ASIIN Seal

Accreditation Report

Bachelor's Degree Programme
Geological Engineering

Provided by
Ho Chi Minh City University of Technology (HCMUT)

Version: 27.03.2026

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	Previous accreditation (issuing agency, validity)	Involved Technical Committees (TC)[1]
Kỹ thuật Địa chất	Bachelor of Geological Engineering	ASIIN	None	TC 11
Date of the contract: 01.03.2024 **Submission of the final version of the self-assessment report:** 28.05.2024 **Date of the onsite visit:** 06.-07.11.2024 **at:**HCMUT Campus District 10				
Expert panel: Prof. Dr. Detlev Doherr, University of Applied Science Offenburg; Mr. Dang Vinh Khang, Student Ho Chi Minh University of Science; Prof. Dr. Buelent Tezkan, University of Cologne; Mr. Dong Tran, SLB				
Representative of the ASIIN headquarter: Dr. Michael Meyer				
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 March 28, 2023				

[1] TC: Technical Committee for the following subject areas: TC 01 - Mechanical Engineering/Process Engineering; TC 02 - Electrical Engineering/Information Technology; TC 03 - Civil Engineering, Geodesy and Architecture; TC 04 - Informatics/Computer Science; TC 05 - Materials Science, Physical Technologies; TC 06 - Engineering and Management, Economics; TC 07 - Business Informatics/Information Systems; TC 08 - Agriculture, Forestry, Food Sciences, and Landscape Architecture; TC 09 - Chemistry; TC 10 - Life Sciences; TC 11 - Geosciences; TC 12 - Mathematics; TC 13 - Physics; TC 14 - Medicine.

Subject-Specific Criteria of Technical Committee 11 – Geosciences as of December 9, 2011	

B Characteristics of the Degree Programme

a) Name	Final degree (original/English translation)	b) Areas of Specialization	c) Corresponding level of the EQF[2]	d) Mode of Study	e) Double/Joint Degree	f) Duration	g) Credit points/unit	h) Intake rhythm & First time of offer
Bachelor of Geological Engineering	Cử nhân Kỹ thuật Địa chất/	Geoscience	6	Full	--	8 Semester	258 ECTS/129 Vietnamese Credits	1978

For the Bachelor's degree programme the institution has presented the following profile in the self-assessment report:

To equip students with professional competencies, foster their soft skills, in still strong ethics, and promote overall well-being, the Geological Engineering (GE) programme imparts knowledge encompassing natural sciences, social sciences, and engineering fields. The program emphasizes the development of problem-solving abilities, scientific research proficiency, and the capacity to excel under pressure.

Program objectives of Geology engineering program	
PO 1	Having basic knowledge of mathematics and natural sciences in order to be suitable for the acquisition of professional education knowledge and to have the ability to study at a higher level.
PO 2	Having knowledge in: physical processes in the field of geotechnical engineering, including environmental geology, geoengineering, hydrogeology, mineral resources; analysis and design tools in geoengineering.
PO 3	Having the ability and professional skills in communication, teamwork skills and professional ethics, to be able to work in a multi-disciplinary and multi-cultural environment.
PO 4	Having economic and political understanding as well as basic knowledge in the fields of social sciences and humanities in order to contribute effectively to the sustainable development of the society.

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

Student outcomes 2019	
SO 1	An ability to identify, formulate, and solve complex engineering problems by applying principles of engineering, science, and mathematics
SO 2	Ability to apply engineering design to produce solutions that meet specified needs with consideration of public health, safety, and welfare, as well as global, cultural, social, environmental, and economic factors
SO 3	Ability to communicate effectively with a various kinds of audience
SO 4	An ability to recognize problems and trends related to the field of geological engineering in economic and social development contexts, in order to seek job opportunities
SO 5	Ability to function effectively on a team, create a collaborative and inclusive environment, establish goals, plan tasks, and meet objectives
SO 6	Ability to develop and conduct appropriate experimentation, analyse, and interpret data, and use engineering judgment to draw conclusions
SO 7	Ability to recognise the need and to engage in life-long learning

C Expert 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
- Study plans
- Objective-module-matrix
- Module descriptions
- Webpage HCMUT
- Discussions during the audit

Preliminary assessment and analysis of the experts:
The experts base their assessment of the learning outcomes on the information provided in the Self-Assessment report and on the website of the Bachelor's degree programme under review. For the Bachelor's degree programme in Geological Engineering, HCMUT has described Programme Outcomes (PO) and Student Outcomes (SO). The POs and SOs are published on the programme's website and are easily accessible for students as well as other stakeholders.

The experts refer to the Subject-Specific Criteria (SSC) of the Technical Committee Geosciences and use the objective-module-matrix and the module descriptions as a basis for judging whether the intended learning outcomes correspond with the competences as outlined by the SSC.

They hold the view that the objectives and intended learning outcomes are reasonable and well founded. Regarding the underlying bases in the programmes students should get basic knowledge and understanding of the natural sciences, of the essential features, processes, materials and of the key aspects and concepts of geological engineering. Out of the study objectives, the experts see a profile concentrating on identifying, formulating and solving complex engineering problems and applying engineering methods on specified need of public health, safety and welfare. Added by the intended ability of the students to design

and carry out appropriate experiments, analyse and interpret data, and apply engineering judgment to draw meaningful conclusions.

Based on the programme and study objectives, the experts see a focus on engineering with a specialisation in geological aspects. They are surprised that student knowledge of geophysics is not explicitly included in the program's objectives although this is an important field in geological engineering. However, since the curriculum does include relevant courses, they do not see this as a content deficiency but rather as a presentation issue in the learning objectives. The program coordinators assure to adjust the objectives accordingly.

The reviewers expressly welcome the fact that students are able to consider social, cultural, ecological, and economic aspects in their work and are expected to acquire corresponding fundamental knowledge. They also appreciate the intended communication skills and teamwork abilities of the students and the aim to prepare them for lifelong learning.

The auditors conclude that the objectives and intended learning outcomes of the degree programmes adequately reflect the intended level of academic qualification and correspond sufficiently with the ASIIN Subject-Specific-Criteria (SSC) of the Technical Committee 11 – Geosciences

They learn out of the discussion with programme coordinators that the labor market for Geologists in weak in Vietnam and that was one of the main reasons to concentrate more on the engineering field. The auditors are convinced that the intended qualification profile of the programme under review allow students to take up an occupation, which corresponds to their qualification.

In this context, the experts welcome the fact that the university has established a clearly functioning process for the further development of the program, allowing it to be adapted to the needs of the job market. This process is guided by Circular 07/2015-TT-BGDĐT issued by the Minister of Education and Training, as well as the Guidelines to Design an Academic Program provided by the President of HCMUT. The process commences with a comprehensive survey conducted among key stakeholders, including students, alumni, lecturers, employers, and experts. Additionally, panels are implemented to discuss the needs of the labor market with representatives of industry.

A specific training program within the Faculty of Geology and Petroleum Engineering is overseen by a Science and Academic Committee (SAC). The SAC consists of members who are recommended by the Dean of the Faculty and approved by the president of HCMUT. Additionally, a team called the Quality Assurance Teams (QATs) is formed, with members

assigned by the Dean. The QATs are responsible for analysing survey data, preparing reports, and providing suggestions to the SAC. The SAC then reviews and revises the recommendations from the QATs, ensuring compliance with relevant regulations.

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 original Vietnamese name and the English translation of the degree programme under review corresponds with the intended aims and learning outcomes.

Criterion 1.3 Curriculum

Evidence:

- Self-Assessment Report
- Academic Guidelines
- Objective-module-matrix
- Provisions for the recognition of externally acquired academic achievements
- Cooperation agreements (MoU)
- Study plans
- Programme curriculum documents
- Module descriptions
- Webpage HCMUT
- Webpage Faculty of Geology and Petroleum Engineering
- Discussions during the audit

Preliminary assessment and analysis of the experts:
Curriculum

The reviewers acknowledge that the curriculum includes all non-subject-specific content prescribed by the government, such as military service, Physical Education, history of the Vietnamese Communist Party, Marxist – Leninist Philosophy, Scientific Socialism, Ho Chi Minh Ideology and introduction to Vietnamese law. These topics are distributed throughout the entire curriculum.

The first year concentrates on fundamentals in mathematics (Calculus 1-2, linear algebra, numerical methods), and natural sciences (General Physics, Generals Chemistry) and especially in geosciences and geoengineering (Basic Geophysics, Earth Sciences and introduction to Engineering). Additionally, the first language courses in English start.

The second year deepens mathematical knowledge (numerical methods, probability and statistics) and includes specific fundamentals of geology (Crystallography, Mineralogy, Petrography, Geoinformatics, Structural Geology and Geological Mapping) and geoengineering (Applied Mechanics, Geotechnics 1, Hydro-Geomechanics).

In the third year the application of the fundamental knowledge starts in courses like Construction engineering, Geotechnical Testing, Rock Mechanics, Hydrogeology, Geostatistics, Environmental Geology and Project Management. Additionally, students select two elective courses and conduct an internship.

Besides a mandatory course in Geodynamics Engineering the fourth year allows students to set individual focal points according to their own interests in a project work, three elective courses and the final thesis called capstone project.

In general, the reviewers believe that the curriculum effectively implements the study objectives. Within in the courses regarding geotechnic, geophysics, GIS, hydro geomechanic, Rock Mechanics, Geodynamic Engineering the students learn sufficient fundamentals regarding engineering and have additionally a broad base in mathematics, naturals sciences and especially in geological fundamentals to understand geological engineering methods. However, besides the projects experts only see a few engineering applications in construction engineering and geotechnical testing. In order to make students more familiar applying engineering methods they recommend increasing opportunities for students to strengthen their engineering competences.

Even though this is a geoengineering programme with a focus on engineering, students should also gain practical experience in fieldwork to understand and apply geological fundamentals. The reviewers learn from the programme coordinators that various compulsory modules include fieldwork lasting three days and that significantly longer fieldwork is planned in elective modules. However, since not all students choose these electives, the experts recommend generally expanding the fieldwork component.

The auditors wonder about a lack of English communication skills although four language courses are implemented in the curriculum. They learn that these courses concentrate on grammar and writing and offer fewer opportunities for oral communication. Even though passive language comprehension is important, for example, for using English technical literature, the reviewers understand that industry representatives would prefer stronger oral

language skills among students. This also applies to students' presentation skills, which they primarily practice only in the project. Therefore, the experts recommend increasing the personal competences of the students, especially presentation ability and English communication skills.

In the module descriptions of the courses about history of the Vietnamese communist party and Ho Chi Minh's ideology, the reviewers find that one of the stated learning objectives is for students to be proud of the Communist Party and their country. Regardless of whether these may be desirable educational goals, the expers question how lecturers can convey „pride" and how the achievement of this learning objective can be assessed. As they consider this hardly feasible within a university course, they recommend that learning objectives should not emphasis on students' attitudes.

Apart from these minor comments, the experts see a successful curriculum that achieves the study objectives. This positive assessment is confirmed by the capstone project, which, in terms of the tasks and the implementation by the students, meet European standards for theses and, with an expected processing time of about 200 hours, would also meet the requirements in Germany.

For continuous improvement, individual modules and the overall study programme are evaluated through surveys of students, alumni, and industry partners. The results of these surveys are taken into account by the aforementioned committees in the further development of the programme.

Structure

The structure of the reviewed programmes is clearly presented on the specific website. The programme consists of courses respectively modules that integrate teaching and learning elements. Based on their analysis of the module sequences and descriptions, the auditors concluded that the programme structure ensures that essential knowledge is delivered in a timely manner, enabling students to achieve the intended learning outcomes.

Additionally, the programme offer elective courses and specializations, allowing students to tailor their studies according to their interests. However, discussions with students revealed that, in practice, choices are somewhat limited, as a minimum of 10 students must enroll for a course to be offered. In the past, this requirement has led to the cancellation of individual courses. Therefore, the auditors recommend lowering the minimum number of students required to run elective courses.

Mobility

HCMUT offers a variety of mobility opportunities for students, including semesters abroad, short-term programmes, internships, and participation in international conferences. Furthermore, the faculty is active in promoting international collaboration with universities providing geological engineering programmes.

To support these initiatives, the university has established an External Relation Office that facilitates global mobility. This office assists students with application procedures, visa arrangements, pre-departure orientations, and credit transfer processes. Scholarships for international mobility are also provided, both directly by the university and through external sponsorships from the Vietnamese government (e.g., HCMUT Scholarships, Research Sponsorship, exchange programme scholarships). These scholarships aim to reduce financial barriers by covering tuition, living expenses, and travel costs.

Credit recognition is facilitated through a learning agreement signed before the exchange, ensuring that courses taken abroad align with the home programme and are recognized upon return. This process is regulated by the Ministry of Education and Training (MOET) and overseen by the university's External Relations Office. Consequently, the experts see that there are no significant issues with credit transfer or the organization of student mobility, thanks to the active support of the international office and academic advisors.

However, the experts note that the number of students who take advantage of the mobility programmes is relatively small, which is why they discuss the available opportunities and support with the students during the on-site discussions. In response, the students state that they themselves or other students who have been abroad have generally only had good experiences with the university's support. They are also of the opinion that good and sufficient opportunities are offered. However, the students agree that the university should advertise the wide range of opportunities better. They explain that there was only one information email. However, they would like the individual lecturers to advertise the mobility programmes more in their courses and that there could, for example, be corresponding information/advertising events to better promote the existing programmes. This can be well understood by the experts.

In summary, the students state to be satisfied with the existing opportunities for international academic mobility. Even though the corresponding mobility statistics are quite low, the expert group recognizes that the university has focused on expanding its network of partner institutions to further encourage student participation in exchange programmes. However, they want to recommend to better promote the existing opportunities in order to encourage more students to spend time abroad.

Criterion 1.4 Admission Requirements

Evidence:

- Self-Assessment Report
- Admission Regulations
- Study plans
- Webpage HCMUT
- Webpage Faculty of Transportation Engineering
- Discussions during the audit

Preliminary assessment and analysis of the experts:

According to the self-assessment report, admission for the Bachelor's degree programme under review is conducted once a year in September of each year. Information about the admission procedure is described in the admission advisory book and on the website of the Academic Affairs Office and thus accessible for all stakeholders. In addition, HCMUT publishes its new and existing programmes in well-established newspapers. An admission committee established by the Rector of HCMUT each year manage all admission issues. High school graduates can join the programmes through one of the following five admission paths:

Order	Method	Quota (%)
1 (TTBO)	Direct admission according to the regulations of the MOET, candidates who won the National Excellent Student Prize, the National Science and Technology Prize	1-5
2 (UTXT)	Priority for admission according to the regulations of VNU-HCM for candidates who are Good students from 149 specialised/gifted high schools and high schools possessing the highest annual admission rate to HCMUT	15-20
3 (N-NGOAI)	Admission to Vietnamese and foreign candidates graduating from international high schools (Australia, USA, Canada, etc.)	1-5
4 (P-VAN)	Admission based on the result of the National High School Graduation Exam and candidate interview.	1-5

5 (K-HOP)	Admission based on candidate overall performance including the score of the VNU-HCM competency assessment test, the result of the National High School Graduation Exam, the high-school GPA, other competences (language certificate, prize, …), social activities (culture, sports, art, …)	75-90

Every summer, the Vietnamese Ministry of Education and Training will organise the National Higher Education Entrance Examination (NHEEE). All high school students in Vietnam must take part in this exam. It covers several subjects, such as mathematics, foreign languages, physics, chemistry, literature, and history and lasts three to four days. Based on the score in the exam and on their preferences, prospective students will get admitted to the different universities.

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

For each academic year, the university's admission committee determines the ratio of students admitted to each faculty through the different ways. The admission is considered separately for each faculty, with the selection based on the results of the NHEEE from the top down to the entry benchmark so that the quota is not exceeded:

There are different levels for the tuition fees, depending on the amount of credits the student registered to fulfil in each semester and the tuition fee rate.

Furthermore, the Academic Affairs Office awards scholarships to the students with excellent performance based on the student's academic performance. Students with very good results (top 10% GPA of their respective intakes at their school) can receive scholarships in the following semester. In addition, students at HCMUT can also receive scholarships from external sources such as companies, non-government organisations, faculty alumni, and individuals. In addition, HCMUT has a policy to award tuition fee waivers for students who are orphaned by both parents, students with disabilities in poor or near-poor households or students from remote areas.

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

The experts see evidence that HCMUT keeps track of its students' progress and achievements. In this way, an instrument is in place to monitor the performance records of students with various enrolment backgrounds. In their assessment, the experts find the admission rules to be binding, transparent, and based on HCMUT's written regulations. They confirm that the admission requirements support the students in achieving the intended learning outcomes. Regarding the credit transfer for students, adequate policies are in place.

Criterion 1.5 Workload and Credits

Evidence:

- Self-Assessment Report
- Study plans
- Module descriptions
- Academic Guidelines
- Statistical data about drop-outs and study duration
- Explanations about conversion from Vietnamese credits to ECTS
- Discussions during the audit

Preliminary assessment and analysis of the experts:

The university uses the Vietnamese credit point system, in which each credit is equivalent to 15 hours of theory study, 30 hours of assignments/practice/experiments, 45 hours of project work/major assignments/essays/field trips, 60 hours for capstone project, or 90 hours for outdoor internships. These hours include examination/test time. One credit hour corresponds to 50 minutes of study, according to HCMUT regulation 285/ĐHBK-ĐT. For the transformation to ECTS points the university calculates a rate of 1 Vietnamese credit to 2 ECTS-Points. The ECTS defines one credit point with 25-30 hours of student workload including self-studies and contact hours which all have the same weight.

The workload is spread relatively evenly over the semesters, as it varies between 15 and 17 Vietnamese credits per semester.

The Experts note that the university's calculated 258 ECTS credits significantly exceed the typical workload for eight-semester bachelor's programmes in Europe. At the same time, they find that a fixed conversion factor for translating Vietnamese credit points into ECTS is not appropriate. Since the number of hours per credit point in the Vietnamese system varies depending on the type of course, different conversion factors should be applied for different types of courses.

This observation is supported by the total workload of the programme, which is stated in the self-assessment report as approximately 6,000 hours (560–680 hours per semester, as military service and physical education are not assigned credit points). A total student workload of 6,000 hours corresponds to between 180 ECTS credits (assuming 30 hours per credit) and 240 ECTS credits (assuming 25 hours per credit). In any case, this is lower than the 258 ECTS credits reported by the university.

A list of workload per module submitted with the application documents also shows inconsistencies, as the same number of working hours is assigned different numbers of ECTS credits.

Overall, the auditors conclude that the study programme assigns significantly too many ECTS credits for the actual workload. They therefore consider it necessary to ensure that the awarded ECTS credits accurately reflect the actual student workload, both at the module and programme level.

In summary, this means that the experts can recognise from the workload information in the module descriptions that the overall workload is appropriate and corresponds to the Vietnamese credits. This is also confirmed in the surveys conducted by HCMUT each semester asking the students to evaluate the amount of time they spend outside the classroom for preparing the classes and studying for the exams. During the audit, the students emphasise that they consider the workload high but manageable and that it is possible to finish the degree programmes within the expected four years, which is also reflected in the student statistics. However, the conversion from Vietnamese credits to ECTS must be checked and recalculated so that the converted ECTS correspond to the students' actual workload.

Criterion 1.6 Didactic and Teaching Methodology

Evidence:

- Self-Assessment Reports
- Study plans of the degree programmes
- Module descriptions
- Discussions during the audit

Preliminary assessment and analysis of the peers:

The staff members of HCMUT apply various teaching and learning methods like interactive lecture, small group discussion, demonstration, collaborative learning, discussion, case study, project based learning, laboratory practice, presentation and software simulation.

In some module smaller projects and presentations are implemented in order to train the ability for teamwork and the communication skills.

The most common method of learning is class session. 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. In addition, practical activities should enable students to be acquainted with practical activities for research.

For the internships students have to write a report and the supervisor of the company evaluate the students' performance as well. Each two weeks there is a feedback meeting between the students and the university supervisor. The faculty members have close contacts to industry and suggest companies to students who may select them regarding their interests.

In discussions with the experts, students expressed a desire for more hands-on experience with laboratory work. The auditors find this request highly understandable and recommend that the faculty integrate more laboratory practicals into the curriculum.

In summary, the auditors considers the teaching methods and instruments to be suitable to support the students in achieving the intended learning outcomes. In addition, they confirm that the study concept comprises a variety of teaching and learning forms as well as practical parts that are adapted to the respective subject culture and study format. It actively involves students during the projects in the design of teaching and learning processes (student-centred teaching and learning).

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

Since the ECTS credits assigned to the program do not accurately reflect the actual student workload, the auditors consider this criterion not to be fully met.

2. Exams: System, Concept and Organisation

Criterion 2 Exams: System, Concept and Organisation

Evidence:

- Self-Assessment Report
- Module descriptions
- Examination regulations

- Information booklets for all degree programmes
- Samples of student's work (projects, exams and theses)
- Websites
- Discussions during the audit

Preliminary assessment and analysis of the peers:
At HCMUT, assessment is conducted according to the regulations on training at the university level issued by the Ministry of Education and Training (MOET) and the teaching regulations of HCMUT. According to these regulations, each course has to determine learning outcomes, which support the achievement of the objectives of the respective programme. Accordingly, each course must assess whether all defined learning outcomes stated in the module descriptions have been achieved. For this purpose, HCMUT has adopted the concept of multi-component assessments to measure the achievement of the learning outcomes.

In each course, short class assignments/quizzes, a mid-term and a final examination are employed. There are different assessment methods in the programme, such as quizzes, written tests, practical performances, assignments, small projects and presentations. In most courses, mid-term and final exam consist of written tests and additional quizzes or assignments are used. Laboratory work is assessed through reports and practical work exams. Based on the corresponding regulations, to be eligible to take the final exam students must attend at least 80 % of the course sessions. The students are informed about mid-term and final exams via the academic calendar at least one month in advance. The form and length of each exam is mentioned in the module descriptions that are available to the students via the internal e-learning platform known as My Bach Khoa system (MyBK). It is common to hold small quizzes every two or three weeks, but there are generally no unscheduled tests. The experts as well as the students welcome the continuous learning assessment as it not only allows a close monitoring of the students' learning progress, but also encourages students' motivation throughout the semester.

The final grade of each module is calculated based on the score of these individual kinds of assessment. At the first meeting of a course, the students are informed about what exactly is required to pass the module and about how the final grade is determined through the teaching and learning plan.

Based on the university regulation, the students must retake the whole course if they fail, whereas the number of repetitions is unlimited. However, students can request to postpone the final exam due to important reasons (such as accidents, health problems, etc.). In these cases, students will take the final exam in the next semester without repeating the whole course. The reason, why there are no re-sits of the final exam is that the final grade depends on the assessment of the learning activities that will be carried out

continuously through the semester and not only on the final exam. Students who have passed a course and want to improve the score, may also take the course again.

Students who underperform will receive academic warnings. The warning system has three levels. The academic warning is issued if the 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. In those cases, the students will be suspended. As the student's academic advisor receives the notifications during the course as well, help and support can be given in time to improve the student's academic performance.

The students confirm that these regulations are effective and properly managed, and experts agree that provisions for disability accommodations, illness, and other exceptional circumstances are clearly established.

In their final year of studies, Bachelor's students have to prepare a final project/thesis demonstrating knowledge, skills and competences gained in the course of the preceding semesters. From the information in the self-assessment report and in the audit discussions, the experts gain the impression that the projects/theses in the Bachelor's degree programme under review are thoroughly planned major academic works conducted in distinct stages from the first proposal to the final report. The regulations for the final project/thesis examination are communicated to students through the MyBK platform and the faculty's website. The experts note that some students titles their thesis as "dissertation". As there are no requirements by the university about the title, they consider it necessary to ensure that students do not use the term "dissertation" to label their graduation theses in the bachelor programme in order to avoid misunderstandings regarding PhD-theses.

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

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

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

The experts consider this criterion not to be fully met as the consider it necessary to avoid the term dissertation for bachelor theses.

3. Resources

Criterion 3.1 Staff and Development

Evidence:

- Self Assessment Report
- Staff handbook
- Discussions with programme coordinators and teaching staff

Preliminary assessment and analysis of the peers:

Staffs at HCMUT in general and at GE in particular include academic staff (lecturers) and support staff. According to Vietnam's Law of Education and Law of Higher Education, the lecturer is the teacher's title recognized by universities and colleges. The lecturers must have full knowledge and understanding of the subject they are teaching. They also need to have the necessary skills and experience to communicate effectively with students. The support staff include lab technicians, researchers who generally involve in teaching students in experimental classes, and administrative staff who supports student services. 15-18 full time lecturers and five support staff members are involved in the programme since 2017. Two associated professors are leading the programme and half of the lecturers have a PhD. Additionally, two invited external lecturers are teaching in the programme.

The auditors understand that there are only few professors involved due to several retirements in the last year. Some of the current lecturers will apply for professorship in the near future while others still have to fulfil requirements in teaching (300 h per year in three years in a row).

The government defines requirements for professors based on publications and research activities. For each published paper applicants get points. To become an assistant professor 10 points are needed and for associate professors 20 points. After additional qualification associate professor can apply for full professorship. The ministry decides on the application. The ministry decided as well about the heads of departments and faculty who have to be members of the Vietnamese Communist Party.

The Ministry of Education stipulates the enrollment quota each year depending on the number of permanent and visiting academic staff. According to the regulations of HCMUT, the annual enrollment quota of GE is 65 students. GE's student enrollment from 2017 to 2022 ranges from 25 students in 2022 to 62 students in 2017 leading to the ratio of student to faculty between 1.6 and 3.9 (only consider full time lecturers). The teaching workload of the lecturers is about 10 hours per week in average.

The faculty members receive financial support for research projects from both the government and the university. The auditors welcome the fact that, according to the faculty members, they have sufficient time for research activities. Current research projects focus on the impact of pollution in the Mekong River and, consequently, the ocean due to plastic waste.

In total, the experts confirm that the teaching staff covers all core content of mechanical engineering adequately. They got the impression that the teaching staff and the faculty are well involved in national and international research activities and academic networks.

Staff development

According to the self-assessment report and the discussions during the on-site audit, HCMUT encourages the continuing professional development of its staff. 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.

The teaching staff is encouraged to study abroad or to participate in international re-search projects and conferences in order to enhance their knowledge, increase their English proficiency and to build international networks. For this purpose, the university informs about possible scholarships to support academic mobility. In general, the exchange programmes are funded by international partner universities and organizations. Particularly, for junior lecturers with a master's degree, the programmes offer systematic training to prepare them for acquiring a PhD abroad, for instance through English courses, information on foreign education systems, administrative support, and supporting (international) research collaborations. Teachers involved in a staff exchange programme are generally assigned to a partner university abroad that has a MoU with HCMUT and the relevant faculty.

In summary, the experts highlight the highly engaged and motivated staff members. Furthermore, 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 3.2 Student Support and Student Services

Evidence:

- Self-Assessment Report
- Evaluation/survey results

- Discussions during the audit

Preliminary assessment and analysis of the experts:

During the on-site discussions with programme coordinators, lecturers, and particularly the students, the experts gain a thorough understanding of the available support services for students. HCMUT provides both subject-specific academic counselling and general non-academic guidance.

To guarantee the student general support, HCMUT has additional staff at laboratories and manage the libraries, computer facilities, and student services. The support staff are categorized into two groups:

- The staff of administrative agencies served in the Personnel & Administrative Affairs Office, Academic Affairs Office, External Relations Office, Planning & Financial Office, Equipment & Facilities Management Office, Management Board of Dormitories, Library, Office for International Study Programs, Management of Computer Network, Student Services & Career Center.
- The supporting staff members served as technicians/researchers and secretaries/office staff. Technicians from the Equipment & Facilities Management Office often support GE to maintain some common facilities in the laboratories.

Students in the same intake year are organised into classes and every class has an academic advisor. The role of the academic advisor is to help the students with the process of orientation during the first semesters and to monitor their academic performance through GPA. Moreover, every class also has a homeroom teacher. During the audit discussions, the experts learn that a homeroom teacher's role is similar to an academic advisor or mentor in other educational systems. Additionally, it involves a more personalized and holistic approach addressing personal or social issues, professional development and administrative support of students as well.

The annual job fair provides a platform for students to connect with potential employers, explore career opportunities, and gain insights into the job market. During the discussions, the students explain that the job fair also facilitates direct interactions between students and employers, allowing students to expand their professional networks, which can lead to internships, job offers, or mentorships. The industry representatives state that it allows companies to actively recruit candidates for internships, part-time positions, and full-time roles, sometimes with on-the-spot interviews and immediate hiring. In the past few years, approximately 200 companies have presented themselves during the job fair and awarded scholarships to students.

The experts observed that there are sufficient resources available to offer personalized support and guidance to all students. This support system enables students to achieve their

learning goals and complete their studies successfully and on time. The students confirm that they are well-informed about the available services. Overall, the extensive tutorial and support system for students is one of the key strengths of the degree programmes under review and the university as a whole.

Criterion 3.3 Funds and equipment

Evidence:

- Self-Assessment Report
- Discussions during the audit
- Visitation of the institution

Preliminary assessment and analysis of the peers:
According to the self-assessment report, as a state-owned institution, funding for the operations and degree programmes at HCMUT comes from two main sources: the Ministry of Education and Training (state budget) and other sources (revenue from student scholarships, tuition fees, and other third-party contributions). The faculty's annual operating budget is approved by the Principal, who allocates financial responsibilities for institutional expenses, specifically for the faculty's and departments' operational costs.

During the onsite visit, the auditors inspect laboratories, lecture rooms, staff offices and the library. Most of the classrooms are equipped with projectors and are connected to the university's computer network that links all classrooms and offices, a computer centre, servers, and both computer and teaching laboratories.

Workplaces for student's self-studies are available in a sufficient number but mostly are placed outside. Due to the weather conditions in Ho Chi Minh City the auditors understand students' desire for more in-house working places.

The computer classrooms at the faculty are all installed with relevant licensed software and Internet access. However, in the discussion with students the expert learn that the number of licenses for programmes like AutoCAD or MatLab was limited in the last years. As the experts find these programmes essential they recommend urgently to increase the access of students to specific software.

The equipment of the labs in general seems to be sufficient to teach fundamental principles in the bachelor programmes. But the auditors hardly see equipment for research activities of the teaching staff and even student mention problems to operate with the equipment in companies during their internships as it is more modern than in the laboratories of the university. Additionally, the space in the geology labs is not sufficient for all students and

the cohorts have to be divided for lab exercises. The auditors strongly recommend to improve and modernize the equipment and the infrastructure of the laboratories.

In summary, the experts appreciate the range of learning tools and resources available to the students and lecturers and consider the faculty's facilities and available equipment in the laboratories to be of appropriate standards – although in need of modernization. The available funds also comply with the requirements for adequately sustaining the degree programme under review.

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

The auditors consider the criterion to be fully met but suggest recommendations to improve the equipment of the labs and the access of students to specific software and to offer more in-house workplaces for students.

4. Transparency and Documentation

Criterion 4.1 Module Descriptions

Evidence:

- Module descriptions
- Webpage HCMUT
- Webpage Faculty of Geology and Petroleum Engineering

Preliminary assessment and analysis of the experts:
The students, as all other stakeholders, have access to the module descriptions via universities homepage.

The auditors confirm that the module descriptions include all necessary information about the persons responsible for each module, the teaching methods and work load, the awarded credit points, the intended learning outcomes, the content, the applicability, the admission and examination requirements, and the forms of assessment and details explaining how the final grade is calculated.

However, they find some inconsistencies between titles and content of courses and recommend to review the module descriptions. Thus, for example,

Criterion 4.2 Diploma and Diploma Supplement

Evidence:

- Self-Assessment Reports
- Sample Diploma for each degree programme
- Sample Diploma Supplement for each degree programme

Preliminary assessment and analysis of the peers:
The experts confirm that the students of the degree programme under review are awarded a Diploma Certificate and a Diploma Supplement after graduation. The Diploma Supplement lists all courses that the graduate has completed, the achieved Vietnamese credit points, grades, and cumulative GPA. The Diploma Supplement is bilingual (Vietnamese and English) and contains most of the required information about the degree programme. However, the experts notice that the Diploma Supplement does not mention the conversion of Vietnamese credits into ECTS and does not indicate how many ECTS credits are awarded for the whole programme. Furthermore, no information on the programme objectives, the intended learning outcomes and the admission requirements are provided. Therefore, the experts point out that the Diploma Supplement needs to list the programme objectives and intended learning outcomes, the admission requirements, and how many ECTS points are awarded for the entire degree programme.

Criterion 4.3 Relevant Rules

Evidence:

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

Preliminary assessment and analysis of the peers:
The experts confirm that the rights and duties of HCMUT and the students are clearly defined and binding. They appreciate that the English and Vietnamese websites of the programmes include sufficient information about the intended learning outcomes, study plans, module descriptions and academic guidelines of the degree programmes and are made available to all relevant stakeholders. In addition, the students receive all relevant course material at the beginning of each semester.

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

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

The experts consider this criterion not to be fully met as the diploma supplement do not included all needed information. Beside that requirement they recommend to review the module descriptions regarding inconsistencies.

5. Quality management: quality assessment and development

Criterion 5 Quality management: quality assessment and development

Evidence:

- Self-Assessment Report
- Academic Guidelines
- Samples of surveys
- Discussions during the audit

Preliminary assessment and analysis of the peers:

The experts discuss the quality management system at HCMUT with the programme coordinators and the students. They learn that HCMUT has established an extensive quality management system, which is aimed at constantly improving the quality of the degree programme and the experience of students and faculty members. The central unit responsible for quality management is the Testing and Quality Assurance Office. Every year, HCMUT develops a quality assurance plan on the basis of regular tasks and the university's general quality policy. The individual faculties are obliged to follow these plans 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. The lecturers hereby consider among other things the students' learning results, inspiration from other institutions, and new trends in the technical fields. The second step consists of conducting surveys and analysing the feedback from students, alumni, employers, and other stakeholders. Finally, the SAC, which receives the results of surveys and reports from other groups, suggests improvements to the individual programmes.

According to HCMUT, 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 a 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. Via the e-learning platform MyBK, students can give their feedback anonymously on aspects such as the teaching quality, the course content, the workload and their learning progress.

Afterwards, the results of the surveys are sent to the teachers for further improvement of the courses. During the audit, the experts inquire whether the results of the surveys are also shared and discussed with the students. The programme coordinators explain that the survey results are published on MyBK and therefore accessible for the students. The students confirm this and explain that those in charge are always eager and open for feedback aside from the official evaluations. The students have the impression that their comments are taken into consideration with regard to the further improvement of the programme. This becomes apparent in the already mentioned constant curricular revision process that is performed under participation of students and industry partners. The experts appreciate to hear that students are satisfied with the continuous development of the programme and included in the feedback loop.

HCMUT 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 HCMUT. On this basis, the Board of Deans discusses whether the curriculum and the learning objectives of the degree programme need to be revised. In the audit discussions, the industry partners report to be satisfied with the students from HCMUT, especially in terms of their work ethic and their English language skills. Furthermore, the industry partners confirm that their suggestions are generally adopted by HCMUT. The experts appreciate that HCMUT has a close relationship with the industry partners and regularly collects feedback from them. Thus, the experts agree that the quality management circles at HCMUT are well established and work under participation of all stakeholders.

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

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

The experts consider the criterion fully met.

D Additional Documents

No additional documents needed.

E Comment of the Higher Education Institution

The university confirms the report in its comment.

F Summary: Expert recommendations

Taking into account the additional information and the comments given by university 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 Geological Engineering	With requirements for one year	30.09.2030	--	--

Requirements

A 1. (ASIIN 1.4) Ensure that the ECTS-Points awarded for the programme correspond with the actual workload of the students.

A 2. (ASIIN 2) Ensure that students do not use the term “dissertation” to label their graduation theses in the bachelor programme.

A 3. (ASIIN 4.2) The Diploma Supplement also needs to list the programme objectives and intended learning outcomes, the admission requirements, the acquired ECTS points of each course and how many ECTS points are awarded for the whole degree programme.

Recommendations

E 1. (ASIIN 1.3) It is recommended to increase the fieldwork experience of the student.

E 2. (ASIIN 1.3) It is recommended to increase opportunities for students to strengthen their engineering competences.

E 3. (ASIIN 1.3) It is recommended not to emphasise student attitudes in course objectives, as the implementation of those objectives cannot be assessed by the lecturers.

E 4. (ASIIN 1.3) It is recommended to increase the personal competences of the students, especially presentation ability and English communication skills.

E 5. (ASIIN 1.3) It is recommended to reduce the minimum number of students needed to conduct elective courses.

E 6. (ASIIN 1.3 It is recommended to better promote the existing opportunities in order to encourage more students to spend time abroad.

E 7. (ASIIN 1.6) It is recommended to offer more experimental practice experiences for the students by offering more exercises in laboratories.

E 8. (ASIIN 3.3) It is recommended to improve and modernize the equipment and the infrastructure of the laboratories.

E 9. (ASIIN 3.3) It is recommended to increase the number of in-house working places for students.

E 10. (ASIIN 3.3) It is recommended to offer more licenses of specific software for students in modules (e.g. AutoCAD and MatLab).

E 11. (ASIIN 4.1) It is recommended to review the module descriptions in order to name all modules consistently with their content.

G Comment of the Technical Committee 11 - Geosciences

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

The Technical Committee 11 – Geosciences recommends the award of the seals as follows:

Degree Programme	ASIIN Seal	Maximum duration of accreditation	Subject-specific label	Maximum duration of accreditation
Ba Geological Engineering	With requirements for one year	30.09.2030	--	--

H Decision of the Accreditation Commission (25.03.2025)

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

The Accreditation Commission discusses the procedure and follows the assessment of the experts and of th Technical Committee 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 Geological Engineering	With requirements for one year	30.09.2030	--	--

Requirements

A 1. (ASIIN 1.4) Ensure that the ECTS-Points awarded for the programme correspond with the actual workload of the students.

A 2. (ASIIN 2) Ensure that students do not use the term “dissertation” to label their graduation theses in the bachelor programme.

A 3. (ASIIN 4.2) The Diploma Supplement also needs to list the programme objectives and intended learning outcomes, the admission requirements, the acquired ECTS points of each course and how many ECTS points are awarded for the whole degree programme.

Recommendations

E 1. (ASIIN 1.3) It is recommended to increase the fieldwork experience of the student.

E 2. (ASIIN 1.3) It is recommended to increase opportunities for students to strengthen their engineering competences.

E 3. (ASIIN 1.3) It is recommended not to emphasise student attitudes in course objectives, as the implementation of those objectives cannot be assessed by the lecturers.

E 4. (ASIIN 1.3) It is recommended to increase the personal competences of the students, especially presentation ability and English communication skills.

E 5. (ASIIN 1.3) It is recommended to reduce the minimum number of students needed to conduct elective courses.

E 6. (ASIIN 1.3 It is recommended to better promote the existing opportunities in order to encourage more students to spend time abroad.

E 7. (ASIIN 1.6) It is recommended to offer more experimental practice experiences for the students by offering more exercises in laboratories.

E 8. (ASIIN 3.3) It is recommended to improve and modernize the equipment and the infrastructure of the laboratories.

E 9. (ASIIN 3.3) It is recommended to increase the number of in-house working places for students.

E 10. (ASIIN 3.3) It is recommended to offer more licenses of specific software for students in modules (e.g. AutoCAD and MatLab).

E 11. (ASIIN 4.1) It is recommended to review the module descriptions in order to name all modules consistently with their content

A Fulfilment of Requirements (27.03.2026)

Assessment of experts and the Technical Committee

For all degree programmes

A 1. (ASIIN 1.4) Ensure that the ECTS-Points awarded for the programme correspond with the actual workload of the students.

Initial Treatment	
Peers	fulfilled Justification: The university has recalculated the credit points and the associated workload and has conducted student surveys. It now assigns 25 hours of student workload to each ECTS credit point. The workload newly calculated corresponds with the results of the surveys.
TC 11	fulfilled Justification: The Technical Committee follows the assessment of the experts.

A 2. (ASIIN 2) Ensure that students do not use the term “dissertation” to label their graduation theses in the bachelor programme.

Initial Treatment	
Peers	fulfilled Justification: The Faculty of Geology and Petroleum Engineering has informed both lecturers and students that the term “Dissertation” is not allowed to be used for the Graduation Theses; instead, the English term “Capstone Project” should be used. To implement this regulation the faculty has provided a standard template for the cover page of theses containing the required information for the Capstone Project, which lecturers and students are requested to follow.
TC 11	fulfilled Justification: The Technical Committee follows the assessment of the experts.

A 3. (ASIIN 4.2) The Diploma Supplement also needs to list the programme objectives and intended learning outcomes, the admission requirements, the acquired ECTS points of each course and how many ECTS points are awarded for the whole degree programme.

Initial Treatment	
Peers	fulfilled Justification: The university submit a new diploma supplement which includes all information asked for.
TC 11	fulfilled

	Justification: The Technical Committee follows the assessment of the experts.

Decision of the Accreditation Commission

Degree programme	ASIIN-label	Subject-specific label	Accreditation until max.
Ba Geological Engineering	All requirements fulfilled	--	30.09.2030

Appendix: Programme Learning Outcomes and Curricula

The following **curriculum** is presented:

Table 1.5. The mapping between SOs and respective courses of Geological Engineering Programme

No.	Course ID	Course title	Term	Student Outcomes						
				1	2	3	4	5	6	7
1	MT1003	Calculus 1	1	T				T		I
2	PH1003	General Physics 1	1	T		T				
3	CH1003	General Chemistry	1	T						
4	GE1001	Introduction to Engineering	1	T	T	T		T		
5	MI1003	Military Trainning	1							
6	PE1003	Physical Education 1	1							
7	LA1003	English 1	1			T				
8	MT1007	Linear Algebra	2	T	T			T		I
9	MT1005	Calculus 2	2	I	T			I		I
10	PH1007	General Physics Labs	2	T				T		
11	GE1013	Earth Science	2	I		T		T		
12	PE1005	Physical Education 2	2							
13	LA1005	English 2	2			T				
14	GE1011	Basic Geophysics	2	T					T	
15	MT1009	Numerical Methods	3	I	T			I		I
16	SP1031	Marxist - Leninist Philosophy	3				T	I		T
17	PE1007	Physical Education 3	3							

18	LA1007	English 3	3			T				
19	GE2043	Fundamental of Geoinformatics	3	T	T					
20	GE2033	Crystallography - Mineralogy - Petrography	3	T					T	
21	GE2035	Structural Geology and Geological Mapping	3	T		T			T	
22	MT2013	Probability and Statistics	4	I	T			T		I
23	SP1033	Marxist - Leninist Political Economy	4				T			I
24	LA1009	English 4	4			T				
25	AS2001	Applied Mechanics	4	T				T		
26	GE2021	Basic Hydro-Geomechanics	4	T	T					
27	GE2037	Geotechnics 1	4	I	T					
28	SP1035	Scientific Socialism	5							I
29	GE3137	Construction Engineering	5		T				T	
30	GE2031	Hydrogeology	5	T					T	
31	GE3139	Rock Mechanics and Practice	5	T		T			T	
32	GE3013	Geotechnical Testing	5	T				T	T	
33	SP1039	History of Vietnamese Communist Party	6			I	T			T
34	GE3161	Project Management in Earth Resources Engineering	6		T			T	T	
35	GE2029	Environmental Geology	6	E			T	T		
36	GE3141	Geostatistic	6	T						
37	GE3335	Internship	6			T	T	T	T	

38	SP1037	Ho Chi Minh Ideology	7				T			E
39	GE4069	Geodynamics Engineering and Practice	7	T	T	E	E			
40	GE4033	Foundation	7	T	E		T	T	T	
41	SP1007	Introduction to Vietnamese Law	8				I	T		I
42	GE4337	Capstone Project	8			T	T			
43	GE3089	Production and Saving Underground Water	5/6		T		T	T	T	I
44	GE3145	Geotechnics 2 Project	5/6		T		T		T	
45	GE3143	Geotechnics 2	5/6		T				T	I
46	GE3147	Environmental Geochemistry	5/6	T			T		T	
47	GE3149	Earth Resources Project	5/6	T					T	T
48	GE3151	Environment Conservation in Petroleum Industry + Field Trip	5/6				T	T	T	
49	GE3153	Management of Land and Mineral Resources	5/6				T			T
50	GE3193	Project Based 1	5/6		T			T	T	
51	GE3195	Project Based 2	5/6		T		T	T		
52	GE3197	Design Project in Petroleum Engineering 1	5/6			T	T	T	T	
53	GE3201	Regional Hydrogeology and Geoengineering	5/6				T	T		
54	GE3203	GIS in Resource Mangement	5/6	I					T	T
55	GE3061	Practice of Geotechnics 2	5/6		T		T		T	
56	GE4143	Project	7				T		T	I

57	GE4029	Techniques for Soil Improvement	8	T	E			T		
58	GE3037	Practice of Analysis Engineering for Geo-Environmental Indexes	8						T	
59	GE4039	Course Project on Prospecting-Exploration and Reserves Calculating Methods	8		T				T	I
60	GE4079	Mapping in Enviromental Geology	8		T					T
61	GE4081	Hydrogeochemystry	8		T		T	T	T	
62	GE4085	Drawing and Maping Land and Mineral Resources	8		T			T	T	
63	GE4087	Eco-smart City	8				T			T
64	GE4089	Planing of Land and Mineral Resources	8		T		I		I	
65	GE4105	Project Based 3	8					T	T	
66	GE4107	Project Based 4	8				T		T	
67	GE4111	Design Project in Petroleum Engineering 3	8		T	T		T	T	
68	GE4113	Design Project in Petroleum Engineering 4	8		T				T	