses in order to foster academic exchange and to prepare them even better for the labour market, the experts recommend that industry experts teach entire lectures about applied topics that are relevant for the degree programmes.

Job Conditions and Performance Review of Staff

HCMIU has established policies and evaluation methods to review staff performance on the three essential dimensions of teaching, research and service. These dimensions are measured on the basis of the previous year's parameters. Teaching performance parameters include workload (i.e., teaching preparation, giving lectures and supervising research, internship, and thesis projects, updating lectures and teaching methods, and assessing student learning outcomes) and student course feedback. Research performance considers the volume of research conducted, published papers, conferences attended, international cooperation activities on science and technology, and special tasks assigned by the university or the Dean of the school/department. Service performance includes, among others, participation in institutional activities such as educational and scientific management, labour confederation, communist party, and youth union.

HCMIU conducts an annual School Feedback Survey and Service-Quality Survey to gather feedback from its academic staff on their overall tasks and working conditions. Based on the results, it is observed by the experts that the academic staff of both Schools are

generally satisfied with their teaching and public outreach tasks. Furthermore, the Service-Quality Survey results reveal that most academic staff is satisfied with the HCMIU's service quality, with an average of 95%. The feedback obtained from the survey is discussed by the Board of Presidents and the Heads of the units in a meeting to determine any corrective measures that may be required.

HR Development

HCMIU encourages the training of its academic staff to improve their didactic abilities and teaching methods. As stated in the Self-Assessment Report, academic staff in both Schools frequently undergo training in pedagogy, research, management, leadership, and quality assurance.

The Office of Human Resources Management is responsible for identifying staff members' training needs, proposing training plans, and carrying out training activities. Annually, the Board of Presidents holds meetings with heads of schools, departments, and offices to discuss the different units' training needs. The Office of Human Resource Management plans year-round training courses and workshops based on feedback from academic and non-academic units. Together with training activities, faculty members are encouraged to present their research papers at national and international conferences. The university recently issued a policy on short-term study and research abroad for the academic staff for 4-6 months through training courses and staff exchanges.
Newly recruited lecturers are encouraged to take some teaching training courses. Faculty members are also trained occasionally to ensure they stay updated with the latest technologies and methodologies when it comes to teaching.
The experts discuss the various opportunities available for personal skill development with the teaching staff members. The teachers express their satisfaction with the internal qualification programme and willingness to improve their didactic skills. Additionally, they can attend conferences, workshops, and seminars abroad.
The experts also inquire about the promotion mechanisms in place at HCMIU. Through this dialogue, they learn that teachers are required to submit applications to the government, which employs a complex evaluation system. This system includes factors such as research publications and the supervision of students to determine a teacher's eligibility for promotion.

All interviewed staff demonstrate high motivation and attachment to the institution. HCMIU offers sufficient support mechanisms and opportunities for teaching staff members who wish to strengthen their professional and teaching skills. In the expert's eyes, the

option of successfully applying for short-term study and research abroad for 4-6 months through training courses and staff exchanges is an attractive tool for keeping up motivation.

Support and assistance for students

HCMIU offers a range of support services for its student population. At the start of the first semester, every student is assigned an academic advisor. These advisors are members of the academic staff and are responsible for approximately 10 to 15 students from their classes. Their academic advisor is the first port of call if a student needs advice or support on academic or personal issues. They also offer suggestions regarding relevant careers and skills development and help if there are problems with other teachers.

Before the start of the semester, the advisors help students plan for their next courses. Students register for courses through Edusoft, the online platform that allows advisors to look through all registered courses and make adjustments in alignment with the student's progress and abilities. The platform is also used by advisors to monitor the academic performance of their students. They arrange at least two meetings per semester to discuss issues affecting the student's academic achievement. During the discussion with the experts, the students confirm that they all have an academic advisor. In general, during their interaction with the experts, students highlight the approachability of teachers, which contributes to building a fruitful interaction.

The fourth-year students who prepare their thesis have one or more supervisors selected based on the topic of the final project. At both Schools, each lecturer supervises up to five students and organises weekly meetings with them. The role of the thesis supervisor is to guide students in completing their final project, which includes finishing their research and the final project report.

In 2021, HCMIU established the Student Advisor Programme to counsel students on issues regarding psychology, health, laws, and career planning. The Office of Student Services (OSS) manages this programme by employing psychologists, medical doctors, lawyers, and educators as counsellors. The counselling is performed online, face-to-face, and via seminars.

OSS also helps students look for career orientations and job opportunities. Every year, OSS organises the Career Orientation Day to connect current students, alumni, and industry. In addition, specialised seminars invite alumni and people from the industry to present the needs of the labour market and share their working experiences. At the same time, industry talks are organised at the School level so that companies can introduce their line of business as well as learn more about the students on this occasion. Moreover, OSS has a separate website (https://oss.hcmiu.edu.vn/) providing information on job opportunities,

internships, enterprise programmes, seminars, networking events, and industrial field trips.

Finally, there are several student organisations at HCMIU; these include student-led clubs, which are divided into arts, sports, religious and other non-curricular activities.

In summary, the experts positively note the good and trustful relationship between the students and the teaching staff. Enough resources are available to provide individual assistance, advice and support for all students. The support system helps the students achieve the intended learning outcomes and complete their studies successfully. The students, in general, have access to sufficient information about the programmes and are well-informed about the services available. The comprehensive support and advisory system is one of the strengths of HCMIU.

Criterion 3.2 Funds and equipment

Evidence:

- Self-Assessment Report
- Annual school budget plan
- List of lab equipment
- Laboratory regulations and guidelines
- On-site visit of participating institutes and laboratories
- Discussions during the audit

Preliminary assessment and analysis of the experts:
HCMIU provides basic funding and facilities for the Bachelor's degree programmes Civil Engineering and Environmental Engineering. HCMIU or the Vietnamese government can provide additional funds for research activities, but the teachers have to apply for them. In addition, there are several cooperation agreements with industry partners. On the university level, the Office of Finance and Planning is responsible for planning the budget and assigning the funds to the schools and departments. The main sources of income are the students' tuition fees and the funds provided by the Vietnamese government (mostly for salaries).

The Office of Facilities and Planning (OFP) and the Office of Procurement Services (OPS) are responsible for planning and maintaining the university's facilities. This includes evaluating, maintaining and improving the physical facilities and infrastructure of the university, such as teaching and learning facilities, laboratories, equipment, and tools, to meet the needs of education, research, and service. Students in the Civil Engineering programme have

access to the following laboratories at the School of Civil Engineering and Management: Mechanics of Materials & Structures Lab, Construction Materials & Soil Mechanics Lab, Fluid Mechanics Lab and computer lab. Students in the Environmental Engineering programme have access to the following laboratories at the School of Chemical and Environmental Engineering: Environmental Teaching Lab, Environmental Treatment Lab as well as Engineering Lab.

During the on-site visit, the expert group visits the following facilities in order to assess the quality of infrastructure and technical equipment:

1. University library;
2. Sports area
3. University canteen
4. Mechanics of Materials & Structures Lab
5. Hydraulic Lab
6. Soil Mechanics Lab
7. Environment teaching lab
8. Computer rooms

The experts value the students' presentation of their practical work in the laboratories. They judge the facilities, including teaching labs, as adequate for teaching and confirm that they contain everything necessary for the programmes' objectives. If students require additional resources to conduct their research, the programmes offer various partnerships with national and international institutes.

The experts find no severe bottlenecks due to missing equipment or infrastructure. The basic technical equipment for teaching students at the Bachelor level is available in sufficient numbers. In the discussion with the expert group, the students confirm that they are generally satisfied with the available equipment. Moreover, the teaching staff emphasise that from their point of view, the both degree programmes receive sufficient funding for all teaching and learning activities. Of course, there is limited funding to modernise or add laboratory equipment, but there are sufficient resources for adequately teaching the classes. However, the experts note that some parts of the equipment in the laboratories of the Civil Engineering degree programme, while still functioning, is slightly outdated. The programme's laboratories are currently equipped primarily for teaching, but less for research. In particular, there seems to be a catch-up-demand in fitting the laboratories with digital experimental facilities. According to the experts' assessment and evaluation, the existing laboratory rooms are sometimes too small and the logistics for stocking the laboratories need to be improved for volume-intensive processes. For

example, the possibilities for process-oriented implementation of building material production through to building material testing in the existing laboratory facilities do not correspond to the current international standards. To be used as a concrete laboratory, the testing of aggregates, testing of binders, concrete production, storage of test specimens, testing of concrete cubes, concrete cylinders and concrete beams, etc. should be carried out in laboratory rooms optimized for this purpose with appropriate equipment and digital recording. Additional equipment for non-destructive testing would be desirable for research activities. As the improvement of the research environment is one of the main goals formulated by the university's president during his introductory speech, the experts think it would make sense to gather more public support in combination with funds from industry in order to improve the facilities for education and research. Therefore, they recommend to improve the lab facilities of the Civil Engineering degree programme.

The students are satisfied with the library and the literature it offers. They can access international literature, scientific journals, and publications through ScienceDirect and Springer Online. Students have sufficient access to current international literature and databases, and they can access them remotely. Additionally, students can access all the resources of all member universities of the Vietnam National University Ho Chi Minh City. This means that if HCMIU does not have the required books, they can be obtained from other universities.

In summary, the expert group judges the available funds, the technical equipment, and the infrastructure (laboratories, library, seminar rooms, etc.) to comply with the requirements for adequately sustaining the degree programmes.

Final assessment of the experts after the comment of the Higher Education Institution regarding criterion 3:

Criterion 3.1:

With regard to the recommendation to increase the number of full and associated professors in both degree programmes, HCMIU agrees that increasing the number of professors and associate professors plays a critical role in promoting scientific excellence in terms of publications and project experience. Moreover, according to the university focus and the strategic plan, the CEM school aims to build the research expertise that allows Master's and PhD supervision. Therefore, the development strategies of CEM school in 2021 – 2025 specify the KPI for human resources development focusing on increasing the number of professors and associate professors. As for the EV programme, the CEE school will continue to encourage and provide ideal conditions for lecturers to prepare and seek higher-level positions in the future. The school developed a plan for increasing the number of associate

and full professors in 2022-2025 as given in the CEE Development Strategies 2022-2025. Although the qualifications for professors and associate professors are tough to satisfy, the CEE school just had two lecturers qualified as new associate professors by the State Council of Professors on 20 November 2023. Since meeting the standards for professor and associate professor positions necessitates a long process of striving, the CEE School has established a further development plan for CEE academic staff for the period 2026 - 2030 in order to be able to better support lecturers and lecturers themselves can proactively plan long-term preparations. The experts welcome the fact that CEE school was able to gain 2 new associate professors. They also think that the setup of a new and longterm staff development plan is useful. However, in order to promote scientific excellence in terms of publications and project experience as well as to gradually build the research expertise that allows Master's and PhD supervision, the experts continue to adhere to this recommendation.

With regard to the recommendation that industry experts teach entire lectures about applied topics that are relevant for the degree programmes, HCMIU states that according to Article 5 of the teaching regulation about specific provisions for visiting lecturers, the visiting lecturer in charge of an entire course must pass a rigorous screening procedure for their qualifications and English skills. Industry experts, particularly in the field of CE, could find challenges to satisfy such requirements. Therefore, HCMIU holds the opinion that inviting industry experts to take specific topics is an excellent approach to maintaining the course learning outcomes and providing the students with practical perspectives relevant to the course content. Furthermore, in addition to the existing courses in the programmes, both schools work closely with the industry to routinely open seminars that prepare the students better for the labor market. They generally invite industry experts as guest speakers in seminars as shown in the evidence that is provided together with the response statement. The experts understand these circumstances, but suggest to maybe adapt the teaching regulation accordingly so visiting lecturers can be in charge of entire courses. As it was the students' explicit wish to learn more directly from industry representatives by having them teach more than just parts of seminars, the experts continue to adhere to this recommendation.

Criterion 3.2:

With regard to the recommendation to improve the lab facilities in the CE programme, the HCMIU explains that the CEM school currently has 3 modern and fully equipped laboratories on campus, including 1 mechanics of materials laboratory, 1 fluid mechanics laboratory, and 1 soil mechanics laboratory. These laboratories are equipped with various devices to serve the research directions of the school as well as for teaching purposes.

Lab	Area	Purposes
Mechanics of Materials Laboratory	90 m2	- Teaching some courses on Mechanics of Materials, Steel Structures, Reinforced Concrete, Construction Materials and Surveying. - Undertaking research projects on steel/concrete structures and construction materials
Fluid Mechanics Laboratory	60 m2	- Teaching some courses on Fluid Mechanics, Hydraulics, and Water Supply. - Undertaking research projects on water supply and drainage systems, climate change, and riverbank erosion
Soil Mechanics Laboratory	60 m2	- Teaching some courses on Soil Mechanics, and Foundations. - Undertaking research projects on geotechnical problem, and underground construction.

The list of equipment for the laboratories is provided together with HCMIU's response statement. Furthermore, HCMIU's aim in the period of 2023-2028 is to enhance and expand the current laboratory facilities of CEM school in order to accommodate evolving demands in education, research, and the application of scientific and technological advancements. The expected funding for this improvement is about 6.966.300.000 VND (approximately 284.280,000 USD). This effort aims to establish a modern Construction Technology Experiment Center that meets international standards, serving the country's increasing infrastructure development needs. Regarding scientific research, the development of research directions in the field of infrastructure construction aims to ensure safety and sustainability, including: applying and developing artificial intelligence in solving civil engineering problems; research and development of new materials from environmentally friendly local materials for application in new structures and maintenance and reinforcement of existing structures; researching the impact of structural dynamics on construction; researching the hydrodynamics of rivers and seas; researching new structures such as smart, modular, earthquake-proof, and water structures that resist adverse environmental effects and increasingly complex loads; researching and developing monitoring systems for construction quality. To develop these research directions, methods of analysis, destructive and non-destructive research of materials and structures are applied. The list of equipment expected to be invested is as follows:

No.	Equipments	Number
I. Non-destructive laboratory equipment		
1	Impedance Analyzer HIOKI3532	1
2	PZT sensors	100
II. Construction vibration measuring equipment		
3	KG-3B	10
4	CM-10	1
5	PI-5	10
6	DP-2000E	10
7	KCE-500KNA	1
8	KCE-2MNA	1
9	DC power supply GW INSTEK GPC-3060D (*)	1
10	Prestressed cable tensioning machine	1
III. Hydraulic, hydrological and geological equipment		
11	Triaxial Shear Test Apparatus	1
12	Total Station	1
13	JMC Model F-2000 echo sounder	1
14	DIGITAL FLOW METER LS25 -1A	1
15	Multi-purpose Teaching Flume	1
16	Acoustic Doppler velocimetry	2

In addition, HCMIU plans to build a facility (including the laboratories and apparatuses) that is exclusively applied for experiment studies and research. The government approved the strategy of this plan; nevertheless, due to the enormous investment budget, HCMIU carefully considered all the possible approaches to take the following steps. The experts appreciate the mentioned plans that serve to enhance the current lab facilities in terms of space and equipment as well as research possibilities. However, as the plans have not yet been finalised, the experts continue to adhere to the recommendation.

4. Transparency and documentation

Criterion 4.1 Module descriptions

Evidence:

- Module handbooks for both degree programmes

Preliminary assessment and analysis of the experts:
The experts review the module descriptions for the programmes and find that they provide adequate information about all relevant and required aspects: module identification code, respective content, learning outcomes, examinations, credit points and workload distribution, grading, person responsible for the module, teaching methods, admission requirements, recommended literature, and the date of last amendment made. The students confirm during the discussions that information about the courses is always available online and that details concerning examinations and contents are provided at the beginning of each course by the teaching staff.

However, as the module descriptions are still based on the outdated curricula of both programmes from 2020 and 2021 respectively, the experts urge HCMIU to submit the complete and latest version of the module descriptions (from 2023) and make them accessible for students and teaching staff. In this context, it is necessary to align the information in the module descriptions with the information given in the study plan (with regard to the frequency of offer of modules and the semesters in which modules are taught).

When submitting the module descriptions of the Civil Engineering degree programme, HCMIU is asked to rewrite them so as to include information about the grading, the frequency of offer, the individual examination forms as well as a consistent conversion of credit points and workload.

Criterion 4.2 Diploma and Diploma Supplement

Evidence:

- Diploma Supplements
- Transcript of Records

Preliminary assessment and analysis of the experts:
The experts confirm that the students of the three programmes are awarded a Diploma and a Diploma Supplement upon graduation. The Diploma consists of a Diploma Certificate and a Transcript of Records. The Transcript of Records lists all the courses that the

graduate has completed, the achieved credits, grades, and cumulative GPA. The Diploma Supplement contains almost all the necessary information about the degree programmes. However, the individual Diploma Supplements list programme objectives, learning outcomes as well as content of outdated curricula. Therefore, HCMIU must ensure that the Diploma Supplements contain detailed information about the currently relevant curricula (2023 for Civil Engineering and Environmental Engineering).

Criterion 4.3 Relevant rules

Evidence:

- Self-Assessment Report
- All relevant regulations as published on the university's website

Preliminary assessment and analysis of the experts:
The experts confirm that the rights and duties of both HCMIU and the students are clearly defined and binding. All rules and regulations are published on the university's website and hence available to all stakeholders. In addition, the students receive all relevant course material at the beginning of each semester.

The experts appreciate that the English and Vietnamese websites of the programmes include sufficient information about the intended learning outcomes, study plans, module descriptions and academic guidelines of each degree programme and are made available to all relevant stakeholders.

Final assessment of the experts after the comment of the Higher Education Institution regarding criterion 4:

Criterion 4.1:

With regard to the requirements to submit the complete and latest version of the module descriptions (from 2023) and make them accessible for students and teaching staff, to align the information in the module descriptions with the information given in the study plans (with regard to the semesters in which modules are taught) as well as to rewrite the CE module descriptions so as to include information about the grading, the frequency of offer, the individual examination forms as well as a consistent conversion of credit points and workload, HCMIU states that the submission date of the SAR was before the release date of the new curricula for 2023, which was 30th August 2023. HCMIU submits the updated version of the curricula, module descriptions, course syllabi, programme specifications as well as student handbooks for both programmes. The students and teaching staff can ac-

cess these documents via the CEM and CEE School websites. Therefore, the experts consider these three requirements to be fulfilled. However, as HCMIU did not address the issue of the total workload and the linked conversion into ECTS, the experts change one of the requirements and ask HCMIU to rewrite the module descriptions so as to include information about the consistent conversion of credit points and workload for both programmes.

Criterion 4.2:

With regard to the requirement to ensure that the Diploma Supplements contain detailed information about the currently relevant curricula (2023 for Civil Engineering and Environmental Engineering), both schools updated the Diploma supplements in accordance with the new curriculua 2023. Therefore, the experts consider this requirement to be fulfilled.

5. Quality management: quality assessment and development

Criterion 5 Quality management: quality assessment and development

Evidence:

- Self-Assessment Report
- Student handbooks
- Plans for the assessment/accreditation of training programmes at International University, term 2021-2025
- Quality Assurance Guidelines
- Surveys' reports
- Discussion during the on-site visit

Preliminary assessment and analysis of the experts:
As described in the Self-Assessment Report, the Office of Quality Assurance and Testing (QATO) manages quality assurance plans involving internal and external activities. QATO analyses data, writes reports, and offers suggestions to the Board of Presidents, the highest academic council at HCMIU. The Board of Presidents reviews and revises the suggestions from QATO and makes decisions on all HCMIU's academic concerns.

In their exchanges with the programme coordinators, students and industry partners, the experts discuss HCMIU's quality management system. All parties confirm that the university

implements a continuous process to enhance the programme's quality. As part of this process, HCMIU regularly reviews and improves the curricula. While the Office of Academic Affairs may approve minor changes, any significant curricula improvements require the approval of the Academic Committee and Board of Presidents in accordance with the university's regulations. Usually, the review is initiated based on the stakeholders' feedback obtained through the annual surveys from labour markets, alumni, graduates, teachers, and professionals.

Several mechanisms are in place to collect student feedback across the student lifecycle. These include an exit survey conducted before students' graduation to gather perceptions of the overall quality of programmes and services. The survey data for 2021 and 2022 revealed that the Civil Engineering as well as Environmental Engineering students' satisfaction with course objectives and content was above the neutral point (3) and tended to be positive, with 4.5 and 4.45 points, respectively, on a scale of one to five.

At the end of the semester, lecturers and courses are evaluated by students, faculty, and the university; lecturers will receive their teaching performance reports. Based on the report results and study performance of the current class compared with the previous years, further changes would be made to the course specification or syllabus.

As part of its commitment to staying up-to-date with the constantly evolving labour market and emerging technologies, HCMIU conducts annual employer surveys. These surveys seek feedback from employers on how well HCMIU alumni are able to apply fundamental and professional skills in real-world settings. Employers are asked to evaluate the level of expectation they have for graduates with respect to each skill and to comment on how well these expectations are being met. QATO uses this feedback to modify or update the degree program and teaching methods in order to ensure that students receive the most current knowledge and are equipped to adapt to various working environments in their future careers.

QATO also conducts annual surveys to gather feedback from alumni at the time of graduation and one year after graduation. The surveys collect responses from alumni regarding their employment status and adaptability to the working environment. The collected data is analysed and transferred into reports, which can be used to improve the programmes and enhance the training quality. According to the 2021 Alumni Survey, 100% of respondents reported a positive perception of their ability to apply academic knowledge in practice.

During the on-site visit, the experts learned that the programmes under review engage with employers by gathering feedback through surveys and inviting them to give short workshops or speeches. The experts acknowledge the significance of the employers' input

for the programme's improvement and appreciate the existing quality assurance culture that involves employers in the process. To what extent the experts encourage industry experts to teach entire lectures about applied topics that are relevant for the degree programmes has been discussed in detail under criterion 3.1.

At the end of each semester, QATO conducts an online student survey on the teaching quality of lecturers for each course. Responding to the questionnaire is compulsory as students won't be able to access their accounts on Blackboard otherwise. QATO analyses the data, sends the results to the respective School and relevant lecturers and suggests improvements to the individual programmes.

In the audit, the experts inquire whether the results of the surveys are also shared and discussed with the students. The programme coordinators explain that students receive the survey results. The discussion with the students revealed that those in charge are always eager and open for feedback aside from the official evaluations and that students have the impression that their comments are taken into consideration with regard to the further improvement of the programmes. This becomes apparent in the already mentioned constant curricular revision process that is performed under participation of students and industry partners. The experts are glad to hear that students are satisfied with the programmes and included in the feedback loop. Furthermore, the industry partners also confirm that their suggestions are generally adopted by HCMIU. The experts appreciate that HCMIU has a close relationship with the industry partners and regularly collects feedback from them. Thus, the experts consider that the quality management circles at HCMIU are well established and work under participation of all stakeholders.

In summary, the experts are satisfied with the quality management system at HCMIU, especially with the continuous feedback loops and the involvement of important stakeholder groups such as students, alumni and representatives from the industry.

Final assessment of the experts after the comment of the Higher Education Institution regarding criterion 5:

As HCMIU does not further comment on this criterion, the experts continue to adhere to their previous assessment.

D Additional Documents

Before preparing their final assessment, the panel ask that the following missing or unclear information be provided together with the comment of the Higher Education Institution on the previous chapters of this report:

D 1. Complete module descriptions of the new CE and EV curricula 2023

E Comment of the Higher Education Institution (22.01.2024)

The following quotes the comment of the institution:

PRELIMINARY ASSESSMENT AND ANALYSIS OF THE PEERS	RESPONSES FROM CLUSTER A
1. THE DEGREE PROGRAM: CONCEPT, CONTENT & IMPLEMENTATION	
Criterion 1.3 Curriculum **<u>Structure and content</u>** The Civil Engineering degree programme is managed by the School of Civil Engineering and Management while the Environmental Engineering degree programme is managed by the School of Chemical and Environmental Engineering. The curricula of the two study programmes under consideration are reviewed by the experts in order to identify whether the described programme objectives and learning outcomes can be achieved by the available modules. Course descriptions as well as overviews and competence-subject matrices matching the general learning objectives and the module contents were provided for a thorough analysis. **As the module descriptions are still based on the outdated curricula of both programmes from 2020 and 2021 respectively, the experts urge HCMIU to submit the complete and latest version of the module descriptions (from 2023) and make them**	**Criterion 1.3 Curriculum** **<u>Structure and content</u>** The CEM school and the CEE school would like to articulate this issue as follows: The submission date of SAR was before the release date of the new curriculum for 2023, which was 30th August 2023 [Additional document 1. Decision new curriculum]. We have completed the latest version of the CE program and EV program (from 2023). All the relevant files are available on the additional documents link, including: Additional document 2. Curriculum overview Additional document 3. Module Handbook Additional document 4. Course syllabus Additional document 5. Program Specification Additional document 6. Student Handbook In addition, the students and teaching staff could access these files via the CEM School website and the CEE school website (Curriculum overview published on the CEE website; Program specification published on the CEE website; Module descriptions published on the CEE website). **<u>Internship</u>** ***For CE program***

PRELIMINARY ASSESSMENT AND ANALYSIS OF THE PEERS	RESPONSES FROM CLUSTER A
accessible for students and teaching staff. In the Self-Assessment Report, the University gives a detailed overview of how the competences acquired with the presented curricula match the individual EUR-ACE learning outcomes **Internship** The Internship in both degree programmes is conducted through collaboration with companies or other external institutions. Taken full-time, the Internship usually lasts two months which is valued by the students as this allows them to apply the skills they learned in the programmes in a real working environment. The students point out that the University is very supportive in finding placements for the Internship and always encourages them to gain as much practical experience as possible. The University has established useful guidelines for these internships and every student has one advisor at the company and one at the University to ensure that the work contributes to achieving the programme's learning outcomes. The assessment methods to evaluate this phase is comprehensive and includes a written report and a presentation of their results in front of a panel of two lecturers. The evaluation takes into account the aspects work plan, discipline, teamwork, programme implementation, and activity report. However, the students express the wish to be exposed to even more practice during their studies, for	The CEM school totally agrees with the assessment of the ASIIN experts in the Internship. Also, the CEM school holds your recommendation to extend the Internship duration in high regard. Indeed, the Internship plays a critical role in the CEM program that helps the senior students gain professional working experience and the engineering sense before carrying out their final steps (i.e., Graduation Thesis). To benefit students best, the CEM schools restlessly endeavour to sign MOUs with companies from various fields. Hence, the students may have different options for their suitable placement. During the Internship, the assigned advisor works closely with the industrial advisor from the company to ensure the designed program of the Internship, expressed by their contributions to the ILO of the program (seen Appendix 4 of SAR). The relatively high evaluation scores (seen in Fig. 8 of SAR) reflected the efficiency of the current Internship. Besides, following the ASIIN experts' recommendation, the CEM school also understands students' wish to be exposed to more practices during their studies. Unfortunately, after carefully considering various aspects in which the students' learning progress was weighted critically, the Internship duration likely could not be changed. The reason is that the Internship is taken full-time (i.e., during the Internship, the students are required to participate in the assigned companies for the entire working days); therefore, the Internship is carried out during the summer semester and cannot be extended to the two major semesters otherwise their learning progress is affected. Alternatively, at this time, the CEM school revised the CE program with a practical orientation [Additional document 2. Curriculum overview]. In particular, the revised course entitled CE100 Introduction to Civil Engineering offers the students more practical credits that allow them to visit, study in the field, and understand practical engineering [Additional document 4. Course syllabus]. The CEM school appreciates the ASIIN experts' suggestions to add other programming languages (e.g., C++, Python 2, or Revit) to strengthen the students' programming skills. Regarding this issue, the CEM school would like to express our opinions as follows: Besides Python, the CEM school advocates with the ASIIN experts about the need for other programming languages (e.g., C++, Python 2). Hence, following the ASIIN experts' suggestion, the CEM schools added to the new curriculum for 2023 IT116 C Programming as an elective

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example by extending the duration of the Internship. They believe that this would help them to familiarise themselves with all the processes within the company, to manage projects holistically, prepare them even better for the labour market and would be appreciated by the industry. The industry representatives confirm this impression during the audit discussions. **Therefore, the expert recommend to extend the duration of the Internship.** In addition, the experts note that programming languages are only treated marginally in the Civil Engineering degree programme. While students of the curriculum are taught how to use Python, the experts think that it could be useful to also add other programming language like for instance C++, Python 2 or Revit. As these tools are nowadays an essential and absolutely necessary basis for engineering calculations, the experts recommend to strengthen the students' programming skills. Moreover, with regard to the Environmental Engineering degree programme, the experts ask about the core knowledge that, according to the module descriptions, hasn't been demonstrated in the fundamental knowledge modules. Also the number of analytical laboratory related credits seems to be relatively high, while the number of project credits is pretty low. From the programme coordinators they learn that compared to the Civil Engineering degree programme, the	course [Additional document 7. Additional Elective Courses]. In addition, in the revised program for 2023, the CEM school added the CM310IU Building Information Management, intending to introduce the students' skills required by the current labour market. Following the CM310IU BIM syllabus, Revit, as well as some other potential BIM tools (e.g., Navisworks, Archicad, Bently Architecture, OPS), is introduced in the 4-5th week under the topic (BIM environments, Platform, and Tools) [Additional document 4. Course syllabus]. ***For EV program*** In comparison to previous versions of the EV program, the number of internship credits in the revised program in 2023 has increased from 2 to 8, including three internships (Internship 1, Internship 2, and Internship 3). While internship 1 will be conducted in the fifth semester, internships 2 and 3 will take place in summer semesters. Hence, the duration of internship 1 can be extended to one semester (about 15 weeks). Furthermore, while the minimum period for internships 2 and 3 is officially 8 weeks, students can start doing the internships early by consulting an advisor in advance. Therefore, we would like to confirm that the internships in the revised program in 2023 have been increased in credit, and we hope that this revision will satisfy students' need for more practice during their studies. We highly appreciate the ASIIN experts for their recognition of the increasing number of projects (i.e. Project (III), and (IV)) in the 2023 revised program. In addition, we would like to clarify that Project (III) and (IV) have 01 and 02 credits, respectively. We would like to confirm that Project (I) already includes essential knowledge of hydraulics and mass transfer. Students must calculate head loss and hydraulic profile through the treatment units in order to organize the treatment units and determine whether flow can be driven by gravity or pumping is required to elevate the head so that flow by gravity may occur. Furthermore, mass transfer in water treatment can be found in gas-liquid processes (e.g., aeration and CO_2 stripping for iron and manganese removal in groundwater treatment, or

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Environmental Engineering curriculum includes more theoretical content than projects as this is especially important for the fundamentals related to hydraulics. Therefore, the new curriculum from 2023 includes more laboratory work and four main projects. While the compulsory projects I and II focus on water supply and waste water, the newly added projects are elective and treat solid waste management (project III) and air pollution control (project IV). Each of the projects is worth 4 Vietnamese credits and includes theoretical and laboratory classes (3+1 Vietnamese credits). The experts appreciate the newly added projects as they offer students the possibility to further specialize according to their interests. With regard to project I, they however think that students should master and be able to apply the fundamental knowledge about hydraulics and mass transfer learned to solve a specific problem. This would also be a foundation for students to carry out the next projects, which focus on how to calculate and design waste treatment systems as well as analyse, evaluate and select appropriate waste treatment technology options. Therefore, they recommend to include more fundamental knowledge about hydraulics and mass transfer in the project I. Furthermore, during the audits discussions the students express the wish to include more contents about modelling, climate change and sustainability	ozonation, chlorination...), liquid-solid processes (e.g., ion exchange and adsorption...). To ensure that this knowledge is covered in Project (I), we have revised the Project (I) syllabus to add a separate section on the hydraulic profile of treatment units (i.e., Calculation of the hydraulic profile of the water treatment system), while mass transfer is carefully noted to integrate during the calculation of the treatment processes/units mentioned above. We sincerely thank the ASIIN experts for their insightful comments regarding the addition of new electives such as sustainability, climate change, and modeling. Accordingly, we intend to add three electives to the EV curriculum, including Climate Change Mitigation and Adaptation, Sustainable Development: Theory and Policy, and Environmental Modeling. The syllabi of these additional courses can be found [Additional document 4. Course syllabus]. The new program with the addition of these courses is then proposed as below: EV program with new elective courses recommended [Additional document 7. Additional Elective Courses]. The procedure for this revision of the EV program is conducted following the IU guideline. For the first step, the addition of these courses had been approved by the CEE' school council. Currently, we have sent an official letter about this program revision to the Office of Undergraduate Academic Affairs for final approval [Additional document 7. Additional Elective Courses]. When the procedure is completed, we will make the latest version of the EV revised program in 2024 accessible for students and teaching staff. Regarding English training, the CEM school and the CEE school appreciate the recommendations of the ASIIN experts to provide additional English training to reduce the difference in English language skills among the students. Indeed, this is a significant issue causing the IU students' extended study period in the past. Therefore, the University has operated a Writing Center, many English clubs, competitions, and challenges to provide students with opportunities to enhance their English skills [Additional document 8. IU Writing Center and English Clubs]. The Academic advisors of the CEM school and the CEE school often encourage the students to join those clubs and activities. The

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in the Environmental Engineering curriculum. The lecturers explain that the module dealing with environmental science also includes a chapter about sustainability development and climate change. Moreover, within the framework of the module about applied statistics in environment,students have the possibility to join a weekly seminar that also includes examples related to climate change mitigation modelling. The respective teacher reports that she inserts models used in research projects in the lecture. Additionally, the lecturers state that topics like sustainability and renewable energy are mainly covered in the Bachelor's degree programme Chemical Engineering that is also managed by the School of Chemical and Environmental Engineering. The experts appreciate that these topics are to a certain degree included in the curriculum. **However, as these topics tend to be addressed marginally and in parts of modules only and students have explicitly pointed out the relevance of these topics for the Ho Chi Minh City region, the experts recommend to include more electives that deal with sustainability, climate change and modelling.** Since HCMIU is an international university whose degree programmes are taught, learned and communicated in English, the experts discuss with the programme coordinators and students	links below show the fanpages of the center and club with their announcement and plan of activities, and which are visible in CEE website: Student forms & guidelines on CEE website; English speaking club IU; IU Writing Center (WRIC) In particular, those students who participate in those activities are rewarded with training-ranking scores. Besides, annually, the University surveys to determine the need for training courses (including English) for the Staff and Lecturers [Additional document 9. Training need survey]. The CEM school and the CEE school will continue to promote and support instructors and staff to participate in short-term training courses organized by VNUHCM and IU to improve English skills. The plan and decision of these short-term training courses in 2022 and 2023 of VNUHCM and IU are provided in the link below, in which one of our Lab technicians participated in one intensive English course in 2022 [Additional document 16. English training for officers and employees]. Moreover, the CEM school appreciates the ASIIN experts' recommendation to strengthen the students' soft skills, particularly entrepreneurship. In the new curriculum 2023, the CEM schools added the BA151IU Entrepreneurship and Small Business Management as an elective course. This course provides general skills and knowledge of start-up development that adapts to the industry's requirements. For EV program, the CEE school also agree that Entrepreneurship skills, though already available in a course in the EV program (i.e., IT120IU: Entrepreneurship, 3 credits), can be strengthened through designated coursework or integration into existing coursework. We have added this content to one course (i.e. ENEE2001IU: Introduction to Environmental Engineering). In addition, we have published in the CEE website the related activities from Center for Innovation and Technology Transfer (CITT) which organize entrepreneurship skills training and events to encourage students to participate [Additional document 7. Additional Elective Courses].

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of both degree programmes what offers exist in order to strengthen students' and lecturers' English skills. The programme coordinators explain that in all study programmes, students have the possibility to join the English study club, which is offered by the Language Centre. In addition, students are obliged to achieve the required IELTS 5.5 or equivalent in order to graduate from their Bachelor's studies. In order to become a full-time lecturer, teachers at HCMIU in turn need to acquire IELTS 7.0. The students confirm that all modules (except for the political modules as well as physical education) are taught in English and that English textbooks are used. **However, they also emphasise that the English language skills of the students differ greatly from one to another and that it is difficult to balance out these heterogeneous requirements. In addition, the English requirements have often been the reason for extended study periods in the past. The industry representatives confirm this statement. Therefore, the experts recommend to provide additional English training to students and lecturers.** Finally, the experts ask how the teaching staff and the prospective employers evaluate the soft skills of the students. They learn that the students from HCMIU are particularly resilient in many respects: both in terms of competition and in terms of their perseverance. In	**International Mobility** ***For CE program*** The CEM School is grateful for the fair assessment and encouragement of the ASIIN experts in promoting international mobility. Indeed, enhancing international academic mobility, including international articulation programs, student exchanges, and research cooperation, is among the core development strategies of the IU, as well as CEM school. In addition to further attempts to best benefit the students and staff members who wish to join the international mobility for studying and research, the CEM school would like to express our opinions regarding this issue as follows: Enormous information about international internship scholarships is available on the CIM website and Fanpage of IU student exchange & Study Abroad Program. These opportunities support a significant number of engineering students from IU to pursue short- and long-term study abroad. Among them, the CEM school has recently reached Digital Inter-Institutional Agreements regarding the mobility for learners and staff – Higher Education student and Staff Mobility between the Gheorghe Asachi Technical University of IASI and IU, VNU HCMC [Additional document 10. Inter-institutional agreements]. According to this agreement, both universities are willing to exchange 04 students and 04 staff members per academic year who wish to carry out their mobility within the subject area of building and civil engineering. The students are provided various supports, including incoming mobile participants with special needs, finding accommodation, securing visas for incoming and outbound mobile participants, and insurance. Furthermore, IU, as well as CEM school, works closely with its peers from prestigious universities in Europe (Germany, Austria, Norway, Lithuania, Romania, Netherlands, and France), Asia (Korea, Taiwan, Japan, and Hong Kong), and Canada to seek cooperation opportunities. As a result, 14 MOAs (1 renewed), 12 MOUs (1 renewed), 02 Inter-Institutional agreements, 02 One-way Agreements, 01 Addendum, and 01 Agreement relevant to CEM School were released that increased the

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spite of this, the industry representatives also underline that specific soft skills as entrepreneurship could still be improved. **Consequently, the experts recommend to strengthen the soft skills of the students through designated coursework or integration into existing coursework, in particular entrepreneurship**. After reviewing the study plans and module descriptions of the two degree programmes under review, the experts conclude that the curricula enable students – besides the mentioned small restrictions – to achieve the intended learning outcomes of the programmes and that they are in line with both the SSC of the Technical Committee Civil Engineering, Geodesy and Architecture and the EUR-ACE framework standards of engineering programmes. The experts also confirm that the programmes are regularly reviewed and changes are made if requested by the stakeholders. **International Mobility** HCMIU admits international students through a procedure established by the Center for International Mobility at the Office of External and Public Relations. For example, in the past five years, 15 international students from Europe, the US and Asia participated in a course offered by the Civil Engineering programme, while 9 international students participated in an exchange programme within the Environmental Engineering programme. According to	available places and scholarships for students in exchange programs [Additional document 11. International Mobility]. These released agreements focus on student exchanges, staff exchanges, research cooperation, articulation, and scholarships. Moreover, the CEM school invited many international professors from the University in Hong Kong, Taiwan, and Australia to give classes or seminars on exciting topics relevant to the CE program. These activities have drawn colossal attention and explored several potential exchange opportunities for CEM students [Additional document 12. Seminars]. Recently, The Bachelor of Civil Engineering (Honors) articulation program between the School of Engineering, Deakin University, and the School of Civil Engineering and Management, International University, has been officially established [Deakin Articulation - Additional document 11. International Mobility]. This articulation program provides excellent chances for students to pursue international programs at a reasonable cost and for the faculties of both schools to join potential research cooperation. ***For EV program*** We agree with ASIIN experts that chances for CEE students to intern, research abroad, and welcome international students to CEE are currently still limited. This may be partly due to CEE's youth, as our school has only been established from two majors of environmental engineering and chemical engineering for one year (September 2022). As an international university like IU, we are aware of the value of international cooperation and have made significant efforts. In comparison to previous periods when the EV major was managed in a single department (EV department), the number of meetings with partners, MOUs signed, and students participating in internships abroad has increased significantly under the direction of CEE school. Hence, we can be optimistic that international cooperation and study abroad opportunities, as well as welcoming international students to CEE school will improve in the future. The Additional document 11. International Mobility provides the updated number of EV students exchange and international students to CEE, the MOU signed, and Strategic Partners Meetings. Up to now,

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the University's website information, exchange partner institutions for the two Bachelor's programmes under review include universities in the US, Germany, Sweden and Indonesia, among others. Credits acquired abroad are recognised at HCMIU if the course is equivalent (70 % or above) to a course at HCMIU regarding content, teaching pedagogy, objectives, and students' workload. Students interested in studying abroad can receive a scholarship and financial aid if they meet specific requirements. These opportunities are based on the student's academic achievements and social contributions. The Center for International Mobility also collaborates with European Universities to obtain extra financial Support for local students who wish to participate in mobility programmes under the Erasmus+ programme. In addition, excellent students can apply for scholarships directly from the Vietnamese government to study abroad. HCMIU has established memorandums of understanding with international institutes in the subject-specific fields of civil and environmental engineering to support students' practice and research. These partners offer annual scholarships to the students to support their stay abroad. Their academic or professional staff supervise students during the Internship, research project and thesis. The expert group is provided with a list	there are a total 10 international students participating in a course offered by EV and 07 EV students exchanging abroad, 03 MOU signed, 01 Recognition of Prior Learning (RPL) for EV program between IU and Deakin University (Australia), and 06 meetings between CEE School and International Strategic Partners from Canada, Australia, Sweden, Latvia, and Taiwan.

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of students who pursued internships, research projects, and thesis abroad. Based on this Information, the experts confirm that in the past five years, mainly internships and research projects have been developed in partnership with institutions located in countries such as Spain, Germany, Japan, the US, Taiwan, and Thailand. In their discussion with the experts, the students confirm the existence of opportunities for international academic mobility. The experts appreciate the efforts to promote international mobility and encourage HCMIU to continue in this direction. However, they also see the need for more international exchange opportunities. As an international university, HCMIU should aim to increase the number of incoming and outgoing engineering students. During the audit discussions, students express a clear interest in more places and better endowed scholarships for long and short-term stays abroad. The number of available places in the exchange programmes is still limited. HCMIU can only provide limited amount of places and travel grants, while the demand from students is rising. The lack of available places and financial Support hinders students from joining the outgoing programmes. Also inviting more international guest lecturers to give classes or seminars in the programmes would for instance be beneficial to	

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foster exchange opportunities. **Therefore, the experts recommend to increase the efforts to further internationalise HCMIU by establishing more international cooperations, conferences and publications as well as exchange programmes, by offering more and better-endowed scholarships and by better communicating the existing offers to the students.**	
Criterion 1.5 Workload and Credits Additionally, the experts see that almost all students complete the degree programmes because, on average, there have only been 22 %, 4 % and 8 % of the Civil Engineering students and 24 %, 35 % and 13 % of the Environmental Engineering students for the batches 2017, 2018 and 2019 who dropped out of the degree programmes. The experts understand that the downward trend of the drop-out rate suggests an improvement in student retention and that the data verifies that both degree programmes under review can be completed in the expected period. During the audit, the students emphasise that they consider the workload high but manageable and that it is possible to finish the degree programmes within the expected four years, respectively.	**Criterion 1.5 Workload and Credits** From the batch of 2023 all IU engineering programs including the CE program and EV program have been redesigned with a duration of 4.5 years [Additional document 2. Curriculum overview]. However, students can be complete the program in 04 years upon on their learning capacity.
3. RESOURCES	

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Criterion 3.1 Staff and Development	**Criterion 3.1 Staff and Development**
HR Resources The teaching staff's composition, scientific orientation and qualifications, as specified in the Staff Handbook, are suitable for successfully implementing and sustaining the Bachelor's program under review. Nevertheless, with regard to the low amount of full professors in the Bachelor's degree programme Civil Engineering and the absence of full professors in the Bachelor's degree programme Environmental Engineering, the experts learn from the programme coordinators that this is a common situation in many degree programmes in Vietnam, because the appointment of a full professor position is not only under the authority of the University. The academic position of each staff relies on regulations by the Vietnamese Ministry of Education that determines certain standards for reaching the next level. In Vietnam, in order to be promoted to the position of full professor, it is necessary to satisfy the state-required standards and be evaluated by the State Council of Professors. The satisfaction of these standards is time-consuming and includes complex administrative procedures. Every year nationwide, only a few candidates in the field of engineering meet the standards and are granted full professor's certificates from the State Council of Professors. **The experts understand these circumstances, but in**	**HR Resources** The CEM school and the CEE school sincerely thanks the ASIIN experts' recommendation to increase the number of full and associated professors. The CEM school and the CEE school also appreciates the ASIIN experts for understanding the difference in the system of awarding professorship in Vietnam. Indeed, increasing the number of Professors and Associate professors plays a critical role in promoting scientific excellence in terms of publications and project experience. Moreover, according to the university focus and the strategic plan, the CEM school aims to build the research expertise that allows Master's and PhD supervision. Therefore, the development strategies of CEM school in 2021 – 2025 specify the KPI for human resources development focusing on increasing the number of Professors and Associate professors [Exh.3.05. The schools development strategic plan]. For EV program, the CEE school will continue to encourage and provide ideal conditions for our lecturers to prepare and seek higher-level positions in the future. We had a plan for increasing the number of associate and full professor in 2022-2025 as given in the CEE Development Strategies 2022-2025. Although the qualifications for professors and associate professors are tough to satisfy, the CEE school just had two lecturers qualified as new associate professors by the State Council of Professors on 20 November 2023 [Additional document 17. Lecturers recognized to qualify for associate professor title in 2023]. Since meeting the standards for professor and associate professor positions necessitates a long process of striving, the CEE School has established a further development plan for CEE academic staff for the period 2026 - 2030 so that we can better support lecturers and lecturers themselves can proactively plan long-term preparations [Additional document 13. Development Strategies for CEE academic staff 2026-2030]. Regarding the ASIIN experts' concerns about fostering academic exchange and preparing students better for the labor market, the CEM school and the CEE school would like to express our opinions as follows: According to Article 5 of the teaching regulation [Exh.3.01. IU teaching

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order to promote scientific excellence in terms of publications and project experience, e.g. in light of the development of both degree programmes according to the university focus and the strategic plan and the ability to gradually build the research expertise that allows Master's and PhD supervision, the experts recommend to increase the number of full and associated professors in both degree programmes. During the discussions with the students, the experts ask to what extent HCMIU invites experts from industry and integrates them into the curricula. From the students they learn that guest lecturers mostly come from national and international universities. Some lecturers also regularly invite industry experts who take on certain topics within courses and appear as guest speakers once a month, for example. The industry representatives confirm that they are being invited by HCMIU to give short seminars about subject-specific topic like for instance sustainable construction or BIM. **As the students express the wish to include industry experts more into existing courses in order to foster academic exchange and to prepare them even better for the labour market, the experts recommend that industry experts teach entire lectures about applied topics that are relevant for the degree programmes.**	regulation] about specific provisions for visiting lecturers, the visiting lecturer in charge of an entire course must pass a rigorous screening procedure for their qualifications and English skills. Industry experts, particularly in the field of CE, could find challenges to satisfy such requirements. Therefore, in our opinion, inviting industry experts to take specific topics is an excellent approach to maintaining the course learning outcomes and providing the students with practical perspectives relevant to the course content. Furthermore, in addition to the existing courses in the program, the CEM school and the CEE school works closely with the industry to routinely open seminars that prepare the students better for the labor market. We generally invite industry experts as guest speakers in seminars as shown in Additional document 12. Seminars

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HR Development The experts discuss the various opportunities available for personal skill development with the teaching staff members. The teachers express their satisfaction with the internal qualification programme and willingness to improve their didactic skills. Additionally, they can attend conferences, workshops, and seminars abroad. **The experts also inquire about the promotion mechanisms in place at HCMIU. Through this dialogue, they learn that teachers are required to submit applications to the government, which employs a complex evaluation system. This system includes factors such as research publications and the supervision of students to determine a teacher's eligibility for promotion.** All interviewed staff demonstrate high motivation and attachment to the institution. HCMIU offers sufficient support mechanisms and opportunities for teaching staff members who wish to strengthen their professional and teaching skills. In the expert's eyes, the option of successfully applying for short-term study and research abroad for 4-6 months through training courses and staff exchanges is an attractive tool for keeping up motivation.	The CEM school and CEE school sincerely thanks the ASIIN experts for understanding the unique mechanism in place in HCMIU. Indeed, HCMIU proposed this promotion mechanism following Article 6 of the Teaching regulation [Exh.3.01. IU teaching regulation] and the criterion stated by the Ministry of Education and Training [Career path criteria for academic and staff].

Criterion 3.2 Funds and equipment	Criterion 3.2 Funds and equipment
The experts find no severe bottlenecks due to missing equipment or infrastructure. The basic technical equipment for teaching students at the Bachelor level is available in sufficient numbers. In the discussion with the expert group, the students confirm that they are generally satisfied with the available equipment. Moreover, the teaching staff emphasise that from their point of view, the both degree programmes receive sufficient funding for all teaching and learning activities. Of course, there is limited funding to modernise or add laboratory equipment, but there are sufficient resources for adequately teaching the classes. **However, the experts note that some parts of the equipment in the laboratories of the Civil Engineering degree programme, while still functioning, is slightly outdated. The programme's laboratories are currently equipped primarily for teaching, but less for research. In particular, there seems to be a catch-up-demand in fitting the laboratories with digital experimental facilities. According to the experts' assessment and evaluation, the existing laboratory rooms are sometimes too small and the logistics for stocking the laboratories need to be improved for volume-intensive processes. For example, the possibilities for process-oriented implementation of building material production through to building material testing in the existing laboratory facilities do**	The CEM school cordially thanks the ASIIN experts for their positive comments regarding our facilities. Moreover, the CEM school appreciates the ASIIN experts' suggestion to modernize the laboratory equipment for research activities and improve the laboratory areas for volume-intensive processes corresponding to the current international standards**.** Regarding this issue, the CEM school would like to express our opinions as follows: The CEM school currently has 3 modern and fully equipped laboratories at the IU, including 1 mechanics of materials laboratory, 1 fluid mechanics laboratory, and 1 soil mechanics laboratory. These laboratories are equipped with various devices to serve the research directions of the School as well as for teaching purposes.

Lab	Area	Purposes
Mechanics of Materials Laboratory	90 m2	- Teaching some courses on Mechanics of Materials, Steel Structures, Reinforced Concrete, Construction Materials and Surveying. - Undertaking research projects on steel/concrete structures and construction materials
Fluid Mechanics Laboratory	60 m2	- Teaching some courses on Fluid Mechanics, Hydraulics, and Water Supply. - Undertaking research projects on water supply and drainage systems, climate change, and riverbank erosion
Soil Mechanics Laboratory	60 m2	- Teaching some courses on Soil Mechanics, and Foundations. - Undertaking research projects on geotechnical problem, and underground construction.

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<tr><td>not correspond to the current international standards. To be used as a concrete laboratory, the testing of aggregates, testing of binders, concrete production, storage of test specimens, testing of concrete cubes, concrete cylinders and concrete beams, etc. should be carried out in laboratory rooms optimized for this purpose with appropriate equipment and digital recording. Additional equipment for non-destructive testing would be desirable for research activities. As the improvement of the research environment is one of the main goals formulated by the University's president during his introductory speech, the experts think it would make sense to gather more public Support in combination with funds from industry in order to improve the facilities for education and research. Therefore, they recommend to improve the lab facilities of the Civil Engineering degree programme. The students are satisfied with the library and the literature it offers. They can access international literature, scientific journals, and publications through ScienceDirect and Springer Online. Students have sufficient access to current international literature and databases, and they can access them remotely. Additionally, students can access all the resources of all member universities of the Vietnam National University Ho Chi Minh City. This means that if HCMIU does not have the required books, they can be obtained from</td><td>- The list of equipment for the laboratories is provided in the Additional document 18. Lab Equipment.

- Furthermore, our aim in the period of 2023-2028 is to enhance and expand the current laboratory facilities of CEM school to accommodate evolving demands in education, research, and the application of scientific and technological advancements. The expected funding for this improvement is about 6.966.300.000 VND (approximately 284.280,000 USD). This effort aims to establish a modern Construction Technology Experiment Center that meets international standards, serving the country's increasing infrastructure development needs [Additional document 14. Lab improvement Plan].

- Regarding scientific research, the development of research directions in the field of infrastructure construction aims to ensure safety and sustainability, including:

* Applying and developing artificial intelligence in solving civil engineering problems.

* Research and develop new materials from environmentally friendly local materials for application in new structures and maintenance and reinforcement of existing structures.

* Researching the impact of structural dynamics on construction.

* Researching the hydrodynamics of rivers and seas.

* Research new structures such as smart, modular, earthquake-proof, and water structures that resist adverse environmental effects and increasingly complex loads.

* Researching and developing monitoring systems for construction quality.

- To develop these research directions, methods of analysis, destructive and non-destructive research of materials and structures are applied. The list of equipment expected to be invested is as follows:

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<tr><th>No.</th><th>Equipments</th><th>Number</th></tr>
<tr><td colspan="2">II. Non-destructive laboratory equipment</td><td></td></tr>
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<tr><th>PRELIMINARY ASSESSMENT AND ANALYSIS OF THE PEERS</th><th>RESPONSES FROM CLUSTER A</th></tr>
<tr><td>other universities. In summary, the expert group judges the available funds, the technical equipment, and the infrastructure (laboratories, library, seminar rooms, etc.) to comply with the requirements for adequately sustaining the degree programmes.</td><td>
<table>
<tr><td>1</td><td>Impedance Analyzer HIOKI3532</td><td>1</td></tr>
<tr><td>2</td><td>PZT sensors</td><td>100</td></tr>
<tr><td colspan="2">II. Construction vibration measuring equipment</td><td></td></tr>
<tr><td>3</td><td>KG-3B</td><td>10</td></tr>
<tr><td>4</td><td>CM-10</td><td>1</td></tr>
<tr><td>5</td><td>PI-5</td><td>10</td></tr>
<tr><td>6</td><td>DP-2000E</td><td>10</td></tr>
<tr><td>7</td><td>KCE-500KNA</td><td>1</td></tr>
<tr><td>8</td><td>KCE-2MNA</td><td>1</td></tr>
<tr><td>9</td><td>DC power supply GW INSTEK GPC-3060D (*)</td><td>1</td></tr>
<tr><td>10</td><td>Prestressed cable tensioning machine</td><td>1</td></tr>
<tr><td colspan="2">III. Hydraulic, hydrological and geological equipment</td><td></td></tr>
<tr><td>11</td><td>Triaxial Shear Test Apparatus</td><td>1</td></tr>
<tr><td>12</td><td>Total Station</td><td>1</td></tr>
<tr><td>13</td><td>JMC Model F-2000 echo sounder</td><td>1</td></tr>
<tr><td>14</td><td>DIGITAL FLOW METER LS25 -1A</td><td>1</td></tr>
<tr><td>15</td><td>Multi-purpose Teaching Flume</td><td>1</td></tr>
<tr><td>16</td><td>Acoustic Doppler velocimetry</td><td>2</td></tr>
</table>
- In addition, IU plans to build a facility (including the laboratories and apparatuses) that is exclusively applied for experiment studies and research. The government approved the strategy of this plan; nevertheless, due to the enormous investment budget, the IU carefully considered all the possible approaches to take the following steps.
</td></tr>
<tr><td>4. Transparency and documentation</td><td></td></tr>
<tr><td>Criterion 4.1 Module descriptions

The experts review the module descriptions for the programmes and find</td><td>Criterion 4.1 Module descriptions

The CEM school and CEE school cordially thanks the ASIIN experts for their positive comments on the Module descriptions. The CEM school</td></tr>
</table>

PRELIMINARY ASSESSMENT AND ANALYSIS OF THE PEERS	RESPONSES FROM CLUSTER A
that they provide adequate information about all relevant and required aspects: module identification code, respective content, learning outcomes, examinations, credit points and workload distribution, grading, person responsible for the module, teaching methods, admission requirements, recommended literature, and the date of last amendment made. The students confirm during the discussions that information about the courses is always available online and that details concerning examinations and contents are provided at the beginning of each course by the teaching staff. **However, as the module descriptions are still based on the outdated curricula of both programmes from 2020 and 2021 respectively, the experts urge HCMIU to submit the complete and latest version of the module descriptions (from 2023) and make them accessible for students and teaching staff. In this context, it is necessary to align the information in the module descriptions with the information given in the study plan (with regard to the frequency of offer of modules and the semesters in which modules are taught). When submitting the module descriptions of the Civil Engineering degree programme, HCMIU is asked to rewrite them so as to include information about the grading, the frequency of offer, the individual examination forms as well as a consistent**	also appreciates the ASIIN experts' suggestion to revise the module descriptions to ensure they are up-to-date, accessible to students and teaching staff, and have sufficient and consistent information (e.g., grading, frequency of offer, individual examination forms credit points, and workload). The CEM school and CEE school have revised the module descriptions and associated files (e.g., student handbooks, module handbooks, program specification, diploma supplement) with the new curriculum 2023 Additional document 2. Curriculum overview. All the information about grading, offer frequency, individual examination forms, and consistent credit points and workload conversion have been addressed. The CEM and CEE students and teaching staff can find those files on the CEM School website and the CEE school website (Curriculum overview published on the CEE website; Program specification published on the CEE website; Module descriptions published on the CEE website), as well as the hard copies at the school offices.

PRELIMINARY ASSESSMENT AND ANALYSIS OF THE PEERS	RESPONSES FROM CLUSTER A
conversion of credit points and workload.	
Criterion 4.2 Diploma and Diploma Supplement The experts confirm that the students of the two programmes are awarded a Diploma and a Diploma Supplement upon graduation. The Diploma consists of a Diploma Certificate and a Transcript of Records. The Transcript of Records lists all the courses that the graduate has completed, the achieved credits, grades, and cumulative GPA. The Diploma Supplement contains almost all the necessary information about the degree programmes. **However, the individual Diploma Supplements list programme objectives, learning outcomes as well as content of outdated curricula. Therefore, HCMIU must ensure that the Diploma Supplements contain detailed information about the currently relevant curricula (2023 for Civil Engineering and Environmental Engineering).**	**Criterion 4.2 Diploma and Diploma Supplement** The CEM school and the CEE school are grateful for the ASIIN experts' positive comments on the Diploma and Diploma Supplement content. Also, the CEM school and the CEE school appreciate the recommendation of the ASIIN experts to revise the current Diploma Supplement considering the new curriculum 2023. Following the suggestion, the CEM school and the CEE school updated the Diploma supplement in accordance with the new curriculum 2023 [Additional document 15. Diploma Supplement].

F Summary: Expert recommendations (09.02.2024)

Taking into account the additional information and the comments given by HCMIU the experts summarize their analysis and **final assessment** for the award of the seals as follows:

Degree Programme	ASIIN Seal	Maximum duration of accreditation	Subject-specific label	Maximum duration of accreditation
Ba Environmental Engineering	With requirements for one year	30.09.2029	EUR-ACE®	Subject to the approval of the ENAEE Administrative Council
Ba Civil Engineering	With requirements for one year	30.09.2029	EUR-ACE®	Subject to the approval of the ENAEE Administrative Council

Requirements

For all degree programmes

A 1. (ASIIN 1.5) Verify the students' total workload and award the ECTS points accordingly. Define how many hours of students' workload is required for one ECTS point.

A 2. (ASIIN 1.5) Ensure that the credits are equally balanced over all semesters, including the credits from the summer semester.

A 3. (ASIIN 4.1) Rewrite the module descriptions so as to include information about the consistent conversion of credit points and workload.

Recommendations

For all degree programmes

E 1. (ASIIN 1.3) It is recommended to provide additional English training to students and lecturers.

E 2. (ASIIN 2) It is recommended to offer students the possibility to prepare their thesis in collaboration with industry.

E 3. (ASIIN 1.3) It is recommended to increase the efforts to further internationalise HCMIU by establishing more international cooperations, conferences and publications as well as exchange programmes, by offering more and better-endowed scholarships and by better communicating the existing offers to the students.

E 4. (ASIIN 3.1) It is recommended that industry experts teach entire lectures about applied topics that are relevant for the degree programmes.

E 5. (ASIIN 3.1) It is recommended to increase the number of full and associate professors.

For Environmental Engineering degree programme

E 6. (ASIIN 1.3) It is recommended to include more electives that deal with sustainability, climate change and modelling.

For Civil Engineering degree programme

E 7. (ASIIN 3.2) It is recommended to improve the lab facilities.

G Comment of the Technical Committee 03 – Civil Engineering, Geodesy and Architecture (11.03.2024)

Assessment and analysis for the award of the ASIIN seal:

The Technical Committee discusses the accrediting procedure and follows the assessment of the experts without any changes.

Assessment and analysis for the award of the EUR-ACE® Label:

The Technical Committee deems that the intended learning outcomes of the degree programmes do comply with the engineering specific parts of Subject-Specific Criteria of the Technical Committee 03 – Civil Engineering, Geodesy and Architecture.

The Technical Committee 03 – Civil Engineering, Geodesy and Architecture recommends the award of the seals as follows:

Degree Programme	ASIIN Seal	Maximum duration of accreditation	Subject-specific label	Maximum duration of accreditation
Ba Environmental Engineering	With requirements for one year	30.09.2029	EUR-ACE®	Subject to the approval of the ENAEE Administrative Council
Ba Civil Engineering	With requirements for one year	30.09.2029	EUR-ACE®	Subject to the approval of the ENAEE Administrative Council

Requirements

For all degree programmes

A 1. (ASIIN 1.5) Verify the students' total workload and award the ECTS points accordingly. Define how many hours of students' workload is required for one ECTS point.

A 2. (ASIIN 1.5) Ensure that the credits are equally balanced over all semesters, including the credits from the summer semester.

A 3. (ASIIN 4.1) Rewrite the module descriptions so as to include information about the consistent conversion of credit points and workload.

Recommendations

For all degree programmes

E 1. (ASIIN 1.3) It is recommended to provide additional English training to students and lecturers.

E 2. (ASIIN 2) It is recommended to offer students the possibility to prepare their thesis in collaboration with industry.

E 3. (ASIIN 1.3) It is recommended to increase the efforts to further internationalise HCMIU by establishing more international cooperations, conferences and publications as well as exchange programmes, by offering more and better-endowed scholarships and by better communicating the existing offers to the students.

E 4. (ASIIN 3.1) It is recommended that industry experts teach entire lectures about applied topics that are relevant for the degree programmes.

E 5. (ASIIN 3.1) It is recommended to increase the number of full and associate professors.

For Environmental Engineering degree programme

E 6. (ASIIN 1.3) It is recommended to include more electives that deal with sustainability, climate change and modelling.

For Civil Engineering degree programme

E 7. (ASIIN 3.2) It is recommended to improve the lab facilities.

H Decision of the Accreditation Commission (22.03.2024)

Assessment and analysis for the award of the subject-specific ASIIN seal:

The Accreditation Commission discusses the accrediting procedure and especially the initial requirement A2. The AC is aware that the summer semester is optional and that the modules offered there are also offered in all other semesters. This semester is therefore not considered to be a compulsory additional workload and is transparent for students at all Vietnamese universities. The credits of all other semesters are equally balanced. Therefore, the AC decides to cancel the requirement A2. Apart from that, the AC follows the assessment of the experts and the TC without any changes.

Assessment and analysis for the award of the EUR-ACE® Label:

The Accreditation Commission considers the intended learning outcomes of the degree programmes to comply with the engineering specific parts of Subject-Specific Criteria of the Technical Committee 03 – Civil Engineering, Geodesy and Architecture.

The Accreditation Commission decides to award the following seals:

Degree Programme	**ASIIN Seal**	**Maximum duration of accreditation**	**Subject-specific label**	**Maximum duration of accreditation**
Ba Environmental Engineering	With requirements for one year	30.09.2029	EUR-ACE®	Subject to the approval of the ENAEE Administrative Council
Ba Civil Engineering	With requirements for one year	30.09.2029	EUR-ACE®	Subject to the approval of the ENAEE Administrative Council

Requirements

For all degree programmes

A 1. (ASIIN 1.5) Verify the students' total workload and award the ECTS points accordingly. Define how many hours of students' workload is required for one ECTS point.

A 2. (ASIIN 4.1) Rewrite the module descriptions so as to include information about the consistent conversion of credit points and workload.

Recommendations

For all degree programmes

E 1. (ASIIN 1.3) It is recommended to provide additional English training to students and lecturers.

E 2. (ASIIN 2) It is recommended to offer students the possibility to prepare their thesis in collaboration with industry.

E 3. (ASIIN 1.3) It is recommended to increase the efforts to further internationalise HCMIU by establishing more international cooperations, conferences and publications as well as exchange programmes, by offering more and better-endowed scholarships and by better communicating the existing offers to the students.

E 4. (ASIIN 3.1) It is recommended that industry experts teach entire lectures about applied topics that are relevant for the degree programmes.

E 5. (ASIIN 3.1) It is recommended to increase the number of full and associate professors.

For Environmental Engineering degree programme

E 6. (ASIIN 1.3) It is recommended to include more electives that deal with sustainability, climate change and modelling.

For Civil Engineering degree programme

E 7. (ASIIN 3.2) It is recommended to improve the lab facilities.

I Fulfilment of Requirements (08.01.2025)

Analysis of the experts and the Technical Committee (06.03.2025)

Requirements

For all degree programmes

A 1. (ASIIN 1.5) Verify the students' total workload and award the ECTS points accordingly. Define how many hours of students' workload is required for one ECTS point.

Initial Treatment	
Experts	Fulfilled. Justification: HCMIU has revised its credit system so that the conversion of Vietnamese credits to ECTS is now standardized. The module descriptions and curricula indicate that 1 ECTS is equivalent to 27.5 hours in all cases (regardless of the type of teaching). In addition, the workload, class hours and self-study hours, is now recorded in evaluations and thus regularly reviewed. HCMIU has also submitted the questionnaires and the results.
TC 03	Fulfilled. Justification: The TC follows the assessment of the experts without any changes.
AC	Fulfilled. Justification: The AC follows the assessment of the experts and the TC without any changes.

A 2. (ASIIN 4.1) Rewrite the module descriptions so as to include information about the consistent conversion of credit points and workload.

Initial Treatment	
Experts	Fulfilled. Justification: HCMIU has also integrated the adapted conversion of Vietnamese credits into ECTS into the module descriptions. Both credit units per module are now listed here.
TC 03	Fulfilled. Justification: The TC follows the assessment of the experts without any changes.

AC	Fulfilled. Justification: The AC follows the assessment of the experts and the TC without any changes.

Decision of the Accreditation Commission (25.03.2025)

Degree programme	ASIIN-label	Subject-specific label	Accreditation until max.
Ba Civil Engineering	All requirements fulfilled*	EUR-ACE®	30.09.2029
Ba Environmental Engineering	All requirements fulfilled*	EUR-ACE®	30.09.2029

Appendix: Programme Learning Outcomes and Curricula

According to the university's website the following **objectives** and **learning outcomes (intended qualifications profile)** shall be achieved by the Bachelor's degree programme Civil Engineering:

Civil Engineering programme	
CE-PO1	Graduates of the programme will be successful in **tackling** open-ended civil engineering problems in a quantitative and systematic approach;
CE-PO2	Graduates of the programme will be motivated to continuously **expand their knowledge**, be creative and innovative in their contributions to the field of civil engineering;
CE-PO3	Graduates of the programme will possess the ability to **design and manage** civil engineering projects in an ethical and professional manner

Civil Engineering programme	
CE-ILO.1	(a) Understanding the physical world and using knowledge of mathematics and natural sciences to represent it in pursuing and establishing research by the use of quantitative and quantitative methods.
CE-ILO.2	(b) Understanding the fundamentals of the civil engineering field (e.g., construction geology, material science, construction physics, surveying, structural theory, technical design, construction informatics, soil mechanics, fluid mechanics, and computational techniques, analyzing data for design, build, and appraisal construction)
CE-ILO.3	(c) Ability to analyze and prepare investment projects and understand their economic, environmental, and social impacts
CE-ILO.4	(d) Awareness of professional and ethical responsibilities of a civil engineer
CE-ILO.5	(e) Ability to function as a member of a multidisciplinary team (including multi-national and mixed-gender teams) as well as having good knowledge of management and organization to be able to take on leadership roles
CE-ILO.6	(f) Recognition of the need for and ability to engage in life-long learning in order to work efficiently in situations in which new technologies emerge regularly, as well as take part in developing new technologies by engaging in research works having the ability to interpret and use empirical datasets, integrate technical literature and databases to solve specific civil engineering problems or fill knowledge gaps.

CE-ILO.7	(g) Ability to communicate matters related to civil engineering to colleagues in the same profession or the general public, effectively using oral, written, and other forms of communication.
CE-ILO.8	(h) A broad education necessary to understand the impacts of civil engineering solutions in a global and social context
CE-ILO.9	(i) A broad understanding of contemporary issues in civil engineering in the national, regional, and global level
CE-ILO.10	(j) Ability to use techniques, skills, and modern engineering tools necessary for engineering practice, including identifying tasks of civil engineering, analyzing, abstracting, and formulating, along with being able to develop concepts, plans, and methods for proof and forecast (e.g., documented evidence for stability, energy efficiency, noise protection, flood protection, water supply)
CE-ILO.11	(k) Ability to use English in both technical and daily life situations

The following **curriculum** is presented:

Freshman Year							
Semester 1		***Credits***	***ECTS***	***Semester 2***		***Credits***	***ECTS***
EN007IU EN008IU	Writing AE1 Listening AE1	2 2	3.09 3.09	EN011IU EN012IU	Writing AE2 Speaking AE2	2 2	3.09 3.09
MA001IU	Calculus 1	4	6.18	CE100IU	Introduction to Civil Engineering	1	2.45
PH013IU	Physics 1	2	3.09	MA003IU	Calculus 2	4	6.18
CH011IU	Chemistry for Engineer	3	4.64	PH014IU	Physics 2	2	3.09
CE101IU	Engineering Mechanics -Statics	3	4.64	CH012IU	Chemistry Laboratory	1	2.45
PT001IU	Physical Training 1			CE102IU	Introduction to Computing for Engineers	3	4.64
				PT002IU	Physical Training 2		
Total Credits		**16**	**24.73**	***Total Credits***		**15**	**24.99**
Summer Semester 1							
Political Education: 1. PH015IU Physics 3 (3) 2. PH016IU Physics 3 Laboratory (1) 3. MA024IU Differential Equations (4)		**8**	**13.27**				
Sophomore Year							
Semester 3		***Credits***	***ECTS***	***Semester 4***		***Credits***	***ECTS***
PE015IU	Philosophy of Marxism and Leninism	3	4.64	PE017IU	Scientific socialism	2	3.09
PE016IU	Political economics of Marxism and Leninism	2	3.09	CE208IU	Mechanics of Materials 2	2	3.09
CE103IU	Computer-Aided Design and Drafting (CADD)	3	4.64	CE209IU	Structural Analysis 1	2	3.09
CE104IU	Practice CADD	1	2.45	CE205IU	Fluid Mechanics	2	3.09
CE201IU	Mechanics of Materials 1	2	3.09	CE206IU	Fluid Mechanics Laboratory	1	2.45
CE202IU	Mechanics of Materials Laboratory	1	2.45	CE214IU	Civil Architecture	2	3.09
CE210IU	Construction Materials	3	4.64	CE216IU	Probability and Statistics	3	4.64
CE213IU	Computational Methods for Civil Engineering	3	4.64	CE215IU	Applied Linear Algebra	2	3.09
Total Credits		**18**	**29.64**	***Total Credits***		**16**	**25.63**
Summer Semester 2							

MP001IU Military Training							
Junior Year							
Semester 5		***Credits***	***ECTS***	***Semester 6***		***Credits***	***ECTS***
CE301IU	Structural Analysis 2	3	4.64	CE307IU	Surveying	2	3.09
CE302IU	Soil Mechanics	3	4.64	CE308IU	Surveying Practice	1	2.45
CE303IU	Soil Mechanics Laboratory	1	2.45	CE309IU	Foundation Engineering	3	4.64
CE304IU	Reinforced concrete 1	3	4.64	CE310IU	Reinforced Concrete 2	3	4.64
CE305IU	Steel Structures	3	4.64	CE313IU	Reinforced Concrete Project	1	2.45
CE217IU	AI in Civil Engineering and Construction management	3	4.64	CE312IU	Steel Structure Project	1	2.45
				CE311IU	Construction Engineering	3	4.64
				PE019IU	Ho Chi Minh's Thoughts	2	3.09
	Total Credits	**16**	**25.65**		***Total Credits***	**16**	**27.45**
Summer Semester 3							
CE314IU Summer Internship (**3/7.36** crds)							
Senior Year							
Semester 7		***Credits***	***ECTS***	***Semester 8***		***Credits***	***ECTS***
CE401IU	Construction Management	3	4.64	CE_ _ _	CE Elective	3	4.64
CE211IU	Hydrology- Hydraulics	3	4.64	PE018IU	History of Vietnamese Communist Party	2	3.09
CE402IU	Foundation Project	1	2.45	CE_ _ _	CE Elective	3	4.64
CE403IU	Construction Project	1	2.45	CE306IU	Water Supply and Sewerage	3	4.64
PE021IU	General Law	3	4.64	_ _ _IU	IU Free Elective	3	4.64
_ _ _ IU	IU Free Elective	3	4.64	PE020IU	Engineering Ethics and Professional Skills	3	4.64
CE_ _ _	CE Elective	3	4.64				
	Total Credits	**17**	**28.1**		***Total Credits***	**17**	**26.29**
Senior Year							
Semester 8		***Credits***	***ECTS***				
CE420IU	*GRADUATION THESIS*	10	24.55				
Total Credits		**10**	**24.55**				

List of elective courses

CE Elective					IU elective				
No.	**Course ID**	**Course Name**	**Credits**	**ECTS**	**No**	**Course ID**	**Course Name**	**Credit**	**ECTS**
1	CE404IU	Dynamics of Structures	3	4.64	1	BA003IU	Principles of Marketing	3	4.64
2	CE405IU	Hydraulic Structures	3	4.64	2	BA006IU	Business Communication	3	4.64
3	CE406IU	Bridges Engineering	3	4.64	3	BA020IU	Business Ethics	3	4.64
4	CE407IU	Tall Buildings	3	4.64	4	BA115IU	Introduction to Business Administration	3	4.64
5	CM310IU	Building Information Management	3	4.64	5	BA116IU	Introduction to Social Science	3	4.64
6	CE412IU	Advanced Artificial Intelligence in Civil Engineering and Construction Management	3	4.64	6	BA118IU	Introduction to Psychology	3	4.64
7	CE413IU	GIS Applications in Civil Engineering	3	4.64	7	BA117IU	Introduction to Microeconomics	3	4.64
8	CE414IU	Construction Project Management	3	4.64	8	BA119IU	Introduction to Macroeconomics	3	4.64
					9	BA123IU	Principles of Management	3	4.64
					10	BA130IU	Organizational Behavior	3	4.64
					11	BA169IU	Management Information Systems	3	4.64
					12	BA120IU	Business Computing Skills	3	4.64
					13	IS019IU	Production Management	3	4.64
					14	IS026IU	Project Management	3	4.64
					15	IT063IU	Theoretical Models in Computing	4	6.18
					16	IT091IU	Computer Networks	4	6.18

					17	IT094IU	Information System Management	4	6.18

According to the university's website the following **objectives** and **learning outcomes (intended qualifications profile)** shall be achieved by the Bachelor's degree programme Environmental Engineering:

Environmental Engineering programme	
EV-PO1	Graduates will have general, fundamental and advanced knowledge focusing on the field of environmental engineering: water-wastewater treatment, air pollution control engineering, and solid waste management in order to solve environmental issues and continue their study at a higher level.
EV-PO2	Graduates should have an ability to identify the problem, clarify the specification, consider possible solutions, design, implement, and operate environmental treatment systems adapting to the social demand and national regulations.
EV-PO3	Graduates should have professional skills and attitude, adequate soft skills to communicate and work effectively in a team with diverging characteristics to solve environmental engineering problems.

Environmental Engineering programme	
EV-ILO.1	1. An ability to apply knowledge of mathematics, sciences and engineering to solve environmental engineering problems
EV-ILO.2	2. The broad education necessary to understand the impact of environmental engineering solutions in a global, economic, environmental and social context
EV-ILO.3	3. An ability to identify, formulate, and solve environmental engineering problems
EV-ILO.4	4. An ability to design and conduct classical and modern experimentations, as well as to analyze and interpret data.
EV-ILO.5	5. An ability to design environmental systems, components or processes to meet desired needs within realistic constraints such as economic, environment, occupational health and safety
EV-ILO.6	6. An ability to use the techniques, skills and modern technical tools necessary for technical practice in environmental engineering

EV-ILO.7	7. An ability to communicate effectively in English, writing reports, and presenting technical topics.
EV-ILO.8	8. An ability function on multidisciplinary teams
EV-ILO.9	9. An ability to understand and practice professional and ethical responsibilities
EV-ILO.10	10. A recognition of the need for, and an ability to engage in lifelong learning.

The following **curriculum** is presented:

Year	Semester	Code	Name	Credits/ ECTS	Note	
					New courses added	*Old courses revised*
1	1 *(17 credits/ 26.73 ECTS)*	EN007IU	Writing AE1	2/3.09		
		EN008IU	Listening AE1	2/3.09		
		MA001IU	Calculus 1	4/6.18		
		CH011IU	Chemistry for Engineers	3/4.64		
		CH012IU	Chemistry Lab	1/2	x	
		PE015IU	Philosophy of Marxism and Leninism	3/4.64		
		PE016IU	Political economics of Marxism and Leninism	2/3.09		
		PT001IU	Physical Training 1	0/0		
	2 *(17 credits/ 26.28 ECTS)*	EN011IU	Writing AE2	2/3.09		
		EN012IU	Speaking AE2	2/3.09		
		PE017IU	Scientific socialism	2/3.09		
		PH013IU	Physics 1	2/3.09		
		PE021IU	General Law	3/4.64		
		PE008IU	Critical Thinking	3/4.64		
		PE020IU	Engineering Ethics and Professional Skills	3/4.64		
		PT002IU	Physical Training 2	0/0		
2	1 *(18 credits/ 29.19 ECTS)*	ENEE2017IU	Introduction to Computing	3/4.64		
		ENEE1017IU	Fundamental of Analytical Chemistry	2/3.09		*ENEE1003IU Fundamental of Analytical Chemistry (3 credits)*
		ENEE1018IU	Fundamental of Analytical Chemistry Lab	1/2		
		ENEE1015IU	Biochemistry	3/4.64		*ENEE1010IU Biochemistry (4 credits)*
		ENEE1016IU	Biochemistry Lab	1/2		

Year	Semester	Code	Name	Credits/ ECTS	Note	
					New courses added	*Old courses revised*
		ENEE1013IU	Engineering Drawing	2/3.09		*ENEE1001IU Engineering Drawing (3 credits)*
		ENEE1014IU	Engineering Drawing Lab	1/2		
		ENEE2024IU	Mechanics of Materials	2/3.09		*ENEE2003IU - Mechanics of Materials (3 credits)*
		ENEE2008IU	Environmental Ecology	3/4.64		
	2 *(18 credits/3 1 ECTS)*	ENEE2001IU	Introduction to Environmental Engineering	3/4.64		
		ENEE2013IU	Environmental Microbiology	2/3.09		
		ENEE2016IU	Environmental Microbiology Lab	2/4		
		ENEE2002IU	Environmental Chemistry 1	2/3.09		
		ENEE2010IU	Environmental Chemistry 1 Lab	2/4		
		ENEE2005IU	Environmental Chemistry 2	2/3.09		
		ENEE2011IU	Environmental Chemistry 2 Lab	2/4		
		ENEE1019IU	Applied Statistics	2/3.09		*ENEE1006IU Applied Statistics (3 credits)*
		ENEE1020IU	Applied Statistics Lab	1/2		
	Summer		Military education	0/0		
3	1 *(18 credits/ 31 ECTS)*	ENEE1011IU	Hydraulics for Environmental Engineering	2/3.09		*ENEE1002IU Hydraulics for Environmental Engineering (4 credits)*
		ENEE1012IU	Hydraulics for Environmental Engineering Lab	1/2		
		ENEE2020IU	Physical and Chemical Processes for Environmental Engineering	2/3.09		*ENEE2007IU Physical and Chemical Processes for Environmental Engineering (3 credits)*
		ENEE2021IIU	Physical and Chemical Processes for Environmental Engineering Lab	1/2		

Year	Semester	Code	Name	Credits/ ECTS	Note	
					New courses added	*Old courses revised*
		ENEE2022IIU	Biological Processes for Environmental Engineering	2/3.09		*ENEE2009IU Biological Processes for Environmental Engineering (3 credits)*
		ENEE2023IU	Biological Processes for Environmental Engineering Lab	1/2		
		PE018IU	History of Vietnamese Communist Party	2/3.09		
		PE019IU	Ho Chi Minh's Thoughts	2/3.09		
		ENEE5004IU	Internship 1	2/4.91	x	
		Free elective courses: Take at least 3 credits/ 4.64 ECTS				
		IS020IU	*Engineering Economy*	*3/4.64*		
		IT120IU	*Entrepreneurship*	*3/4.64*	x	
		ENEE4011IU	*Engineering Project Management*	*3/4.64*	x	
	2 *(17 credits/ 28.55 ECTS)*	ENEE2025IU	Basic Theory of Environmental Structures	2/3.09		*ENEE2006IU Basic Theory of Environmental Structures (3 credits)*
		ENEE4017IU	Advanced Engineering Drawing	2/3.09		*ENEE4002IU Advanced Engineering Drawing (3 credits)*
		ENEE4018IU	Advanced Engineering Drawing Lab	1/2		
		ENEE3012IU	Water Treatment	3/4.64		*ENEE3101IU Water Treatment (4 credits)*
		ENEE3013IU	Water Treatment Lab	1/2		
		ENEE3014IU	Municipal Wastewater Treatment	3/4.64		*ENEE3102IU Municipal Wastewater Treatment (4 credits)*
		ENEE3015IU	Municipal Wastewater Treatment Lab	1/2		
		ENEE3016IU	Industrial Wastewater Treatment	2/3.09		

Year	Semester	Code	Name	Credits/ ECTS	Note	
					New courses added	*Old courses revised*
		ENEE3017IU	Industrial Wastewater Treatment Lab	2/4		*ENEE3104IU Industrial Wastewater Treatment (4 credits)*
	Summer	ENEE5005IU	Internship 2	3/7.36	x	
4	1 *(14 credits/ 26.19 ECTS)*	ENEE3110IU	Project 1	2/4.91		
		ENEE3111IU	Project 2	2/4.91		
		ENEE2014IU	Heat and Mass Transfer	3/4.64		
		Technical elective courses: Take at least 7 credits/11.73 ECTS				
		ENEE4016IU	*Construction-Measurement-and-Cost-Estimating*	*3/4.64*		
		ENEE3105IU	*Treatment Plant Operation*	*3/4.64*		
		ENEE4019IU	*Experimental Design*	*2/3.09*		
		ENEE4020IU	*Experimental Design Lab*	*2/4*		
		ENEE4021IU	*Pipe and Instruments Design*	*2/3.09*		
		ENEE4022U	*Pipe and Instruments Design Lab*	*2/4*		
		ENEE3103IU	*Water Supply and Drainage Systems*	*3/4.64*		
		ENEE3112IU	*Project 3*	*1/2.45*	x	
		ENEE3113IU	*Project 4*	*2/4.91*	x	
	2 *(15 credits/ 25.92 ECTS)*	CHE2081IU	Occupational Health Safety and Environment	2/3.09	x	
		ENEE5007IU	Pre-thesis	2/4.91		*ENEE5000IU Pre-thesis (1 credits)*
		ENEE3018IU	Solid waste and hazardous waste management	3/4.64		*ENEE3301IU Solid waste and hazardous waste management (4 credits)*
		ENEE3019IU	Solid waste and hazardous waste management Lab	1/2		
		ENEE3020IU	Air pollution control	3/4.64		

Year	Semester	Code	Name	Credits/ ECTS	Note	
					New courses added	*Old courses revised*
		ENEE3021IU	Air pollution control Lab	1/2		*ENEE3201IU Air pollution control (4 credits)*
		Free elective courses: Take at least 3 credits/4.64 ECTS				
		BA115IU	*Introduction to Business Administration*	*3/4.64*		
		BA154IU	*Entrepreneurship and Small Business Management*	*3/4.64*		
		BT010IU	*Plant physiology*	*3/4.64*		
		CHE3211IU	*Nanomaterials*	*3/4.64*		
		CHE3221IU	*Biomaterials*	*3/4.64*		
	Summer	ENEE5006IU	Internship 3	3/7.36		*ENEE5001IU Internship (2 credits)*
5	1	ENEE5003IU	Thesis	10/24.55		
			Total	**150/264.1**		