ASIIN Seal

Accreditation Report

Bachelor's Degree Programmes
Civil Engineering
Transportation Engineering

Master's Degree Programme
Civil Engineering

Provided by
Ton Duc Thang University

Version: 6th December 2024

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	Bachelor Degree in Civil Engineering	ASIIN	/	03
Kỹ sư Kỹ thuật xây dựng Công trình giao thông	Bachelor Degree in Transportation Engineering	ASIIN	/	03
Thạc sĩ Kỹ thuật Xây dựng	Master Degree in Civil Engineering	ASIIN	/	03
Date of the contract: 05.09.2022 **Submission of the final version of the self-assessment report:** 27.02.2023 **Date of the onsite visit:** 22.-23.05.2023 **at:** Ton Duc Thang University, Ho Chi Minh City				
Peer panel: Prof. Dr.-Ing. Haldor Jochim, University of Applied Sciences Aachen Prof. Dr.-Ing. Stephan Löring, University of Applied Sciences Bochum Prof. Dr.-Ing. Joaquin Diaz, University of Applied Sciences Mittelhessen Dr. Phan Le Vu, industry representative from Da Nang Department of Transport, Vietnam Tran Thanh Nghia, student from Da Nang University of Science and Technology				
Representative of the ASIIN headquarter: Yanna Sumkötter				

[1] ASIIN Seal for degree programmes
[2] TC: Technical Committee for the following subject areas: TC 03 - Civil Engineering, Geodesy and Architecture

Responsible decision-making committee: Accreditation Commission for Degree Programmes	
Criteria used: European Standards and Guidelines as of May 15, 2015 ASIIN General Criteria, as of December 07, 2021 Subject-Specific Criteria Technical Committee 03 – Civil Engineering, Geodesy and Architecture as of June 26, 2020	

B Characteristics of the Degree Programmes

Name	Final degree (original/English translation)	Areas of Specialization	Corresponding level of the EQF[3]	Mode of Study	Double/Joint Degree	Duration	Credit points/ unit	Intake rhythm & First time of offer
Bachelor's Degree in Civil Engineering	Kỹ sư/ B.Eng.		Level 6	Full time		8 Semesters	160 CP	1998
Bachelor's Degree in Transportation Engineering	Kỹ sư/ B.Eng.		Level 6	Full time		8 Semesters	161 CP	2003
Master's Degree in Civil Engineering	Thạc sĩ/ M.Sc.		Level 7	Full time		4 Semesters	60 CP	2012

For the Bachelor's degree programme Civil Engineering the Ton Duc Thang University has presented the following profile on their website:

"The objectives of the Civil Engineering programme

- Graduates will become the Civil Engineers with good basic knowledge about (1) economic-social science; (2) technical science; (3) basic and specific of Civil engineering both in theory and in implementation.
- Graduates are able to pursue advanced degrees or certifications in engineering, academia, research and display critical thinking, creativity, independent learning and desire for lifelong learning.
- Graduates enhance basic and specific knowledge of Civil Engineering in advanced to apply in design Civil and industrial structures, propose construction methods and manage construction projects.
- Graduates have to work independently as well as together in groups in high pressure environment; to develop and to integrate in high quality job market.

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

- Graduates excel in careers in Civil Engineering with a high level of professionalism […]"

For the Bachelor's degree programme Transportation Engineering the Ton Duc Thang University has presented the following profile on their website:

"The objectives of the Transportation Engineering programme

- Graduates have sufficient knowledge of (1) economic-social science; (2) technical science; (3) basic and specific of Transportation engineering both in theory and in implementation; fully aware of the importance of a professional engineer in the modern working environment.
- Graduates have specialized and advanced knowledge to apply their knowledge to analysis, design, formulation of construction methods, effective leadership and management in the field of Transportation Engineering.
- Graduates have professional skills and soft skills to become the core staff in the construction field to meet the needs of integration and internationalization.
- Graduates have knowledge in design and analysis to be able to perform reinforced concrete structure projects, steel structure projects, foundation projects, bridge design project, road design project, bridge construction project, road construction project.
- Graduates have a sense of learning, improve knowledge in the spirit of lifelong learning, have independent creative thinking, have moral qualities to contribute to the development of the country"

For the Master's degree programme Civil Engineering the institution has presented the following profile on their website:

"The objectives of the Civil Engineering programme

- Graduates will become experts in a narrow civil engineering discipline, being capable of extending and applying fundamental knowledge, basic knowledge, and specialized knowledge in a flexible manner.
- Have the ability to create plans and concepts to solve scientific and technological problems in Civil Engineering.
- Have highly specialized knowledge and skills to deal with the practical requirements of the design and construction management of complete structures.

- Master research methods for further development of the career combined with professional working skills and attitudes for developing a sustainable development of society.

C Peer Report for the ASIIN Seal

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 of all degree programmes
- Module handbooks of all degree programmes
- Diploma Supplements of all degree programmes
- Websites of all degree programmes
- Objective-module-matrix per programme
- 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 Transportation Engineering as well as the Master's degree programme Civil 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 Ton Duc Thang University (TDTU) has described programme objectives (POs) and programme learning outcomes (PLOs) for each of the three 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 and concise, the PLOs describe in greater detail the competences the students should acquire during their studies. To what extent the information, including the POs and PLOs about the three degree programmes must be accessible to the students as well as to all stakeholders, for instance by publishing them on the faculty's website, will be described under chapter 5.3. 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 three degree programmes, a minor revision every two years.

The experts note that the development of PLOs 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, TDTU regularly conducts surveys, through which the different stakeholders get the chance to assess the programmes and their main objectives. Based on this feedback TDTU adapts the degree programmes if necessary. Internal stakeholders include all of TDTU 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 basic and advanced knowledge in mathematics, basic science, technology and engineering and are able to apply this knowledge in practice, analysis, evaluation and research on issues in the field of civil engineering. They should be able to apply effectively the fundamental knowledge of civil materials, civil geology, geodetic, structural mechanics, and strength of materials as well as to calculate and to examine internal forces in structures to satisfy the durable and stable conditions. They know how to select suitable designs and appropriate materials and how to evaluate geological reports for calculating and designing foundation of civil structures. Moreover, they have gained a solid understanding of design wall, beam, and column in concrete and steel structures. They are also capable of applying effectively specialized software to establish design drawings and supervising and estimating projects based on the understanding of rules, laws, and professional requirements. 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 Transportation Engineering is to produce graduates who are able to apply knowledge of mathematics, natural sciences and industry foundations to practice, analyze and evaluate problems in the fields of transportation engineering. Graduates of this programme know how to calculate and examine internal forces in structures of bridges as well as how to select suitable designs and appropriate materials for transportation structures. Moreover, they must be able to evaluate geological reports for calculating and designing foundation of transportation structures. They are also capable of designing concrete and steel structures of bridges and flexible and rigid pavements, proposing construction methods and managing construction progress as well as applying effectively specialized software to establish design drawings. Consequently, graduates of this programme are capable of working in different sectors, such as government agencies, engineering consulting firms, construction companies, and transportation companies.

Graduates of the Master's degree programme Civil Engineering have acquired a deep understanding of the government's guidelines and policies as well as knowledge on how to determine research plans and apply effectively the research methods for solving Civil engineering problems. As part of their engineering analysis and design skills, they are able to flexibly apply processes, principles, methods and techniques to analyse and improve structural design as well as organize the construction of complex civil and industrial buildings. They are additionally capable of using specialized software to analyse, simulate, design and manage construction of civil and industrial works. They know how to demonstrate independent research, systematically collect, analyse and evaluate data on civil activities for research works. They are also capable of demonstrating teamwork skills, self-study skills, reporting and presenting skills, skills in organizing, managing and operating activities at the working unit, especially in a technical environment. Consequently, graduates of this programme can take over management tasks for demanding projects, they can work as leading managers in the construction industry, in engineering offices and in government institutions, and they are prepared for an academic career with focus on ambitious research work.

Next to the professional skills, the students of all three 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 all degree programmes are clear, plausible and allow students to take up an occupation, which corresponds to their qualification. They learn that the graduates of TDTU are much sought after in the labor market. The industry representatives emphasize the high quality of the graduates of all three 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 three degree programmes, the university has followed 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 while the learning outcomes of the Master's degree programme correspond to level 7 of the EQF. They aim at the acquisition of specific competences and are well-anchored and binding.

Criterion 1.2 Name of the degree programme

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 the Bachelor's and Master's degree programmes correspond with the intended aims and learning outcomes as well as the content of the respective degree programme.

In case of the Bachelor's degree programme Transportation Engineering, the experts detect discrepancies between the English title of the degree programme and its qualification profile and content. The general name "Transportation Engineering" suggests that a broad spectrum of transportation, particularly its fundamentals, is covered in the degree programme. Yet, after careful inspection of the curriculum, the experts find that the Bachelor's degree programme offers less diversity of subjects in transportation engineering than implied in the English title. Instead, a large part of the technical modules focuses on highway/road and bridge construction (e.g. "Highway Engineering", "Highway Construction", "Bridge Engineering", "Bridge Construction"). During the audit, the programme coordinators explain that they are not allowed to change either the original title of the programme due or its general contents, due to state regulations. Nevertheless, the experts recommend to adjust the English translation of the title of the programme according to its actual qualification profile and content.

Criterion 1.3 Curriculum

Evidence:

- Self-Assessment Report
- Study plan
- Module descriptions
- Discussions during the audit

Preliminary assessment and analysis of the experts:

All three degree programmes are managed by the Faculty of Civil Engineering. Both Bachelor's degree programmes are designed for four years and are offered as full-time programmes. The general structure of the curricula is similar for both Bachelor's degree programmes. The first two years are mainly designated to the study of general knowledge (mathematics, natural sciences, social sciences, humanities, English and economics) and

basic courses in the subject-specific field as well as the acquisition of soft skills (presentation & communication, teamwork & leadership, etc.). From the third year onwards, students can take part in specialized courses in their respective fields. The difference between the two Bachelor's degree programmes lies in the specialized courses, where specialized courses related to the design and construction of roads and bridges are provided in the Transportation Engineering degree programme. Furthermore, after consultation with their academic advisor, students can select electives according to their personal interests. During their studies, all students must spend at least eight weeks studying and working 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 tables below illustrate the curricula of both Bachelor's programmes:

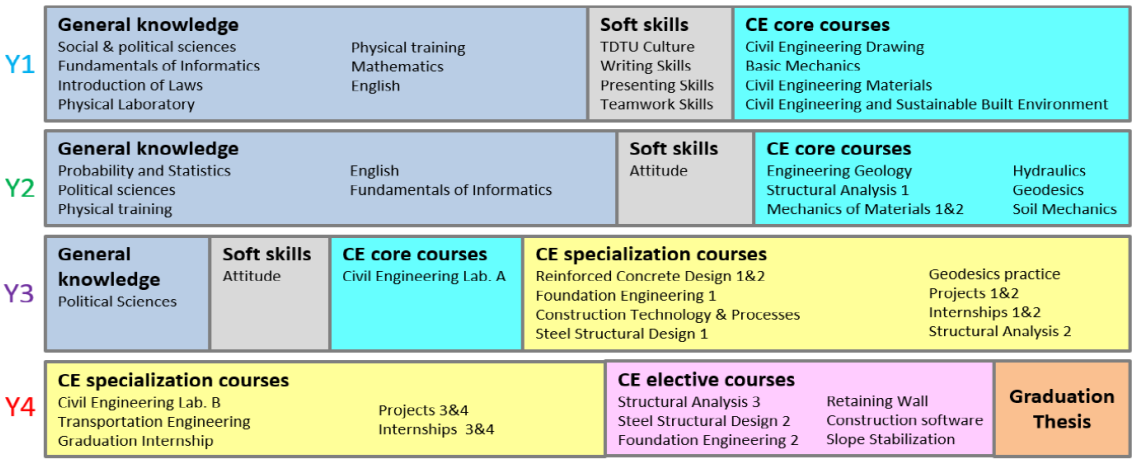


Figure 2.1 ***Curriculum map of BCE program***

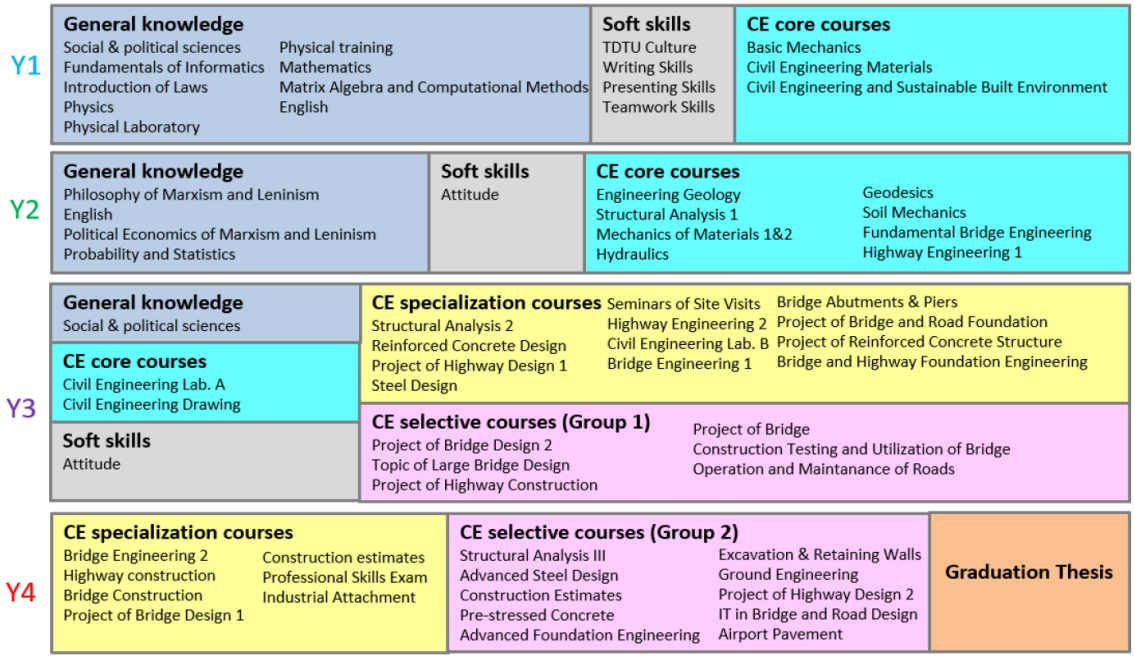


Figure 2.2 ***Curriculum map of BTE program***

With regard to the Bachelor's degree programme Civil Engineering, the experts inquire why water and waste engineering are not included in the programme's curriculum. From the programme coordinators they learn that topics as for example building construction and building physics are currently covered by TDTU's Architecture degree programme. They however consider including these topics into the Civil Engineering degree programme as well. Considering the increasing importance of the sustainability of buildings, aspects such as energy efficiency, economical use of water and building with renewable materials are gaining in importance, the experts support these plans and recommend including elective modules that deal with aspects of water management and supply, building construction, building physics and timber constructions in the programme curriculum.

The Master's degree programme is structured similarly: In the first semester, students attend general knowledge courses in philosophy, English, research methods as well as specialized courses in the respective departments. The second and third semester consists mainly of electives. By choosing a certain group of electives, students can form a specialization. These tracks include: construction materials and structures, geotechnical and foundation engineering and construction management. In the fourth semester, students complete their Master's thesis.

The curriculum of the programme is depicted in the following table:

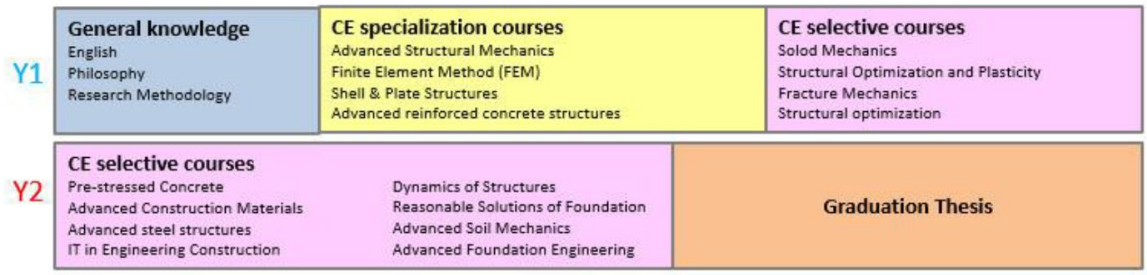


Figure 2.5 ***Curriculum map of MCE program***

The experts learn that the degree programmes at TDTU are very practice-oriented and prepare students for a career in industry. However, in recent years TDTU has developed a new strategy aimed at increasing the research component in all degree programmes and becoming a more research-oriented university in the future. Consequently, students are encouraged to participate in student research programmes, assist the faculty in research activities and publish scientific papers in collaboration with lecturers. The experts welcome the new strategy and TDTU's efforts to evolve from a practice-oriented to a research-oriented university. They encourage lecturers in their efforts to strengthen students' autonomous thinking and action so that they are increasingly able to conduct independent research and solve problems on their own.

Regarding the internal assessment of the degree programmes, the experts learn that the curriculum of every programme is reviewed every two years by the faculty committee following the reviewing plan of the university. On average, up to ten percent of the curriculum is modified during that cycle. The process includes feedback by industry partners, lecturers and students, which is collected every semester.

As TDTU has the goal to become more visible internationally and wants to further internationalize its degree programmes, the experts discuss which classes of the regular programmes are taught in English with the programme coordinatoras and students of all degree programmes. The programme coordinators explain that usually all courses are delivered in Vietnamese, but especially in the Civil Engineering degree programmes, lecturers deliver almost half of the courses in English. Moreover, some projects and the related presentations are done in English and specialized English courses are offered in every programme. Furthermore, English textbooks are used in the advanced courses in the last two years of Bachelor's studies and throughout the Master's programme. In all study programmes, students have also the possibility to join the English study club, which is offered by the Language Centre. In addition, students are obliged to achieve the required TOEIC 550 score in order to graduate from their Bachelor's studies and TOEIC 600 in order to graduate from their Master's studies. The students confirm that some projects as well as parts of other modules are done in English and that English textbooks are used. However,

they also state that they lack English practice for daily conversations and communication with clients. The industry representatives confirm this statement by explaining that students from all three programmes have the proficiency to edit and draft English documents, but not to conduct conversations with clients. The experts support TDTU in further promoting these efforts and recommend to improve the English speaking skills of the students, for instance by teaching project modules in English.

After reviewing the study plans and module descriptions of the three 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 the SSC of the Technical Committee Civil Engineering, Geodesy and Architecture. The experts think that the graduates are well prepared for the labour market and the search for suitable jobs in Vietnam. Finally, they also confirm that the programmes are regularly reviewed and changes are made if requested by the stakeholders.

Criterion 1.4 Admission requirements

Evidence:

- Admission Regulations
- Webpage TDTU
- Self-Assessment Report
- Discussions during the audit

Preliminary assessment and analysis of the peers:
Admission processes for Bachelor's degree programmes are held annually before September. TDTU publishes detailed information about the admissions process through its website, faculty and division pages, brochures, flyers, as well as through online admission counselling sessions for high-school students. During the latter, candidates are also informed about scholarships and post-graduation job opportunities.

High school graduates can apply to degree programmes offered by TDTU through one of five available admission methods. The admission council determines and approves the admission conditions for each admission method. The minimum requirement for all five methods is that the candidates have graduated from high school "or equivalent according to the provisions of Article 5 of the Regulations on University Admission and Admission to preschool education college-level programs issued together with the Circular No. 09/2020/TT-BGDDT dated May 7, 2020 of the Minister of MOET." These methods include:

Method 1: Admission based on the high school results

The first method is applied to those who have finished their high school programme in the recent year. It is divided into two bookings: the first one for TDTU allied high schools or from high schools in the TDTU allied provinces, and the second one for all other candidates.

Method 2: Admission based on the high school graduation exam results

The second method is applied to those who have officially graduated from high school after taking the graduation exam. Students are selected according to the total grade of three subjects in one of the available combinations (Maths-Physics-Chemistry, Maths-Physics-English, and Maths-Literature-Physics) the grade of Mathematics is multiplied by 2.

Method 3: Priority admission according to TDTU's regulations

The third method is for candidates from specialised high schools across the country or some key schools in Ho Chi Minh City; candidates with an international English certificate; candidates graduating from high school abroad; candidates studying international programmes at international schools in Vietnam; candidates with SAT, A-Level, IB, ACT certificates. Except for the first case, the others are used to guarantee the English requirement of high quality and joint programmes.

Method 4: Direct admission, priority admissions according to the Admission Regulation of the MOET

The fourth method follows the government's regulations to support minor communities, and encourage excellent persons.

Method 5: Admission is based on the results of the competency assessment test of Ho Chi Minh City's Vietnam National University

The last method is based on results of standardized test organized by Vietnam National University Ho Chi Minh City.

In its Self-Assessment Report, TDTU states the admission requirements for the Master's degree programme Civil Engineering as follows:

- "All candidates must write an essay of at least ten pages on their research direction. The admission committee and inspection department will evaluate the research essay and the academic record of the candidates for bachelor's degree studying based on a rubric. The accumulated grade of the research essay and bachelor's degree performance must be at least 50 out of 100 to pass the admission requirements of master's degree programme.

- Students applying to study master's degree programmes at TDTU must have Bachelor's Degree and Transcript with above-average results in the same or related fields as the applied major. English requirement is mandatory for all candidates."

The faculty of Civil Engineering reviews the university academic transcripts of every candidate to see if the enlisted modules are in line with the Master's programme. If the modules fail to be in line with those in the programme, the faculty will develop plans to supplement knowledge for these finalists.

In the discussions during the audit, the representatives of the rector's office explain that students have to pay tuition fees of around 1000€ per year. However, they also explain that students coming from abroad do not have to pay tuition fees in order to increase the number of international incomings. Furthermore, TDTU provides "scholarships for students from the schools that have signed MOU with TDTU" as well as for students "with outstanding performance in both academia and extra-curricular results". In addition, students "with difficult circumstances will get financial support from the university. The faculty also provides support for study abroad programmes with scholarships from cooperated international universities."

According to the statistics provided by the TDTU, the number of applicants has slightly increased within the last three years and now clearly exceeds the number of available places. In the academic year 2019/20, there were 1093 students applying for admission to the Bachelor's degree programme Civil Engineering and only 142 new students were enrolled. In 2020/21, there were 1035 students who applied for admission and only 172 new students could be enrolled, whereas in 2021/22, there were 1112 students who applied and only 167 new students could be enrolled. With regard to the Transportation Engineering degree programme, there were 189, 174 and 188 students who applied for admission in the same academic years and only 28, 30 and 29 new students were enrolled respectively. Finally, with regard to the Master's degree programme Civil Engineering, TDTU admitted as many students as applied to the programme. In the same academic years, these numbers were 12, 11 and 8.

In summary, the experts find the terms of admission to be binding and transparent. They confirm that the admission requirements support the students in achieving the intended learning outcomes.

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

Criterion 1.2:

With regard to the recommendation to adjust the English translation of the Transportation Engineering programme name according to its actual qualification profile and content, TDTU points out that the English title for this programme will include the additional term 'Specialty: Road and Bridge Engineering.' TDTU's naming convention for programmes adheres to Circular No. 09/2022/TT-BGDĐT issued by the Ministry of Education and Training (MOET), which provides the list of training sectors for bachelor degrees in Vietnam. The programme code for Transportation Engineering is 7580205, encompassing the planning, design, construction, maintenance, and operation of transportation facilities. TDTU concur with the expert panel's perspective on this being a specific specialization within Transportation Engineering. Consequently, TDTU plans to meticulously consider updating the English translation of the programme title to accurately reflect its qualification profile and content. Furthermore, they plan to ensure that a more detailed description of the programme's specialization is included in the diploma supplement for students admitted from the year 2022 onwards. The experts appreciate these explanations and support TDTU in further pursuing these plans. As neither the self-assessment report nor the on-site discussions mentioned the additional term 'Specialty: Road and Bridge Engineering' and as the mentioned plans have not yet been implemented, the experts continue to adhere to this recommendation.

2. The degree programme: structures, methods and implementation

Criterion 2.1 Structure and modules

Evidence:

- Self-Assessment Report
- Curricula for all degree programmes
- Module handbooks for all degree programmes
- Academic Handbook
- Regulation on the Bachelor's Admission and Training
- Regulation on the Master's Admission and Training
- Discussions during the audit

Preliminary assessment and analysis of the experts:

The Bachelor's degree programmes are designed for a standard study period of four years. The Master's degree programme spans over four semesters, equating to a two-year standard period of study. An academic year is structured into two main semesters and a third semester in the summer. Each main semester encompasses fifteen weeks of study and four weeks allocated for assessments. The third summer semester, which takes place between the two regular semesters, allows students to repeat courses they have failed or take courses in advance to shorten their overall study time.

In the Bachelor's programmes the curricula are divided into four categories: general knowledge/skills, fundamental knowledge/skills in the corresponding major, advanced and specific knowledge /skills in the corresponding major, and courses to prepare for graduation such as graduation project and career development internship. The first years focus on the general and fundamental modules whereas in the higher academic years, students advance their skills and knowledge in their specialized field and complete their internship and their graduation project. In both Bachelor's degree programmes, students can take electives courses of up to 6 credits. In the third academic year, students are required to complete an eight-week internship (4 credits) at a company or institution of their choice. The performance of the students is co-evaluated by the industrial supervisor and a lecturer of the faculty.

The Master's degree programme is structured similarly to the Bachelor's programmes. Here, the curriculum are divided into 4 categories as well: general knowledge (English, philosophy, and research methodology, 15 credits), mandatory courses in the subject-specific field (11 credits), elective courses (19 credits), and the Master's thesis (15 credits). As part of the elective courses, students have to complete at least one research topic course. Furthermore, by choosing a certain group of courses, students can form a specialization. In the Master's degree programme Civil Engineering these tracks include: construction materials and structures, geotechnical and foundation engineering and construction management.

The experts note that the degree programmes are divided into modules and that each module is a sum of teaching and learning whose contents are concerted. They gain the impression that the choice of modules and the structure of the curriculum ensure that the intended learning outcomes of the respective degree programme can be achieved. The internships are well embedded in the programmes and contribute to the achievement of the learning outcomes.

International Mobility

The experts learn that the university provides various mobility opportunities for students. These include semesters abroad, short programmes, internships and international conferences. To foster these, there are cooperation agreements with a number of partner institutions worldwide, with a focus on Asian countries (for instance Korea, Singapore, Japan), but also including institutions in Europe and United States. Partly due to the COVID-19 pandemic, the number of students participating in mobility programmes between 2020 and 2022 was relatively low, but is expected to increase again significantly after the pandemic. An international office has been established in order to coordinate TDTU's efforts and to support the students in the planning and administration of international mobility.

Study achievements acquired abroad are recognised at TDTU in accordance with the "Regulations for Admission and Training for Bachelor's and Master's Studies". Recognition takes place by applying for recognition to the management of the respective study programme. According to a regulation from the Ministry of Education and Training, a course taken at an international university can be considered equivalent to a course at the home university by a Scientific Academic Committee. Before a stay abroad, the university concludes a learning agreement with the respective student to ensure that the courses taken are relevant to the study programme and can thus be recognised. Students who wish to study abroad may receive a scholarship and financial support if they meet certain requirements in terms of academic merit and social contribution.

During the audit discussions, the experts inquire the reasons for the low numbers of student mobility. Especially the number of Bachelor's students who participate in international exchange programmes is still low despite students' high interest. In recent years, there have been a few incoming students from European and Asian countries. At the same time, a small number of students went abroad during their studies. The programme coordinators explain that tuition fees at foreign universities are too high for most Vietnamese students and that TDTU has only a limited budget to support students abroad. Therefore, they are currently trying to increase mobility options within and outside Vietnam to enable all students to spend an exchange semester. For example, cooperation agreements with different European universities, for example in the Netherlands aim to strengthen student mobility outside Vietnam. The experts welcome the efforts of TDTU to increase national mobility options. Given that the number of available places in the exchange programmes is still limited and that TDTU can only provide limited travel grants, while the demand from students is rising, the experts think it could be useful to increase the efforts to further internationalise TDTU. To that end, more international cooperation, conferences and publications as well as exchange programmes should be established, more and better-endowed scholarships offered and the existing offers should be communicated to the students more actively.

The extent to which strengthening the English skills of the students would assist them with increasing their job perspectives and their chances for receiving a scholarship for continuing their academic education at an international university is discussed in more detail under chapter 1.3.

The experts appreciate the efforts undertaken by the university to foster student mobility and they are satisfied with the structures and support mechanisms for international mobility.

Criterion 2.2 Work load and credits

Evidence:

- Self-Assessment Report
- Module Handbooks for all degree programmes
- Curricula for all degree programmes
- Academic regulations according to credit institutions
- Guidance document on how to convert Vietnamese credit system to European credit transfer system
- Student and graduate survey forms and results
- Discussions during the audit

Preliminary assessment and analysis of the experts:

According to the legal requirements, the total credit load is 160 Vietnamese credits (equivalent to 243 ECTS) for the Bachelor's degree programme Civil Engineering, 161 Vietnamese credits (equivalent to 248 ECTS) for the Bachelor's degree programme Transportation Engineering and 60 Vietnamese credits (equivalent to 93 ECTS) for the Master's degree programme Civil 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 three degree programmes, students need to take at least 10 credits and a maximum up to 40 credits in one semester. The workload of the last two semesters in the Bachelor's degree programmes and the workload of the last semester in the Master's degree programme 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 or 4 semesters respectively, 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 periods of practical laboratory work with additional 30 periods of self-study. In the internship, in the project work and the thesis it is equivalent to 30 periods. One period lasts 50 minutes. The workload calculation is depicted in the following table:

Course type	In-class periods	Self-study periods	Total study periods
Theoretical lecture	15	30	45
Practice, experiment or discussion	30	30	60
Internship	-	-	30
Project, graduation project	-	-	30

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. For theoretical lectures, the rate would be 1.42 and for practical work 1.83.

However, the module descriptions mention a different workload. For example, the module descriptions for "Mathematics 1" mention a total workload of 135 hours (45 hours contact time, 0 hours exercises, 90 hours self-study) and 3 Vietnamese credits (4.25 ECTS) are awarded, while 3 Vietnamese credits would mean 112.5 hours (3 x 37.5) and 4.25 ECTS would require 127.5 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. TDTU 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).

Moreover, with regard to the workload of the thesis module in all three 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 14 weeks are required to finish the Bachelor's thesis which is worth 14 Vietnamese credits (14.67 ECTS, according to module handbook). According to the Vietnamese credit calculation, this would mean 420 hours (14 x 30), whereas 14.67

ECTS would require 440 hours. Moreover, according to the conversion rate between Vietnamese credits and ECTS points suggested by TDTU in its guidance document on how to convert Vietnamese credit system to European credit transfer system, 1 TDTU credit equals 1.83 ECTS points for graduation theses. In this case, 14 Vietnamese credits would be worth 25.6 ECTS points, instead of 14.67 ECTS points as outlined in the Bachelor's module handbooks. As already mentioned in the previous paragraph, the workload and credit calculation is faulty and inconsistent in several ways.

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 faculty 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.

As the statistical data provided by TDTU shows, the average length of study was 4,5 years in both Bachelor's degree programmes and 2 years in the Master's degree programme in the last 3 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 PLOs of the programmes) 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 programs have been organized to help students improve their English skills, especially English for their specializations. To what extent the student's English skills 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 27 % of the students of the Faculty of Civil Engineering who dropped out of the degree programmes in the last few years. The data verifies that all three 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 or two years, respectively.

Criterion 2.3 Teaching methodology

Evidence:

- Self-Assessment Report
- Module Handbooks for all degree programmes
- Curricula for all degree programmes
- Discussions during the audit

Preliminary assessment and analysis of the experts:

The teaching staff at TDTU apply various teaching and learning methods, which are outlined in the module handbooks and linked narrowly to the course specific learning outcomes. According to the staff, various teaching and learning methods (including lectures, computer training and classroom and lab exercises, individual and group assignments, seminars and projects, etc.) have been implemented. Structured activities include tutorials, homework, assignments (reading or problem exercises) and practical activities. Group project assignments are given in some courses to develop students' skills in teamwork, communication, and leadership. The assignments and exercises should help students develop their abilities

with respect to critical thinking, written/oral communication, data acquisition, problem solving, and presentations.

The most common method of learning is through class sessions, with several courses having integrated laboratory practices. 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 as well as their soft skills. Laboratory work covers laboratory preparation, pre- or post-tests, laboratory exercises, reports, discussions, and presentations.

During the audit, the teachers particularly emphasise the role of internships and project-based learning in the curricula in the context of student-centred learning. Furthermore, teachers of all three programmes heavily employ the problem-based and project-based learning method. The problem-based learning method is supposed to encourage critical thinking, cooperative learning and improving problem-solving skills by solving real-world problems. The project-based learning method is a teaching approach that involves students' interests and motivations, links theoretical concepts learned in the classroom and their applications explored during activities outside school, and is supposed to provide more opportunities for direct interaction between students. It should have the potential to deepen student understanding and enhance interaction between students in completing authentic problem-based assignments that occur in everyday life.

The Master's programme additionally focuses on developing the students' skills in autonomously carrying out and solving (research) projects. Thus, teaching and learning methods mostly include projects and essay assignments.

To help students achieving the intended learning outcomes and to facilitate adequate learning and teaching methods, TDTU has developed a student information system (student portal), where students and teachers can interact.

In summary, the expert group considers the teaching methods and instruments suitable for supporting the students in achieving the intended learning outcomes. In addition, they confirm that the study concepts of all three programmes under review comprise a variety of teaching and learning forms as well as practical parts adapted to the respective subject culture and study format. It actively involves students in the design of teaching and learning processes (student-centred teaching and learning).

Criterion 2.4 Support and assistance

Evidence:

- Self-Assessment Report
- Student Handbook

- Discussions during the audit

Preliminary assessment and analysis of the experts:
TDTU offers a comprehensive consultation system for its students, both in terms of academic support and general student-life support. If students need academic counselling, they can contact the academic counselling team of the respective faculty or their individual academic supervisor (mentor). These offer, among other things, help in designing the study plan, finding a suitable company for an internship or preparing a research proposal for the Bachelor's or Master's thesis/project. Through a student portal, students can access all relevant information about their studies and TDTU, view their study progress and receive news about student life at TDTU. To improve students' academic knowledge and skills, the Faculty of Civil Engineering offers a Civil Engineering Club and an English Club. The Civil Engineering Club regularly organises competitions and workshops such as "Technical drawing on Autocad software" and "structural software". In general, TDTU places great emphasis on extracurricular activities; this is also evident from the large number of sports clubs.

To support students in their career planning and bring them into contact with industry at an early stage, the faculty regularly organises career events and invites national and international companies to hold seminars or workshops. They also advise students on choosing the right company for their internship.

As part of the general support for students, they can contact the Counselling and Support Office. The office offers psychological counselling on a range of topics. In addition, TDTU offers scholarships for students with exceptional academic performance and financial support for students from low-income families.

The students report that they are aware of the numerous support services offered by TDTU. They especially praise the teaching staff, who are open-minded and offer help at any time. They also appreciate the job fairs, which help them get in touch with a variety of companies.

The experts are pleased about the good and trusting relationship between students and teachers and about the fact that there are enough resources for individual support, counselling and assistance for the students. The support system helps students to achieve the desired learning outcomes and to complete their studies successfully and without delay. The comprehensive support and counselling system is one of TDTU's strengths.

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

Criterion 2.2:

With regard to the requirement to verify the students' total workload and award the ECTS points accordingly as well as to define how many hours of students' workload is required for one ECTS point, TDTU points out that during the onsite visit, they might not have sufficiently clarified this matter. TDTU underlines that as a result, there are aspects where the ECTS conversion at TDTU has not been appropriately addressed, and the report's conclusions may not fully reflect the actual situation. To rectify this, TDTU submits a document named "The ECTS Conversion," which offers a more detailed and accurate explanation.

Within this document, TDTU explains that the workload and credit calculation for academic credits is prescribed by the Regulation on University Education promulgated by the Ministry of Education and Training of Vietnam - MOET (Circular No. 08/2021/TT-BGDĐT). In compliance with the regulations of the MOET and in accordance with the ECTS Users' Guide, TDTU has issued Guide No. 2554/TĐT-HD to implement the conversion of Vietnamese credits to ECTS.

Furthermore, TDTU clarifies some details as follows in this document:

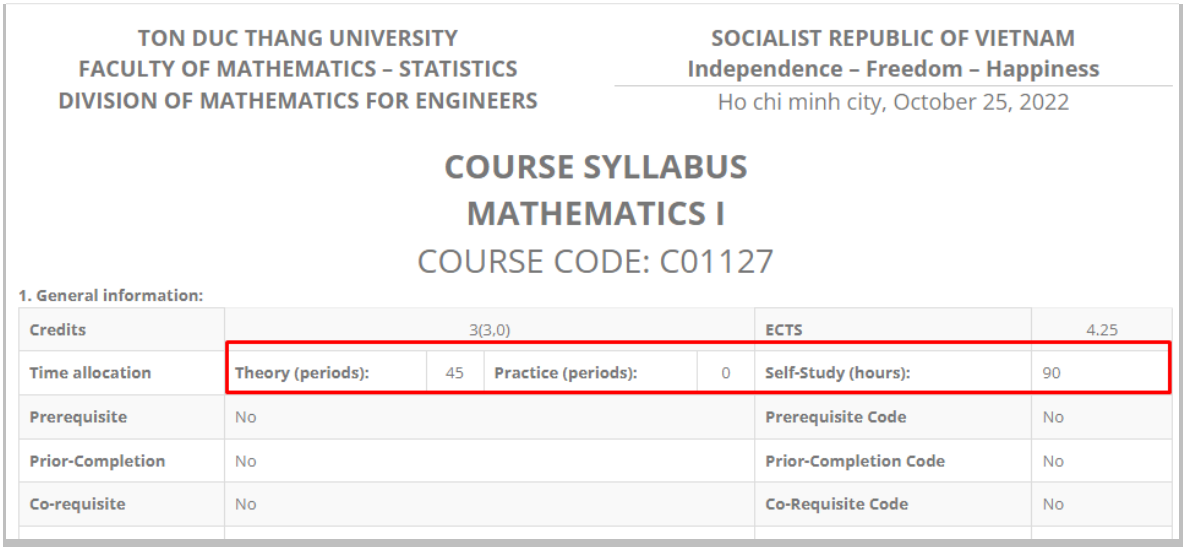
1. There is a difference between 1 learning period (contact time) and 1 hour of self-study according to the Vietnamese credit system. We apologize for the misunderstanding caused by the translation in the SAR and the module description. As regulated by the MOET, one learning period (contact time) lasts for 50 minutes (~0.83 hours) and one self-study hour is equivalent to 60 minutes (1 hour). We have fixed the mistranslation in our system to indicate the accurate terms of the workload unit (see Figure 1).

2. To calculate the workload, one academic credit is prescribed differently depending on whether it is a theoretical or practical credit.

   a. For 1 theoretical credit, learners need to spend 15 learning periods x 50 minutes + 30 hours of self-study = 42.5 hours,

   b. For 1 practical credit, learners need to spend 30 learning periods x 50 minutes + 30 hours of self-study = 55 hours.

3. For the example of workload calculation for "Mathematics 1", it is awarded 3 theoretical credits, which would mean 127.5 hours (3 x 42.5 hours), which is equivalent to 4.25 ECTS (127.5 / 30).



TON DUC THANG UNIVERSITY
FACULTY OF MATHEMATICS – STATISTICS
DIVISION OF MATHEMATICS FOR ENGINEERS

SOCIALIST REPUBLIC OF VIETNAM
Independence – Freedom – Happiness
Ho chi minh city, October 25, 2022

COURSE SYLLABUS
MATHEMATICS I
COURSE CODE: C01127

1. General information:

Credits	3(3,0)				ECTS	4.25
Time allocation	Theory (periods):	45	Practice (periods):	0	Self-Study (hours):	90
Prerequisite	No				Prerequisite Code	No
Prior-Completion	No				Prior-Completion Code	No
Co-requisite	No				Co-Requisite Code	No

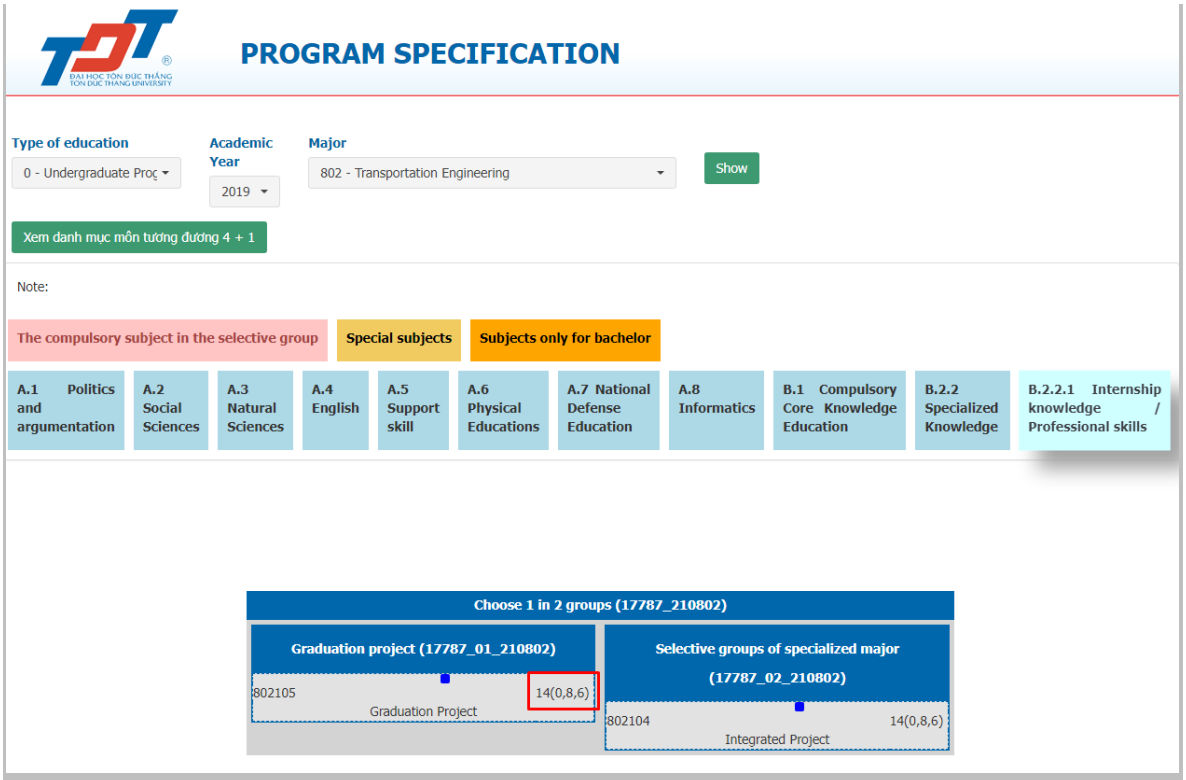
4. For the Bachelor's graduation thesis, in our program specification sub-system, the types of credit are indicated in brackets according to the sequence of the number. For example, the graduation thesis is 14 (0,8,6) (see Figure 2). The explanation of each figure is:

a. 14 is the total number of credit awarded to the course;

b. The first figure in the brackets (0) is the number of theoretical credit;

c. The second figure in the brackets (8) is the number of practical credit;

d. The last figure in the brackets (6) is the number of self-practical credit which is calculated similarly to the practical credit.



For this arrangement, the IT system will calculate the ECTS according to Guide No. 2554, which already includes self-study hours in the formula. However, due to a bug in the sub-system, the last figure in the brackets was overlooked. Therefore, the exact calculation of the thesis ECTS is 25.67 instead of 14.67. TDTU fixed this fault in their updated version of the sub-system. Moreover, TDTU has officially started collecting learner feedback on the workload of all programs since the 2023-2024 academic year. The information gained from the feedback will be taken into account to revise the curriculum accordingly. TDTU submits a sample of a student feedback on course questionnaire together with its response statement.

The experts appreciate these helpful explanations and conclude that according to the submitted figures and documents, TDTU's credit conversion is accurate, consistent, and in compliance with the MOET's regulation as well as in accordance with the ECTS Users' Guide. They understand that the misunderstanding was only caused by the mistranslation of the terms "hour" and "learning period" in the self-assessment report and the module descriptions and the fault caused by the sub-system bug. Therefore, they consider this requirement to be fulfilled.

3. Exams: System, concept and organisation

Criterion 3 Exams: System, concept and organisation

Evidence:

- Self-Assessment Report
- Module handbooks for all degree programmes
- Examination Regulations
- Discussions during the audit

Preliminary assessment and analysis of the experts:
The design, organisation and assessment of examinations at TDTU follow the Educational Guidelines for Examinations issued by the Ministry of Education and Training and the Examination Regulations set by TDTU. All assessment methods are designed to individually measure the extent to which students have achieved the respective learning outcomes of the module and the programme.

The most common type of assessment is written examinations; however, other examinations may also be included in the final grade. In Bachelor's programmes, assessment of theoretical courses, which make up the majority of courses, consists of a combination of progressive assessment (to track student progress; 30%), midterm examination (20%) and final examination (50% of final grade). These three types of examinations usually include quizzes, homework, e-learning exercises, multiple choice questions, constructed response tests, essays, presentations and reports. In laboratory courses, the final grade is based on the students' results in the practical test. In project courses, students are graded based on their project and presentation at the end of the course. In Master's courses, the assessment of theoretical lectures is based on the progressive assessment (40%) and the final report (60% of the final grade). In contrast to the Bachelor's programmes, students in the Master's programmes must also complete courses on advanced research topics, where students must submit a final research report (100% of the final grade).

Successfully passed exams are evaluated by lectures with a grading system based on a 10-point scale: Excellent (9 to 10), Very good (8 to near 9), Good (7 to near 8), Fairly good (6 to near 7) and Average (5 to near 6). The maximum score for each course is 10 points, and 5 points are required to pass the course.

The criteria for assessing students' performance are stated in the assessment plan of each course syllabus. To ensure transparency and fairness for all students, the assessment components, their weights and schedules are introduced to the students from the first class of the course. The course syllabus is also available through the student portal for enrolled students. In addition, students and teaching staff can also find the information related to the course specifications and assessment criteria in the Programme Specification that has been published on the faculty's website.

Students who underperform will receive academic warnings. The warning system has three levels: “Academic warning level 1”, “Academic warning level 2”, and “Suspension”. An academic warning is issued if a student violates one of the regulations, such as not affording the minimum number of required credits, finishing the semester with the average grade less than 3.0 (scale 10) or less than 4.0 in the last two consecutive semesters. Students who have already received “Academic warning level 1” would receive “Academic warning level 2” if their performance does not improve in the following semester. In those cases, the students will be suspended. As the students’ academic advisor receives the notifications during the course as well, help and support can be given in time to improve the students’ academic performance.

The peers discuss with the students how many and what kind of exams they have to take each semester. They learn that there is one mid-term exam and one final exam in every semester for most courses. Usually, there are additional practical assignments or quizzes. The students confirm that a variety of assessment methods is used, ranging from traditional methods to presentations or project reports. The final grade is the sum of the sub-exams. Although this means that the total number of tests taken during a semester is comparatively high, the students do not complain about this workload and instead appreciate that there are several short exams instead of one big exam as this requires them to study continuously during the entire semester and helps avoid working for one final exam at the end of the semester. The students also confirm that they are well informed about the examination schedule, the forms of examination and the rules for grading. The peers appreciate their perception.

The Bachelor’s thesis/ project is a major part of the degree programmes and considered as a final assessment if the intended learning outcomes have been achieved. The graduation project (14 credits) can be completed in one of two way: as a thesis or synthesis project. The department decides about the form depending on the academic achievements of the student. The thesis/project is an independent work of study. Its topic and content must be discussed with the respective supervisor before the beginning of the project. Every student has 14 weeks to complete the graduation project. In the 8th week, students are evaluated as for their progress of their project so far. At the end of the project, there are two weeks to review the project. A graduation defense will be held after the completion of reviewing process. The grade of the graduation project is the average grade from the advisor, reviewer and members of the graduation project defense committee.

The Master’s thesis is awarded 15 credits. Before starting the thesis, students have to submit a research proposal to their academic supervisor. After the completion of the thesis, they need to defend their thesis in front of a committee, which consists of 5 members: the chairman, secretary, two reviewers and another member. The committee must have at

least two members outside of TDTU. The faculty encourages students to publish their projects in international journals.

Students who have failed a course must attend it again in the next semester. Students who have passed a course but want to improve their result can also repeat it. Students who cannot take the exam for unavoidable reasons (e.g. illness, accident, death of a family member, etc.) may apply to retake the exam. Students with disabilities will receive appropriate support for the examination. If students are not satisfied with their grade, they can file an appeal. In this case, the exam will be re-assessed by another teacher. The student also has the right to see the original examination and to have the grade explained by the teacher.

During the on-site visit, the peers 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 and 7 for the Master's programme. The forms of exams are 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. Students confirm that they are well informed about the examination schedule, forms and rules for grading.

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

As TDTU does not further comment on criterion 3, the experts continue to adhere to their previous assessment.

4. Resources

Criterion 4.1 Staff

Evidence:

- Self-Assessment Report
- Staff Handbook
- Study plan
- Module descriptions
- Discussions during the audit

Preliminary assessment and analysis of the experts:
The Faculty of Civil Engineering (FCE) at TDTU follows a standardized process for recruiting faculty members. Criteria for recruitment include graduation from reputable foreign universities, English proficiency, research expertise, teaching experience, and specific aptitudes required by FCE. Applicants undergo preliminary assessment, followed by interviews with the head of the department and the FCE dean. They are also required to give a lecture or presentation. Successful candidates proceed to interviews with the TDTU President and FCE Dean and the TDTU Recruitment Board.

The following table illustrates the number of the different academic staff members at the FCE in the last years:

Table 4.1 ***The Academic staff of FCE***

Academic Year	*Bachelor Lecturer*	*Master Lecturer*	*PhD Lecturer*	*Professor/ Assoc. Prof.*	*Master Studying*	*PhD Studying*	*Retirement*	*Transferring job*	*Leaving job*	*Academic Staff*
2017 - 2018	0	27	48	11	0	10	1	0	0	97
2018 – 2019	0	27	48	11	0	10	1	0	0	97
2019 – 2020	0	20	48	11	0	17	1	0	0	97
2020 – 2021	0	16	46	12	0	18	3	0	3	95
2021 – 2022	0	16	46	12	0	18	3	0	3	95

In addition, there are some visiting lecturers from other universities and companies. The technicians support practical classes in terms of preparing computer labs and teaching experiments. The FCE has additional staff members who support the Dean in terms of administration, student work, undergraduate and postgraduate training management. In addition, the FCE regularly invites visiting lecturers from Vietnam and abroad to foster academic exchange.

Staff-to-student ratios are closely monitored as well to enhance education quality. TDTU states that the student-staff ratio does not exceed MOET's national target of 20 students to 1 lecturer. The numbers shown above imply that the ratio between the academic staff of FCE and students of both degree programmes has been 1:17 for the past three years.

All full-time members of the teaching staff are obliged 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 and also depends on the academic position. The workload of teachers is clearly defined, with full-time doctoral degree holders

assigned 486 teaching hours annually, and Master's degree holders assigned 414 teaching hours. Workloads can be adjusted based on research outputs. The FCE regularly monitors whether academic staff meet their teaching and research obligations and evaluates their workload.

Every year, associate professors or lecturers can apply for promotion to associate professor or full professor, respectively. The candidates are considered based on three main criteria such as years of working, hours of teaching graduate students, quantity and quality of scientific published papers.

As already mentioned, the mission of TDTU is to become a research university in the next 5-10 years. To realize this vision, they focus on regular publications, conferences, and participation incentives for teachers. FCE is one of TDTU's leading faculties in research, and statistics show that the number and quality of FCE's scientific research has been increasing year by year. Between 2019 and 2020, for example, the FCE published 102 publications. In light of the FCE's goal to raise the quality of teaching and research to an international level, most faculty members have completed their academic degrees abroad. TDTU further strengthens internationalization by implementing a plan to recruit 5 part-time foreign professors and experts and to train their staff so that a minimum of 75% of the lecturers hold a PhD degree and a minimum of 15% of the lecturers become professors.

TDTU's support staff encompasses library personnel, facility support staff, personnel in computing and computer services, teaching support staff, student services, dormitory support staff, and security personnel. The FCE specifically includes academic and student service staff, secretarial staff, and laboratory personnel within its support staff category.

The experts review the staff handbook and confirm that the composition, scientific orientation and qualification of the teaching staff are suitable for successfully implementing and sustaining the degree programmes. They particularly welcome the efforts of TDTU and FCE to raise the academic qualifications of academic staff in order to improve the quality of research and teaching. They also agree that there is sufficient administrative staff to assist teachers and students in the programmes under review.

Criterion 4.2 Staff development

Evidence:

- Self-Assessment Report
- Staff Handbooks for all degree programmes
- Regulation: On Internal Expenditure of University of Science and Technology

- Discussions during the audit

Preliminary assessment and analysis of the experts:
According to the self-assessment report and the discussions during the on-site audit, TDTU encourages the continuing professional development of its staff according to their training and developmental plan. For this purpose, various opportunities are provided. Faculty members regularly participate in didactic training that encompasses curriculum design, teaching material, and innovative teaching and learning methods. Moreover, workshops related to subject-specific fields are held to refresh and to deepen various didactic competences in each semester. The lecturers can also regularly participate in external didactical trainings offered and funded by the government. New academic staff is required to complete compulsory teacher training, where experienced faculty members teach and supervise the work of apprentices and tutors.

The teaching staff are encouraged to study abroad or to participate in international research projects and conferences in order to enhance their knowledge, increase their English proficiency and build international networks. For this purpose, the university informs about possible scholarships to support academic mobility. The experts learn from the teaching staff that there are many different options to apply for funding for research projects, not only from TDTU but also from the government and big companies the university collaborates with. In general, the exchange programmes are funded by international partner universities and organizations. TDTU particularly encourages its academic staff to enhance their professional qualifications through scholarships for doctoral projects. The general rule at the TDTU is that lecturers who do not have a PhD degree are required to plan their completion and determine their completion time. Academic staff enrolled in a PhD programme in Vietnam are exempted from their workload with full salary for three years and the university fully covers their tuition fees. Furthermore, TDTU encourages its staff members to pursue a PhD abroad and offers scholarships as an incentive. As a result, a number of lecturers have earned their doctorates abroad.

During the audit, the experts discuss about their obligations to do research and incentives to reach for higher levels of professorship with members of the teaching staff. In response, the experts learn that all teaching staff are obliged to devote at least a third of their time to research. In terms of their career progression, however, the present staff indicate that the financial benefits of aiming e.g. for full professorship are not in relation to the additional responsibility and workload.

Finally, during the audit the experts inquire to what extent teachers are in contact with the industry and how they receive up-to-date information about new developments in the industry. The teachers state that they are regularly invited by the companies to visit them

and learn about the newest technologies and processes. By supervising student projects carried out in companies, the teachers also establish contacts with various companies and occasionally start projects with them. In addition, many teachers also work in industry alongside their teaching activities. The experts appreciate the teachers' contact with the local industry.

In summary, the experts appreciate the university's efforts in the further development of its employees and consider the support mechanisms for the continuing professional development of the teaching staff adequate and sufficient.

Criterion 4.3 Funds and equipment

Evidence:

- Self-Assessment Report
- On-site visit of participating institutes and laboratories
- Discussions during the audit

Preliminary assessment and analysis of the experts:
Basic funding of the degree programmes and the facilities is provided by TDTU and the different faculties. To ensure sufficient operational funds, TDTU develops a financial plan for each academic year in compliance with the state's regulations for universities.

From the discussion with the Rector's office and the programme coordinators, the experts learn that the primary funding sources of TDTU are tuition fees from students and technology transfer from industry. The figures presented by the university show that the faculties' income is stable and the funding of the degree programmes is secured. The academic staff emphasise that from their point of view, all three programmes under review receive sufficient funding for teaching and learning activities as well as research, which results in facilities that are equipped according to the standard and good access to literature, databases and modern software. The students confirm this positive impression and state their satisfaction with the available resources.

In the self-assessment report, TDTU gives an extensive overview of the available learning spaces and libraries. Moreover, they list detailed information of all laboratories available for each study programme. During the on-site visit, the experts take a look at some central facilities, relevant research and teaching facilities and, in particular, a selection of different laboratories available for the three study programmes. The TDTU main campus houses 3 large halls, 7 conference rooms and many classrooms equipped with projectors or smart TVs. In addition, students and staff can use seminar rooms for discussions and seminars.

The Faculty of Civil Engineering has 5 laboratories and has equipped simulation laboratories with 40 computers per room (2100 computers for training activities in total) that offer students access to licensed software. The university has licensed Microsoft Office and other standard software and provides the students full access to this software.

During the audit, the experts find that the facilities and laboratories are adequate and contain everything necessary for the programmes' objectives. However, given that the improvement of the research environment is one of the main goals formulated in the university's strategic plan, the experts, noticed that the facilities 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 and measuring instruments. In the geodesy lab, for example, a theodolite for students' use was available, but laser scanning equipment was missing. 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 continuously update the equipment of the laboratories, especially with regard to TDTU's strategy to become a research university by 2037.

With regard to library capacities, TDTU's central library includes a 24/7 self-study area and 7 functional floors, which can serve about 3,000 users at the same time, including group and personal study rooms, an online conference room, a creative communication space and a computer area. The general catalogue provides access to almost 250,000 titles, including books, serials, theses, scientific reports and more, in addition to digital and electronic databases. Among these, 36,715 documents originate from the field of Civil Engineering and 1,123 printed books deal with subjects covered by the faculty of Civil Engineering, Additionally, the library website provides access to a range of online publishing databases. During the audit, students expressed their satisfaction with the respective programmes' facilities as well as with the library capacities and available literature.

In summary, the expert group appreciates the range of learning tools and resources available to the students. According to their assessment, the available funds, the technical equipment, and the infrastructure (laboratories, library, class rooms etc.) 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 4:

Criterion 4.2:

With regard to the staff's research duties, TDTU underlines that they have a dedicated council to formulate policies concerning financial incentives, workload, and responsibilities

for their teaching staff. These policies aim to incentivize career development and increased contributions to the university. They undergo annual reviews and updates. Commencing this academic year, Professors, Associate Professors, and Experts are entitled to a monthly bonus tied to financial support or monthly financial support based on Web of Science citation metrics, funding for high-quality publications, and project funding applications initiated by our teaching staff. The experts appreciate this explanatory note and support TDTU in further promoting these activities.

Criterion 4.3:

Regarding the recommendation to continuously update the equipment of the laboratories, especially with regard to TDTU's strategy to become a research university by 2037, TDTU explains in its response statement that according to the university's strategic plan, they are working to enhance their research facilities in the next few years. For example, they plan to acquire equipment such as compression and bending testers, a three-speed shear machine, an ultrasonic concrete testing machine, and a high-temperature oven, etc. The budget for buying new research facilities in the next 5 years is up to 1.3 million US dollars. The experts appreciate these efforts as they will support TDTU's strategy to become a research university. However, as the mentioned plans have not yet been implemented, the experts continue to adhere to this recommendation.

5. Transparency and documentation

Criterion 5.1 Module descriptions

Evidence:

- Module handbooks for all 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 experts are particularly impressed by the comprehensiveness of the module descriptions. 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.

Criterion 5.2 Diploma and Diploma Supplement

Evidence:

- Self-Assessment Report
- Sample Diploma per programme
- Sample Diploma Supplement per programme

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 programme. However, it does not list the learning outcomes achieved by the student upon completion of the programme. Therefore, TDTU must ensure that the Diploma Supplement contains information on the graduate's qualifications profile.

Criterion 5.3 Relevant rules

Evidence:

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

Preliminary assessment and analysis of the experts:
From the documents provided and the discussions during the audit, the experts learn that TDTU follows a policy of transparent and open rules and regulations. All required rules and regulations are made accessible online to students at any time. The discussion with the students confirms that they feel well informed about regulations and comfortable about the access to any information about their degree programmes and the courses. Yet, the experts note that the English version of the module descriptions for all three programmes are not published on the website of TDTU. For this reason, the experts expect TDTU to update this version of the websites of the programmes, to align the information on the university's and the faculty's webpages, to include module descriptions of each degree programme and make them available to all relevant stakeholders.

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

Criterion 5.2:

With regard to the requirement to provide information on the graduate's qualifications profile in the Diploma Supplement, TDTU states to currently consider updating the diploma supplement with information on the programme learning outcomes (PLOs) for students enrolled in the 2022 cohort onwards. The experts urge TDTU to implement this plan. However, as the mentioned plans have not yet been implemented, the experts continue to adhere to this requirement.

Criterion 5.3:

Regarding the requirement to make the information about the programmes (module descriptions) available to all stakeholders by publishing them on the English version of the webpage, TDTU states that they strictly adhere to the information disclosure regulations set forth by the Ministry of Education and Training (MOET). As per these guidelines, they already have made all relevant information about their training programmes publicly available on their website: https://cktt-cdr.tdtu.edu.vn/. The experts thank for this clarification and recognise that all relevant information is already available to stakeholders in the language of instruction. However, they still recommend adapting the information on the English-language website accordingly.

6. Quality management: quality assessment and development

Criterion 6 Quality management: quality assessment and development

Evidence:

- Self-Assessment Report
- Quality handbook
- Discussions during the audit

Preliminary assessment and analysis of the experts:
The experts discuss the quality management system at TDTU with the programme coordinators and students. They learn that TDTU has an extensive quality management system, which is aimed at constantly improving the quality of the degree programmes and the experience of students and faculty members. The central unit responsible for quality management is the Department for Testing and Quality Assurance (DTQA). DTQA has developed a quality handbook, which sets out the University's quality control mechanisms for the

whole university. The individual faculties are obliged to follow this handbook and carry out self-assessment tasks such as the revision of the curricula.

The process of curriculum development is divided into three major steps. First, at the end of every academic year lecturers of the individual faculty meet in order to assess and discuss the courses syllabi. Among other things, the students' learning results, inspiration from other institutions, and new trends in the technical fields are discussed. The second step consists of conducting surveys and analysing the feedback from students, alumni, employers, and other stakeholders. Finally, the faculty's academic committee, who receives the results of surveys and reports from other groups, suggests improvements to the individual programmes. According to TDTU, all surveys are carried out on a regular basis. Alumni, for instance, are asked for their feedback at the time of their graduation as well as one year after their graduation. General student feedback regarding their study experience is collected once per academic year. Teaching evaluations are conducted shortly after the middle of each semester for each module. Using an online tool, students can anonymously give their feedback on aspects such as the teaching quality, the course content and their learning progress. Afterwards, the results of the surveys are sent to the teachers for further improvement of the courses and the teaching.

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.

TDTU also regularly consults the industry for the assessment and development of the programmes. In extensive surveys, companies are asked, among other things, about changes in the labour market, expected qualifications of the graduates, and their satisfaction with interns and graduates from TDTU. On this basis, the Board of Deans discusses whether the curricula and the learning objectives of the individual programmes need to be revised. In the audit discussions, the industry partners report to be satisfied with the students from TDTU, especially in terms of their work ethic. Furthermore, the industry partners confirm that their suggestions are generally adopted by TDTU. The experts appreciate that TDTU has a close relationship with the industry partners and regularly collects feedback from them. Thus, the experts agree that the quality management circles at TDTU are well established and work under participation of all stakeholders.

In summary, the experts are satisfied with the quality management system at TDTU, 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 6:

As TDTU does not further comment on criterion 6, the experts continue to adhere to their previous assessment.

D Additional Documents

No additional documents needed.

E Comment of the Higher Education Institution (01.11.2023)

The following quotes the comment of the institution:

Criterion	Panel's assessment	TDTU's statement	Evidence
1.2	In case of the Bachelor's degree programme Transportation Engineering, the experts detect discrepancies between the English title of the degree programme and its qualification profile and content. The general name "Transportation Engineering" suggests that a broad spectrum of transportation, particularly its fundamentals, is covered in the degree programme. Yet, after careful inspection of the curriculum, the experts find that the Bachelor's degree programme offers less diversity of subjects in transportation engineering than implied in the English title. Instead, a large part of the technical modules focuses on highway/road and bridge construction (e.g. "Highway Engineering", "Highway Construction", "Bridge Engineering", "Bridge Construction"). During the audit, the programme coordinators explain that they are not allowed to change either the original title of the programme due or its general contents, due to state regulations. Nevertheless, the experts recommend to adjust the	The English title for this program will include the additional term '**Specialty: Road and Bridge Engineering**.' Our naming convention for programs adheres to Circular No. 09/2022/TT-BGDĐT issued by the Ministry of Education and Training (MOET), which provides the list of training sectors for bachelor degrees in Vietnam. The program code for Transportation Engineering is 7580205, encompassing the planning, design, construction, maintenance, and operation of transportation facilities. We concur with the expert panel's perspective on this being a specific specialization within Transportation Engineering. Consequently, we will meticulously consider updating the English translation of the program title to accurately reflect its qualification profile and content. Furthermore, we will ensure that a more detailed description of the program's specialization is included in the diploma supplement for students admitted from the year 2022 onwards.	

	English translation of the title of the programme according to its actual qualification profile and content.		

2.2	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. For theoretical lectures, the rate would be 1.42 and for practical work 1.83. However, the module descriptions mention a different workload. For example, the module descriptions for "Mathematics 1" mention a total workload of 135 hours (45 hours contac ttime, 0 hours exercises, 90 hours self-study) and 3 Vietnamese credits (4.25 ECTS) are awarded, while 3 Vietnamese credits would mean 112.5 hours (3 x 37.5) and 4.25 ECTS would require 127.5 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. TDTU 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). Moreover, with regard to the workload of the	Please refer to the attached 'The ECTS conversion' file	The ECTS conversion

	thesis module in all three 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 14 weeks are required to finish the Bachelor's thesis which is worth 14 Vietnamese credits (14.67 ECTS, according to module handbook). According to the Vietnamese credit calculation, this would mean 420 hours (14 x 30), whereas 14.67 ECTS would require 440 hours. Moreover, according to the conversion rate between Vietnamese credits and ECTS points suggested by TDTU in its guidance document on how to convert Vietnamese credit system to European credit transfer system, 1 TDTU credit equals 1.83 ECTS points for graduation theses. In this case, 14 Vietnamese credits would be worth 25.6 ECTS points, instead of 14.67 ECTS points as outlined in the Bachelor's module handbooks. As already mentioned in the previous paragraph, the workload and credit calculation is faulty and inconsistent in several ways.		

2.2	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 faculty 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.	TDTU has officially started collecting learner feedback on the workload of all programs since the 2023-2024 academic year. The information gained from the feedback will be taken into account to revise the curriculum accordingly.	Student feedback on course questionnaire

4.2	During the audit, the experts discuss about their obligations to do research and incentives to reach for higher levels of professorship with members of the teaching staff. In response, the experts learn that all teaching staff are obliged to devote at least a third of their time to research. In terms of their career progression, however, the present staff indicate that the financial benefits of aiming e.g. for full professorship are not in relation to the additional responsibility and workload.	TDTU has a dedicated council to formulate policies concerning financial incentives, workload, and responsibilities for our teaching staff. These policies aim to incentivize career development and increased contributions to the university. They undergo annual reviews and updates. Commencing this academic year, Professors, Associate Professors, and Experts are entitled to a monthly bonus tied to financial support or monthly financial support based on Web of Science citation metrics, funding for high-quality publications, and project funding applications initiated by our teaching staff.	
4.3	During the audit, the experts find that the facilities and laboratories are adequate and contain everything necessary for the programmes' objectives. However, given that the improvement of the research environment is one of the main goals formulated in the university's strategic plan, the experts, noticed that the facilities 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 and measuring instruments. In the geodesy lab, for example, a theodolite for students' use was available, but laser scanning equipment was missing. The experts think it would make	According to the university's strategic plan, we are working to enhance our research facilities in the next few years. For example, we plan to acquire equipment such as compression and bending testers, a three-speed shear machine, an ultrasonic concrete testing machine, and a high-temperature oven, etc. The budget for buying new research facilities in the next 5 years is up to 1.3 million US dollars.	

	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 continuously update the equipment of the laboratories, specially with regard to TDTU's strategy to become a research university by 2037.		
5.2	The Diploma Supplement contains almost all the necessary information about the degree programme. However, it does not list the learning outcomes achieved by the student upon completion of the programme. Therefore, TDTU must ensure that the Diploma Supplement contains information on the graduate's qualifications profile.	TDTU is considering updating the diploma supplement with information on the program learning outcomes (PLOs) for students enrolled in the 2022 cohort onwards.	

5.3	The discussion with the students confirms that they feel well informed about regulations and comfortable about the access to any information about their degree programmes and the courses. Yet, the experts note that the English version of the module descriptions for all three programmes are not published on the website of TDTU. For this reason, the experts expect TDTU to update this version of the websites of the programmes, to align the information on the university's and the faculty's webpages, to include module descriptions of each degree programme and make them available to all relevant stakeholders.	TDTU strictly adheres to the information disclosure regulations set forth by the Ministry of Education and Training (MOET). As per these guidelines, we have already made all relevant information about our training programs publicly available on our website: https://cktt-cdr.tdtu.edu.vn/. However, we understand that it's possible that some relevant parties might not have been aware of the existence of this information. To address this, we will take additional steps to actively disseminate this public information to ensure that all relevant parties have access to it.	https://cktt-cdr.tdtu.edu.vn/

F Summary: Peer recommendations (10.11.2023)

Taking into account the additional information and the comments given by TDTU, 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 Civil Engineering	With requirements for one year	30.09.2029	–	–
Ba Transportation Engineering	With requirements for one year	30.09.2029	–	–
Ma Civil Engineering	With requirements for one year	30.09.2029	–	–

Requirement

For all degree programmes

A 1. (ASIIN 5.2) The Diploma Supplement must provide information on the graduate's qualifications profile.

Recommendations

For Ba Transportation Engineering

E 1. (ASIIN 1.2) We recommend to adjust the English translation of the programme name according to its actual qualification profile and content.

For Ba Civil Engineering

E 2. (ASIIN 1.3) It is recommended to include elective modules that deal with aspects of water management and supply, building construction, building physics and timber constructions in the programme curriculum.

For all degree programmes

E 3. (ASIIN 1.3) It is recommended to improve the English speaking skills of the students, for instance by teaching project modules in English.

E 4. (ASIIN 4.3) It is recommended to continuously update the equipment of the laboratories, especially with regard to TDTU's strategy to become a research university by 2037.

E 5. (ASIIN 5.3) It is recommended to publish the English module descriptions on the TDTU website.

G Comment of the Technical Committee 03 – Civil Engineering, Geodesy and Architecture (20.11.2023)

Assessment and analysis for the award of the ASIIN seal:

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

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 Civil Engineering	With requirements for one year	30.09.2029	–	–
Ba Transportation Engineering	With requirements for one year	30.09.2029	–	–
Ma Civil Engineering	With requirements for one year	30.09.2029	–	–

Requirement

For all degree programmes

A 1. (ASIIN 5.2) The Diploma Supplement must provide information on the graduate's qualifications profile.

Recommendations

For Ba Transportation Engineering

E 1. (ASIIN 1.2) We recommend to adjust the English translation of the programme name according to its actual qualification profile and content.

For Ba Civil Engineering

E 2. (ASIIN 1.3) It is recommended to include elective modules that deal with aspects of water management and supply, building construction, building physics and timber constructions in the programme curriculum.

For all degree programmes

E 3. (ASIIN 1.3) It is recommended to improve the English speaking skills of the students, for instance by teaching project modules in English.

E 4. (ASIIN 4.3) It is recommended to continuously update the equipment of the laboratories, especially with regard to TDTU's strategy to become a research university by 2037.

E 5. (ASIIN 5.3) It is recommended to publish the English module descriptions on the TDTU website.

H Decision of the Accreditation Commission (08.12.2023)

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

The Accreditation Commission discusses the accreditation procedure and follows the assessment of the peers and the TC without any changes.

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 Civil Engineering	With requirements for one year	30.09.2029	–	–
Ba Transportation Engineering	With requirements for one year	30.09.2029	–	–
Ma Civil Engineering	With requirements for one year	30.09.2029	–	–

Requirement

For all degree programmes

A 1. (ASIIN 5.2) The Diploma Supplement must provide information on the graduate's qualifications profile.

Recommendations

For Ba Transportation Engineering

E 1. (ASIIN 1.2) We recommend to adjust the English translation of the programme name according to its actual qualification profile and content.

For Ba Civil Engineering

E 2. (ASIIN 1.3) It is recommended to include elective modules that deal with aspects of water management and supply, building construction, building physics and timber constructions in the programme curriculum.

For all degree programmes

E 3. (ASIIN 1.3) It is recommended to improve the English speaking skills of the students, for instance by teaching project modules in English.

E 4. (ASIIN 4.3) It is recommended to continuously update the equipment of the laboratories, especially with regard to TDTU's strategy to become a research university by 2037.

E 5. (ASIIN 5.3) It is recommended to publish the English module descriptions on the TDTU website.

I Fulfilment of Requirements (17.10.2024)

Analysis of the experts and the Technical Committee (21.11.2024)

Requirement

For all degree programmes

A 1. (ASIIN 5.2) The Diploma Supplement must provide information on the graduate's qualifications profile.

Initial Treatment	
Experts	Fulfilled. Justification: TDTU has updated the Diploma Supplements and added the learning outcomes achieved by each student upon completion of the programme. The information in the Diploma supplements indicates the student's capability after completing the training programme in knowledge, engineering investigation, problem analysis, project management, development of solutions, communication and teamwork skills, life-long learning, and professional ethics. This update will be applied to students graduating from the 2022 intake onwards.
TC 03	Fulfilled. Vote: unanimous Justification: The TC discusses the procedure and follows the assessment of the experts without any changes.
AC	Fulfilled. Vote: unanimous Justification: The AC discusses the procedure and follows the assessment of the experts and the TC without any changes.

Decision of the Accreditation Commission (06.12.2024)

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

Degree programme	ASIIN-label	Subject-specific label	Accreditation until max.
Ba Transportation Engineering	All requirements fulfilled	--	30.09.2029
Ma Civil Engineering	All requirements fulfilled	--	30.09.2029

Appendix: Programme Learning Outcomes and Curricula

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

Programme Objectives:

BCE program
Graduates will become the Civil Engineers with good basic knowledge about (1) economic-social science; (2) technical science; (3) basic and specific of Civil engineering both in theory and in implementation.
Graduates are able to pursue advanced degrees or certifications in engineering, academia, research and display critical thinking, creativity, independent learning and desire for lifelong learning.
Graduates enhance basic and specific knowledge of Civil Engineering in advanced to apply in design Civil and industrial structures, propose construction methods and manage construction projects.
Graduates have to work independently as well as together in groups in high pressure environment; to develop and to integrate in high quality job market.
Graduates excel in careers in Civil Engineering with a high level of professionalism, professional ethics, social responsibility, and good health.

Programme Learning Outcomes:

Aspect	PLO	Code/Note
Knowledge	Apply general natural science knowledge such as mathematics, physics for studying, researching and working in the field of Civil Engineering.	PLO1
	Apply systematically the basic knowledges of political theory and career orientation for studying, researching, and working in the field of Civil Engineering	PLO2
	Use English efficiently with ELTS 5.0 or equivalent, use Microsoft Office proficiently with MOS 750	PLO3
	Apply effectively the fundamental knowledges of civil materials, civil geology, geodetic, structural mechanics, and strength of materials	PLO4
	Calculate and examine internal forces in structures to satisfy the durable and stable conditions.	PLO5
Skills	Select suitable designs and appropriate materials for civil structures.	PLO6
	Apply IT in structural analysis of complex structures.	PLO7
	Evaluate geological reports for calculating and designing foundation of civil structures.	PLO8
	Design wall, beam, and column in concrete and steel structures.	PLO9
	Propose construction methods and manage construction progress.	PLO10
	Apply effectively specialized software to establish design drawings.	PLO11
	Supervise and estimate projects based on the understanding of rules, laws, and professional requirements.	PLO12
	Apply communication, teamwork, and negotiation skills effectively; manage writing and presentation time in design consultancy, supervision, and construction works.	PLO13
Attitude and social	Display the spirit of honesty and responsibility; abide by safety rule and professional ethics of engineers.	PLO14

The following **curriculum** is presented:

FISRT YEAR

Semester 1							Semester 2						
Course code	Course Name	T	P	S	C	Prerequisite	Course code	Course Name	T	P	S	C	Prerequisite
302053	Introduction of Law	2	0	4	2	--	800041	Basic Mechanics	3	0	6	3	601085
601085	Physics	2	0	4	2	--	800042	Civil Engineering Materials	3	0	6	3	--
C01127	Mathematics I	3	0	6	3	--	801064	Matrix Algebra and Computational Methols	3	0	6	3	C01127
D01001	Swimming (Compulsory)	1	1	2	0	--	C01128	Mathematics II	3	0	6	3	C01127
503021	Fundamentals of Infomatics 1	1	1	2	2	--	D02028	N.D.E-1st Course	3	0	6	0	--
601086	Physical Laboratory	0	1	1	1	--	503022	Fundamentals of Informatics 2	1	1	3	2	503021
D02030	N.D.E-3rd Course	0	3	3	0	--	801063	Civil Engeering and Sustainable Built Environment	3	0	6	3	--
804095	Civil Engineering Drawing	1	2	4	3	--	L00031	E.S-5S and Kaizen Skills	0	0	0	0	--
L00029	E.S-Life Attitude 1	0	0	0	0	--	L00032	E.S- Self Study Skills	0	0	0	0	--
L00030	E.S-Cultural Integration of TDTU	0	0	0	0	--	0101	Optional (Physical Education 1)	1	1	3	0	--
L00040	E.S	5	0	0	5	--	(1311)(1312)	Inspire English or World English	10	0	20	10	--
(1311)(1312)	Inspire English or World English	10	0	20	10	--							
Total		28					Total		27				55

SECOND YEAR

Semester 1							Semester 2						
Course code	Course Name	T	P	S	C	Prerequisite	Course code	Course Name	T	P	S	C	Prerequisite
800044	Engineering Geology	3	0	6	3	--	800045	Structural Analysis I	3	0	6	3	800047
800051	Geodesics	2	0	4	2	--							
306102	Philosophy of Marxism and Leninsm	3	0	6	3	--	800052	Soil Mechanics	3	0	6	3	800044 001513
503034	Fundamentals of Infomatics 3	0	1	1	1	503022	C01123	Probability and Statistics	3	0	6	3	C01127
800047	Mechanics of Materials 1	3	0	6	3	800041							
D02029	N.D.E-2nd Course	2	0	4	0	--	800043	Hydraulics	3	0	6	3	601085
L00033	E.S-Life Attitude 2	0	0	0	0	L00019	800048	Mechanics of Materials 2	2	0	4	2	800047
0201	Optional (Physical Education 2)	0	2	2	0	--	306103	Political Economics of Marxism Leninism	2	0	4	2	306102
(1311)(1312)	Inspire English or World English	5	0	10	5	--							
2901	Optional [E.S]	0	0	0	0	--	(1311)(1312)	Inspire English or World English	5	0	10	5	--
30001	Optional [E.S]	0	0	0	0	--							
Total		17					Total		21				38

THIRD YEAR													
Semester 1							Semester 2						
Course code	Course Name	T	P	S	C	Prerequisite	Course code	Course Name	T	P	S	C	Prerequisite
800049	Reinforced Concrete Design 1	3	0	6	3	800047	306106	Ho Chi Minh ideology	2	0	4	2	306102 306103 306104
800053	Foundation Engineering	3	0	6	3	800052							
800046	Structural Analysis II	2	0	4	2	800045	306105	History of Vietnamese Communist Party	2	0	4	2	306102 306103 306104
800054	Steel Design/Steel Structural Design	3	0	6	3	800045							
801042	Civil Engineering Laboratory A	0	2	2	2	800044 800042	800050	Reinforced Concrete Design 2	3	0	6	3	800049 001516 or 001316
800038	Geodesics Practice	0	1	1	1	--	801045	Contruction Technology & Processes	3	0	6	3	
800035	Intership 1	0	1	1	1	--							
L00041	E.S-Life Attitude 3	0	0	0	0	L00033	801047	Project 1	0	2	2	2	800053
306104	Scientific Socialism	2	0	4	2	306102 306103	801048	Project of Reinforced Concrete Structure	3	0	6	3	800049
2901	Optional [E.S]	0	0	0	0	--	801046	Construction estimates	3	0	6	3	801045
30001	Optional [E.S]	0	0	0	0	--	800036	Intership 2	0	1	1	1	800035
Total		17					Total		19				36
FOURTH YEAR													
Semester 1							Semester 2						
Course code	Course Name	T	P	S	C	Prerequisite	Course code	Course Name	T	P	S	C	Prerequisite
801108	Civil Engineering Laboratory B	0	4	4	4	800050 800052	800099	Graduation Intership	0	4	4	4	001516 or 001316
801107	Project-4	0	2	2	2	801045 001516 or 001316							
801051	Project-3	0	2	2	2	800054 001516 or 001316	801106	Integrated Project	0	4	4	4	801107 801047 801048
801041	Transportation Engineering	3	0	6	3								
800037	Intership 3	0	1	1	1	800036							
0301	Optional 1	6	0	12	6								
Total		18					Total		13				31

Notes: E.S: Essential Skills for Sustainable Development
N.D.E: National Defense Education
T`: Theory P: Practice S: Seft-Study C: Creadit

According to the faculty's website and the self-assessment report the following **objectives** and **learning outcomes (intended qualifications profile)** shall be achieved by the Bachelor's degree programme Transportation Engineering:

Programme Objectives:

BTE program
Graduates have sufficient knowledge of basic science, socio-economic, industry basis and major in Transportation Engineering, fully aware of the importance of a professional worker in the modern working environment.
Graduates have specialized and advanced knowledge to apply their knowledge to analysis, design, formulation of construction methods, effective leadership and management in the field of Transportation Engineering.
Graduates have professional skills and soft skills to become the core staff in the construction field to meet the needs of integration and internationalization.
Graduates have knowledge in design and analysis to be able to perform reinforced concrete structure projects, steel structure projects, foundation projects, bridge design project, road design project, bridge construction project, road construction project.
Graduates have a sense of learning, improve knowledge in the spirit of lifelong learning, have independent creative thinking, have moral qualities to contribute to the development of the country.

Programme Learning Outcomes:

Aspect	PLO	Code/Note
General knowledge	Apply general natural science knowledge such as mathematics, physics for studying, researching and working in the field of Transportation Engineering.	PLO1
	Apply systematically the basic knowledges of political theory and career orientation for studying, researching, and working in the field of Transportation Engineering.	PLO2
	Use English efficiently with ELTS 5.0 or equivalent, use Microsoft Office proficiently with MOS 750	PLO3
Specialized knowledge	Apply effectively the fundamental knowledges of civil materials, civil geology, geodetic, structural mechanics, and strength of materials	PLO4
	Calculate and examine internal forces in structures of bridge	PLO5
	Select suitable designs and appropriate materials for Transportation structures.	PLO6
	Evaluate geological reports for calculating and designing foundation of Transportation structures.	PLO7
Specialized skills	Design concrete and steel structures of bridge; flexible and rigid pavement	PLO8
	Propose construction methods and manage construction progress.	PLO9
	Apply effectively specialized software to establish design drawings.	PLO10
General skills	Supervise and estimate projects based on the understanding of rules, laws, and professional requirements.	PLO11
	Apply communication, teamwork, and negotiation skills effectively; manage writing and presentation time in design consultancy, supervision, and construction works.	PLO12
Attitude and social	Display the spirit of honesty and responsibility; abide by safety rule and professional ethics of engineers.	PLO13

The following **curriculum** is presented:

FISRT YEAR													
Semester 1							Semester 2						
Course code	Course Name	T	P	S	C	Prerequisite	Course code	Course Name	T	P	S	C	Prerequisite
302053	Introduction of Law	2	0	4	2	--	800041	Basic Mechanics	3	0	6	3	601085
601085	Physics	2	0	4	2	--	800042	Civil Engineering Materials	3	0	6	3	--
C01127	Mathematics I	3	0	6	3	--	801064	Matrix Algebra and Computational Methols	3	0	6	3	C01127
D01001	Swimming (Compulsory)	1	1	2	0	--	C01128	Mathematics II	3	0	6	3	C01127
503021	Fundamentals of Infomatics 1	1	1	2	2	--	D02028	N.D.E-1st Course	3	0	6	0	--
601086	Physical Laboratory	0	1	1	1	--	503022	Fundamentals of Informatics 2	1	1	3	2	503021
D02030	N.D.E-3rd Course	0	3	3	0	--	801063	Civil Engeering and Sustainable Built Environment	3	0	6	3	--
L00019	E.S-Life Attitude 1	0	0	0	0	--	L00020	E.S-5S and Kaizen Skills	0	0	0	0	--
L00030	E.S-Cultural Integration of TDTU	0	0	0	0	--	L00026	E.S- Self Study Skills	0	0	0	0	--
001411	English 1	5	0	10	5	--	5273_190802	Optional (Physical Education 1)	1	1	3	0	--
							001412	English 2	5	0	10	5	001411
Total		15					Total		22				37
SECOND YEAR													
Semester 1							Semester 2						
Course code	Course Name	T	P	S	C	Prerequisite	Course code	Course Name	T	P	S	C	Prerequisite
800044	Engineering Geology	3	0	6	3	--	800045	Structural Analysis I	3	0	6	3	800047
800051	Geodesics	2	0	4	2	--							
306102	Philosophy of Marxism and Leninsm	3	0	6	3	--	800052	Soil Mechanics	3	0	6	3	800044 001513
800043	Hydraulics	3	0	6	3	601085	C01123	Probability and Statistics	3	0	6	3	C01127
800047	Mechanics of Materials 1	3	0	6	3	800041							
D02029	N.D.E-2nd Course	2	0	4	0	--	804087	Civil Engineering Drawing	1	2	4	3	804095
L00033	E.S-Life Attitude 2	0	0	0	0	L00019	800048	Mechanics of Materials 2	2	0	4	2	800047
5274_190802	Optional (Physical Education 2)	0	2	2	0	--	306103	Political Economics of Marxism Leninism	2	0	4	2	306102
001413	English 3	5	0	10	5	--	800038	Geodesics Practice	0	1	1	1	--
5288_190802	Optional [E.S]	0	0	0	0	--	802034	Fundamental Bridge Engineering	2	0	4	2	800051
5289_190802	Optional [E.S]	0	0	0	0	--	802035	Highway Engineering 1	3	0	6	3	800051
Total		19					Total		22				

THIRD YEAR													
Semester 1							Semester 2						
Course code	Course Name	T	P	S	C	Prerequisite	Course code	Course Name	T	P	S	C	Prerequisite
800057	Reinforced Concrete Design	3	0	6	3	800047	306106	Ho Chi Minh ideology	2	0	4	2	306102 306103 306104
306104	Scientific Socialism	2	0	4	2	306102 306103							
800046	Structural Analysis II	2	0	4	2		306105	History of Vietnamese Communist Party	2	0	4	2	306102 306103 306104
802056	Bridge and Highway Foundation Engineering	3	0	6	3	800052	5283_190802	Optional 1 [E.S]	0	2	2	2	--
801042	Civil Engineering Laboratory A	0	2	2	2	800044 800042 800052	801108	Civil Engineering Laboratory B	0	4	4	4	800042
802037	Project of Highway Design 1	0	2	2	2	802035	802036	Highway Engineering 2	2	0	4	2	802035
802055	Steel Design	3	0	6	3	802045	802039	Bridge Engineering 1	3	0	6	3	800057
L00041	E.S-Life Attitude 3	0	0	0	0	L00033	802041	Bridge Abutments & Piers	2	0	4	2	800057, 800052
802057	Seminars of Site Visits	0	1	1	1	800042,800051	802054	Project of Bridge and Road Foundation	0	2	2	2	802056
5288_190802	Optional [E.S]	0	0	0	0	--	802058	Project of Reinforced Concrete Structure	0	2	2	2	800057
5289_190802	Optional [E.S]	0	0	0	0	--	L00040	E.S	0	5	5	5	--
Total		18					Total		26				
FOURTH YEAR													
Semester 1							Semester 2						
Course code	Course Name	T	P	S	C	Prerequisite	Course code	Course Name	T	P	S	C	Prerequisite
802040	Bridge Engineering 2	2	0	4	2	802055, 802039	802106	Industrial Attachment	0	6	6	6	802042, 802043, 802039, 802035
802042	Highway Construction	2	0	4	2	802036							
802043	Bridge Construction	2	0	4	2	802056, 802039, 802041	802CM1	Professional Skills Exam	0	5	5	5	802042, 802043, 802039,
802044	Project of Bridge Design 1	0	2	2	2	802039							802035
802107	Construction estimates	2	0	4	2	--	5282_01_190802	Graduation Project	0	14	14	14	001413, 802035, 802039, 802042, 802043
5286_190802	Optional 2 [E.S]	0	4	4	4	--							
Total		14					Total		25				

According to faculty's website and the self-assessment report the following **objectives** and **learning outcomes (intended qualifications profile)** shall be achieved by the Master's degree programme Civil Engineering:

Programme Objectives:

- PO1: Graduates will become experts in a narrow civil engineering discipline, being capable of extending and applying fundamental knowledge, basic knowledge, and specialized knowledge in a flexible manner.
- PO2: Have the ability to create plans and concepts to solve scientific and technological problems in Civil Engineering.
- PO3: Have highly specialized knowledge and skills to deal with the practical requirements of the design and construction management of complete structures.
- PO4: Master research methods for further development of the career combined with professional working skills and attitudes for developing a sustainable development of society.

Programme Learning Outcomes:

Aspect	PLO	Code/Note
Knowledge and Understanding	Deep understanding of the government's guidelines and policies as well as knowing how to determine research plans and apply effectively the research methods for solving Civil engineering problems.	PLO1
	Use English efficiently in design, propose construction methods as well as in doing research in the field of Civil engineering	PLO2
Engineering Analysis and design	Flexibly apply processes, principles, methods and techniques to analyze and improve structural design as well as organize the construction of complex Civil and industrial buildings.	PLO3
	Analyze and solve problems posed from the design and construction of civil structures using specialized knowledge.	PLO4
Engineering Practice	Proficient in using specialized software to analyze, simulate, design and manage construction of civil and industrial works.	PLO5
Investigations and Assessment	Demonstrate independent research, systematically collect, ananlyse and evaluate data on Civil activities for research works.	PLO6
Transferable Skills	Demonstrate Teamwork skills, Self-study skills, Reporting and presenting skills, Skills in organizing, managing and operating activities at the working unit, especially in a technical environment.	PLO7
	Proper awareness of the role of a technician to contribute to improving the quality of human life and promoting a sustainable development.	PLO8

The following **curriculum** is presented:

#	Course ID	Course title	Credits
General course (available course for each semester)			**15**
1	FL700000	English	10
2	SH700000	Philosophy	3
3	IN700000	Research Methodology	2
Semester 1			**15**
1	CE701010	Advanced Structural Mechanics	2
2	CE701020	Finite Element Method (FEM)	3
3	CE701030	Shell & Plate Structures	3
4	CE701040	Advanced reinforced concrete structures	
5		Selective Course 1	
6		Selective Course 2	

Semester 2			**15**
1		Selective Course3	
2		Selective Course4	
3		Selective Course 5	
4		Selective Course 6	
5		Research project 1	2
6		Research project 2	2
Semester 3			
CE701000		Master's Thesis	15
		Total	**60**

Selective courses		
Course ID		**Credits**
CE701050	Solid Mechanics	2
CE701060	Advanced soil mechanics	2
CE701070	Dynamics of Structures	2
CE701080	Reasonable solutions of foundation	2
CE701090	Structural Optimization and plasticity	2
CE701100	Fracture Mechanics	2
CE701110	Structural Optimization	2
CE701120	Scheduling methods	2
CE701130	Construction Project Management	2
CE701140	Pre-stressed concrete	2
CE701150	Advanced construction materials	2
CE701160	Advanced Foundation Engineering	2
CE701170	Advanced steel structures	2

CE701180	IT in Engineering Construction	2
CE701190	Solid & Hazardous Waste Management	2
CE701200	Soil improvement and slope stability	2
CE701210	Excavation & Retaining Walls	2
CE701220	Project Appraisal and Analysis	2
CE701230	Strategic Project Management	2
CE701240	Construction risk management and business analysis	2
CE701250	Identify and evaluate risks	2
CE701260	Labor safety management	2
CE701270	Research project 1	2
CE701280	Research project 2	2
CE701290	Research project 3	2
CE701300	Research project 4	2