ASIIN Seal

Accreditation Report

Bachelor's Degree Programmes
Mechanical Engineering
Electrical Engineering
Civil Engineering

Provided by
Universitas Lampung

Version: 12 December 2025

Table of Content

A About the Accreditation Process

Name of the degree programme (in original language)	(Official) English translation of the name	Labels applied for [1]	Previous accreditation (issuing agency, validity)	Involved Technical Committees (TC)[2]
Teknik Sipil	Bachelor in Civil Engineering	ASIIN	BAN-PT, 2021 valid until 2-12-2026	03
Teknik Elektro	Bachelor in Electrical Engineering	ASIIN	BAN-PT, valid until 27-10-2025	02
Teknik Mesin	Bachelor in Mechanical Engineering	ASIIN	BAN-PT, valid until 20-09-2025	01
Date of the contract: 07.11.2024 **Submission of the final version of the self-assessment report:** 12.08.2024 **Date of the onsite visit:** 1-3.10.2024 **at:** Universitas Lampung				
Expert panel: Prof. Dr. Alexander Büsgen, University of Applied Sciences Niederrhein Prof. Dr. Ralf Müller, University of Erlangen–Nuremberg Prof. Dr.-Ing. Günter Rombach, Hamburg University of Technology Nurkholis Wahyudi Fachrudin, PT SAHABAT SOLUSI BERKAH Rifqi Patra Syandana, Universitas Gadjah Mada				

[1] ASIIN Seal for degree programmes

[2] 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.

Representative of the ASIIN headquarter: Paulina Petracenko	
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 02 – Electrical Engineering/Information Technology as of September 23, 2022 Subject-Specific Criteria of Technical Committee 03 – Civil Engineering, Geodesy and Architecture as of September 28, 2020 Subject-Specific Criteria of Technical Committee 01 – Mechanical Engineering/Process Engineering as of December 9, 2021	

B Characteristics of the Degree Programmes

a) Name	Final degree (original/English translation)	b) Areas of Specialization	c) Corresponding level of the EQF[3]	d) Mode of Study	e) Double/Joint Degree	f) Duration	g) Credit points/unit	h) Intake rhythm & First time of offer
Bachelor in Civil Engineering	Sarjana Teknik/Bachelor of Engineering		6	Full time	/	8 Semester	145 SKS	August, annually
Bachelor in Electrical Engineering	Sarjana Teknik/Bachelor of Engineering		6	Full time	/	8 Semester	144 SKS	August, annually
Bachelor in Mechanical Engineering	Sarjana Teknik/Bachelor of Engineering		6	Full time	/	8 Semester	144 SKS	August, annually

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

„Programme Learning Outcomes:

1. Being competent in solving civil technology problems;
2. Adapting to changes in civil engineering development;
3. Developing leadership for solving civil engineering technology problems;
4. Being able to communicate and cooperate actively in a multi- disciplinary team;
5. Demonstrating professionalism, ethics, social responsibility, independence, and lifelong learners.

The Civil Engineering Study Program in January 2023 decided to pay special attention to the development of coastal facilities and infrastructure and their reliability against climate change. This is based on the results of a meeting held by all civil engineering program faculty members on August 30, 2022. This was chosen because Indonesia has the longest coastline in the world. Coastal structures have to resist repeated forces. Air conditions on the coast also demand special handling and types of materials. Temperature data in Jakarta

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

as a result of observations by the BMKG Meteorology, Climatology, and Geophysics Agency since the Dutch era (for 150 years) shows a significant increase in average temperature in Jakarta, namely 1.6 degrees C from 1866 to 2012. The potential for extreme rain in Jakarta has increased by 14 percent due to the addition of 1 degree of temperature. This certainly changes the evolution of materials, floods, landslide hazards, and other things that become the field of civil engineering. Subjects that support this specialization include Physics for Engineering, Statics, Structure analysis, Environmental engineering, Mechanics of materials, Soil mechanics, Hydrology, Computer programming, Materials technology, Structural modelling, Foundation design, Structural Dynamics, Reinforced concrete columns and slabs, Coastal Engineering, Port and Harbour Engineering, Earthquake Engineering, as well as Management courses."

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

„Programme Learning Outcomes:

Specific Skills:

1. Able to apply the principles of mathematics, science, and engineering to solve the electrical engineering problems.
2. Able to design environment-friendly systems, components and processes, which have business value.
3. Able to perform standardized tests, measuring, and conduct experiments as well as analyze and interpret the results.
4. Able to analyze, and design electrical circuits, computer programming, software, analogue and digital electronics, microcomputers, voice and data communications, as well as standards for manufacturing, testing, operating, and maintaining systems in the field of electrical engineering.
5. Able to apply principle of project management, health and safety issues on electrical engineering.

Knowledge:

1. Knowledge of mathematics, science, and engineering principles to solve engineering problems in the field of electrical engineering.
2. Knowledge of electrical circuits, computer programming, software, analogue and digital electronics, microcomputers, voice and data communications and standards

for manufacturing, testing, operating and maintaining systems in the field of electrical engineering.

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

"The objectives of the mechanical engineering bachelor degree (MEBDP) programme are:

1. Produce graduates who are able to model and predict the behaviour of engineering equipment through the application of science and engineering principles;
2. Produce graduates who are able to perform analysis and synthesis as well as solving problems in the field of mechanical engineering;
3. Produce graduates who are qualified, faithful, devoted and have character.

In general, graduates of the Mechanical Engineering study program have a profile as "graduates who are able to analyse, design mechanical systems (thermal, mechanical construction, materials, manufacture) and contribute to solving complex mechanical system problems". From this general profile, the initial career of Mechanical Engineering graduates at the University of Lampung (UNILA) must have the profile of an analyser, designer and problem solver."

C Expert Report for the ASIIN Seal[4]

1. The Degree Programme: Concept, Content & Implementation

Criterion 1.1 Objectives and Learning Outcomes of a Degree Programme (Intended Qualifications Profile)

Evidence:

- Self-Assessment Report
- Study plans of the degree programmes
- Module descriptions
- Objective-module-matrix for each programme
- Websites of all study programmes
- Discussion during the audit

Preliminary assessment and analysis of the experts:
The experts base their assessment of the learning outcomes on the information provided on the websites, the Study Guide Books, and in the Self-Assessment Report of the three Bachelor's degree programmes under review.

For all three programmes, Universitas Lampung (UNILA) has described and published Programme Educational Objectives (PEO) and Programme Learning Outcomes (PLO). While the PEO are rather general and refer to the vision and mission of the Faculty of Engineering, the PLO cover a number of specific competences students should acquire in their respective degree programme. The PLO comprise four areas of competence namely attitudes & social aspects, skills, and knowledge. Both, PEO and PLO of each degree programme are published on the respective programme's webpage.

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

The experts refer to the Subject-Specific Criteria (SSC) of the Technical Committees Civil Engineering, Electrical Engineering and Information Technology, and Mechanical Engineering as a basis for judging whether the intended learning outcomes of the three programmes correspond with the competences as outlined by the SSCs.

Graduates of the Bachelor's degree programme Civil Engineering should "have a lifelong learning spirit and be able to design, implement, and supervise civil engineering construction by taking into account construction standards, economic aspects, professional ethics, health & safety, disaster effects, climate change and sustainability with emphasis on coastal environment and its infrastructure." Furthermore, they are able to act as technicians and analysts with economic efficiency and reliability in climate changes. Overall, graduates are "qualified to be planners, implementers, supervisors, and estimators of infrastructure and building facilities". The experts suggest that the ambitious mission listed above should be revised to reflect the content of the lectures given in the Bachelor studies.

The Bachelor's degree programme Electrical Engineering is designed to produce competitive graduates who are qualified to work as engineers, academics, and entrepreneurs. They have knowledge of electrical circuits, computer programming, software, analogue and digital electronics, microcomputers, voice and data communications and standards for manufacturing, testing, operating and maintaining systems in the field of electrical engineering. They are able to apply the principles of mathematics, science, and engineering to solve the problems in the field electrical engineering and design environment-friendly systems, components and processes which have commercial value.

Graduates of the Bachelor's degree programme Mechanical Engineering are able to analyse, design mechanical systems (thermal, mechanical construction, materials, manufacture) and contribute to solving complex mechanical system problems. They have the qualification profile of an analyser, designer and problem solver.

The experts review the objectives and learning outcomes of the programmes and find that they are described in a comprehensible and competence-oriented way. They also note that the objectives and learning outcomes are anchored and published in a transparent manner and are thus available to students, teachers and interested third parties. Furthermore, the experts are confident that they correspond to EQF level 6 and are in line with the ASIIN Subject Specific Criteria (SSC) of the Technical Committees Civil Engineering, Electrical Engineering and Information Technology and Mechanical Engineering. They therefore consider that, with the intended competence profile, graduates will be able to take up a professional activity commensurate with the level of qualification. However, the experts consider that the learning outcomes and objectives of each module, as described in the module descriptions, are often general, repetitive and not fully consistent with the description of

the content and title of the module. This is discussed in more detail in Chapter 1.3. The experts therefore request that the learning outcomes be described in a more precise and concrete way, highlighting the differences between the different modules. They also point out that learning objectives and outcomes are described rather interchangeably and that the distinction between these two categories should be made clearer. Thus, objectives should describe the goal, whereas learning outcomes should reflect the concrete achievements expected. The following phrases may serve as examples: “Internalize a good spirit of ethics, independence, struggling, and life-long learning. Demonstrate leadership and responsible attitude on their expertise independently.” While these are desirable goals, their connection to the content of a class in, e.g., mathematics is far-fetched. Another example is the phrase “Knowledge of mathematics, science, and engineering principles to solve engineering problems in the field of electrical engineering.” This is a goal common to all classes in electrical engineering. Therefore, it does to suit to the description of one or more particular modules.

When reviewing the module descriptions, the experts stumble upon a rather unusual course objective of the thesis in the Electrical Engineering programme: “Students are able to have devotion to Almighty God, demonstrate a religious attitude, and uphold human values in carrying out their duties based on religion, morals, and ethics.” The experts are surprised that while the general programme learning outcomes do not feature the objective to “demonstrate a religious attitude”, this goal is specifically part of the completion of the thesis. In addition, they note that this is not included as an objective of the thesis in the other two engineering programmes. The programme coordinators explain that the objective to demonstrate a religious attitude is rooted in the university's general Islam-oriented attitude. They also emphasise that students who do not belong to any religion and therefore do not have a religious attitude will not be excluded or disadvantaged in any way. The experts are glad to hear this, but still suggest that the objectives and intended learning outcomes of the thesis be rephrased so that they focus only on the scientific and soft skills to be achieved with the completion of the thesis.

The experts learn that all programmes at UNILA are regularly reviewed, including the intended learning outcomes. A major review takes place every five years. This process involves all relevant stakeholders such as students (e.g. through surveys), teachers and industry partners. UNILA also takes into account the requirements and recommendations of the Indonesian Ministry of Higher Education and national and international accreditation bodies. Industry representatives state in the audit that they are regularly consulted by UNILA management to share their feedback on the learning outcomes and curricula of the programmes, as well as their general suggestions. The experts are pleased to see a functioning review system that takes into account the feedback of stakeholders, the needs of

industry, and developments in the technical field and, if necessary, revises the objectives are accordingly.

Criterion 1.2 Name of the Degree Programme

Evidence:

- Self-Assessment Report
- Diplomas

Preliminary assessment and analysis of the experts:
The experts confirm that the English translation and the original Indonesian names of the Bachelor's degree programmes correspond with the intended aims and learning outcomes as well as the content of the respective degree programme. The programme titles are used consistently in all documents.

Criterion 1.3 Curriculum

Evidence:

- Self-Assessment Report
- Study plans
- Module descriptions
- Study Programme Handbooks
- Internship Guide Book
- Discussions during the audit

Preliminary assessment and analysis of the experts:
Content & Structure

All three Bachelor's programmes are offered by the Faculty of Engineering, which is one of the eight faculties at the University of Lampung.

In order to graduate from the Bachelor's degree programmes, students of the Civil Engineering programme have to pass a minimum of 145 credits (Satuan Kredit Semester, SKS) within a period of eight semesters (four years). This is equivalent to about 226 ECTS points. For the Mechanical Engineering and Electrical Engineering programmes, students have to acquire at least 144 SKS (228 ECTS points) within eight semesters.

The maximum length of studies for undergraduate programmes at UNILA is 14 semesters (seven years). Each semester is equivalent to 14 weeks of learning activities. Besides these learning activities, there is one week for mid-term exams and one week for final exams.

The odd semester starts in August and ends in January of the following year, while the even semester lasts from February to July.

The curriculum consists of university requirements and compulsory as well as elective courses determined by UNILA and the respective departments. University requirements are courses that need to be attended by all undergraduate students at UNILA. There are six university requirements: Bahasa Indonesia (2 SKS), Religion (3 SKS), Pancasila (2 SKS), Entrepreneurship (3 SKS), and Civic Education (2 SKS) and Student Community Service (3 SKS). These courses are almost all offered in the first two semesters of studies, in addition to courses conveying basic knowledge of engineering mechanics, material technology, structural analysis ("statics"), statistics and probability, engineering drawing, environmental engineering and mathematics. In the second year, the study programmes focus on theory and practice related to the respective discipline. The third year aims to deepen the theoretical understanding and advanced practice. In the fourth year, students carry out an internship and complete the Bachelor's Thesis.

The Civil Engineering programme has a largely common curriculum for all students, which requires students to complete the following technical modules: Engineering Drawing, Surveying, Hydrology, Introduction to Pavement Engineering, Fundamentals of Railway Engineering, Earthquake Engineering, Port Engineering, Water Resource Engineering, Road and Bridge Engineering, Foundation Design, Reinforced Concrete Beams, Steel Truss Structures, and Coastal Engineering. In addition, 6 SKS are allocated for electives. Students can choose electives from four areas: Structures, Hydrotechnics, Geotechnics, Transportation and Construction Management.

The bachelor's programme Electrical Engineering offers students three main specialisations: Electrical Power Engineering, Electronics and Control Engineering, and Telecommunications and Information Technology. Each specialisation is divided into several sub-specialisations: In Electrical Power Engineering, there are three sub-specialisations: Energy Conversion Engineering, High Voltage Engineering and Power Systems Engineering. Electronics and Control Engineering has two sub-specialisations: Electronic Engineering and Control Engineering. Telecommunications and Information Technology has two sub-specialisations: Telecommunications, and Information Technology. Students can choose one of the three specialisations after the third semester. In total, the programme offers 21 elective modules. Students are also required to take courses in other disciplines such as Computer Science, Humanities and Entrepreneurship.

Like the Civil Engineering programme, the Mechanical Engineering bachelor's programme has a largely common curriculum for all students and focuses primarily on thermal and

mechanical design, materials and manufacturing. In addition, students can choose 9 elective credits from the following areas: Energy Conversion, Mechanical/Mechanical Design, Materials and Production Engineering.

The detailed study plans of both study programmes can be found at the end of this report.

With regard to the curricula, the experts consider that the three programmes provide a sound education in the respective technical field at EQF level 6. They also confirm that the three curricula are in line with the respective SSCs and are designed to achieve the intended learning outcomes. In terms of structure and modularisation, they confirm that each module represents a well-coordinated unit of teaching and learning and that, thanks to the electives in each programme, each programme is organised in such a way as to allow for individual focus and course of study.

Nevertheless, the experts still see room for improvement in the three programmes. As mentioned above, they identify several errors in the module descriptions of all three programmes with regard to the presentation of the content, the title and the intended learning outcomes. For instance, the module “Computer-Aided Design” covers the simulation of control systems with Matlab and therefore does not coincide with the title. Another example is the module “Motor Design using FPGAs”, which addresses power converters and therefore does not correspond to the title. They also note that the content descriptions do not always provide clear and precise information about the exact content of each module. For example, the content descriptions of the modules "Capita Selecta" and "Automatic System Design" are rather general and vague. In the audit discussions, the experts clarify a number of ambiguities regarding the modules; they conclude that the modules are adequate units of the curricula and contribute to the achievement of the respective programme learning outcomes. Nevertheless, they insist that the module descriptions are revised so that they are clear, precise and comprehensive.

With regard to the Civil Engineering degree programme, the experts discuss the proportion of application-oriented and reality-based components in the programme. The experts note that students visit some construction sites as part of their degree programme. However, the students would like more opportunities to visit real construction sites in order to deepen their theoretical learning. The experts agree with the students' wishes and recommend giving students more opportunities for excursions and construction site visits.

Furthermore, the experts note that in the Civil Engineering degree programme, outdated software is being used (e.g. for structural design and analysis). The experts recommend replacing them with modern software. Next, students are taught Pascal and FORTRAN computer language, which are no longer state of the art for designers.

Internship

The internship is a field practicum to be completed in a company of the student's choice. Internships can be done through the Regular Programme or MBKM. MBKM (Independent Campus Learning Programme) is a programme organised by the Ministry of Higher Education, Research and Technology. Essentially, the MBKM programme offers students the opportunity to learn outside of their degree programme. This includes student mobility, internships in schools, research institutions and companies, humanitarian projects or independent projects.

The aim of the internship is for students to carry out a project on their own. The exact procedure and intended learning outcomes are defined in the Internship Guidelines. During the internship, students are supervised by a member of the company. The field supervisor will evaluate the student's performance at the end of the internship. In addition to the field supervisor, internship students will also be supervised by a faculty member appointed by the Programme Director. Through the internship, students are expected to gain practical knowledge in the respective technical area and be able to compare theory with implementation in the field. The internship is accompanied by the Internship Seminar. In this seminar, the students present their internship experience and their acquired knowledge in front of the field supervisor, the examiner and 10 senior students.

In the audit, the industry representatives explain that the internship comprises a total of 180 hours. However, the number of hours the students spend at the company per day/week can be determined individually by the students and the companies. This means that the overall length of the internship varies depending on the number of hours per week that the student chooses to work in the company; i.e. while some students spend, for instance, two months at a company, others are four months or longer at an enterprise. This regulation enables flexibility and allows the students to carry out the internship while also attending lectures and seminars at the campus.

The experts consider the internship to be well integrated into the curriculum and a reasonable contribution to the study programmes. However, they note discrepancies between the information provided by the industry representatives and the documents submitted by UNILA. For example, according to the self-assessment report and the module description, the internship is awarded 2 SKS. This is based on the university’s calculation that students have to spend 2x170 minutes per week in the field for one semester, i.e. a total of 16 sessions or 4 months. However, this results in a total workload of approximately 90 hours instead of 180 hours. The experts require that UNILA verifies the actual workload of the internship and, if necessary, adjusts the credits awarded to the actual workload and documents this transparently in all documents. In addition, the experts note that the internship

is still relatively short (whether it is 90h or 180h) for students to gain a profound insight into the industry and encourage UNILA to consider extending the duration.

In the audit, students report that they are satisfied with the structure and organisation of the placement. However, according to the survey results presented in the self-assessment report, about half of the students indicate that they have difficulties finding internship placements. Although this is not directly confirmed by the students in the audit, the experts suggest that UNILA should pay attention to this issue and consider increasing support for students in finding placements. As discussed in more detail in chapter 3.2 of this report, the experts generally recommend increasing the cooperation between study programmes and industry. Students should benefit from increased cooperation and find more internship partners.

International Mobility

According to the self-assessment report and the rector's office, UNILA provides some opportunities for students to conduct internships, research visits and exchange programmes abroad. Students who take part in student exchanges through cooperation programmes can gain recognition of the acquired credits after obtaining approval from their undergraduate programme. The credits acquired abroad are transferable to UNILA, although this transfer of credits is only possible if an agreement exists between UNILA and the involved international university. This agreement regulates the details of the transfer, such as the list of courses that can be transferred, the minimum grade, equivalency of curriculum between universities, etc.

Students' international academic mobility is supported by the Indonesian Government. For example, students can apply for the Indonesian International Students Mobility Awards (IISMA), a scholarship programme from the Ministry of Education, Culture, Research and Technology. In addition, lecturers are encouraged to carry out joint research activities with international partners and to involve students in their projects.

In addition, each department has an individual partnership with other universities. For instance, the Department of Electrical Engineering has a student mobility agreement with Kobe University in Japan. The Mechanical Engineering Department has a cooperation with Sultan Ageng Tirtayasa University (UNTIRTA), a state university in the province of Banten, Indonesia.

As mentioned before, students can also carry out an academic exchange or an internship abroad within the scope of MBKM. UNILA recognizes the courses taken by the students outside UNILA, based on the comparability of the intended learning outcomes. The experts consider this regulation sufficient.

The International Office of UNILA is responsible for managing and coordinating the international activities such as coordinating and managing student mobility programmes, developing and maintaining relationships with partner institutions and organisations around the world, recruiting and admitting international students, providing support and assistance to international students during their time at UNILA, such as helping with housing, visa issues, and other practical matters.

Despite the efforts voiced by the rector's office and a high interest expressed by the students, the participation in student mobility is still relatively low. Hence, only a couple of students in each programme have participated in student mobility in the last years. In fact, the students report in the audit that they only know of visits abroad in terms of participation in research or as part of an international summer course in the semester break but not as student academic exchange for an entire semester. The experts therefore recommend that the opportunities for student mobility abroad are improved and increased and also made more transparent to the students so that everyone knows exactly the offers available to them.

The experts also learn that UNILA offers free English language courses for students to improve their English and improve their chances of going abroad. However, with regard to technical courses, the experts are informed that almost all courses are taught in Bahasa. The experts welcome the fact that UNILA offers free English courses to students. However, they also recommend increasing the number of subject-specific courses in English so that students are prepared for international exchange not only in terms of everyday English but also in terms of technical English. Furthermore, the increased training in English should also improve students' possibilities for (international) research.

Periodic Review of the Curriculum

The university states that the curriculum of each programme is reviewed in three different cycles. The first cycle is a semester-by-semester review. This focuses on analysing survey results, developing strategies to address issues arising from the evaluations and making minor revisions to the curriculum. More intensive internal monitoring takes place as part of the "medium review cycle", which is carried out annually. A "major review" takes place every five years. This takes into account input from all relevant stakeholders, such as students, faculty, industry partners and alumni, as well as ministerial requirements/suggestions in the review and revision of programmes. Based on the internal and external evaluation, a SWOT analysis is performed and strategies are developed to remedy weaknesses. As a result of the last major review, for example, the graduate profile in the Civil Engineering programme was revised and Building Information Modelling (BIM) was integrated into the programme to differentiate it from other universities.

All participants in the audit confirm their involvement in the regular programme review process. The experts are pleased to see that there is a functioning multi-level review system that takes into account feedback from all stakeholders and revises the curricula accordingly.

Criterion 1.4 Admission Requirements

Evidence:

- Self-Assessment Report
- Admission requirements
- Homepage UNILA: https://www.unila.ac.id/en/
- Academic Regulations
- Discussions during the audit

Preliminary assessment and analysis of the experts:
According to the Self-Assessment Report, admission procedures and policies for new students follow the national regulations in Indonesia, specifically the Permendikbud Number 6/2020 regulation about the "New Student Admission Scheme for Public University" and the "Standard Operational Procedure of the UNILA for New Students Enrolment". The process is based on regulations that are issued by the Rector every year, which determine the selection pathways, assessment mechanisms, available study places, and registration processes. The requirements, schedule, registration venue, and selection test are announced on UNILA's webpage and thus accessible for all stakeholders.

There are several different ways by which students can be admitted to a Bachelor's programme at UNILA:

1. National Entrance Selection of State Universities (Seleksi Nasional Berdasarkan Prestasi, SNBP), a national admission system, which is based on the academic performance during the high school.

2. Joint Entrance Selection of State Universities (Seleksi Nasional Berbasis Tes, SNBT). This nationwide computer-based written test (UTBK) is held every year for university candidates. It is a nationwide online test (subjects: Mathematics, Bahasa Indonesia, English, Physics, Chemistry, Biology, Economics, History, Sociology, and Geography), which may be supplemented with other criteria according to the regulations set by the different universities (Academic State Universities, Vocational State Universities, or State Islamic Universities.

3. Independent Selection (Seleksi Mandiri Masuk Perguruan Tinggi Negeri Bagian Barat, SMMPTN) students are selected based on a test specifically held by UNILA and other universities in Sumatra for prospective students that haven not been accepted through SNBT or SNBP.

Moreover, there are special admission criteria for international students, for students with special needs, and for students with high achievements e.g. in academics, sports, arts or other competitions.

The Higher Education Entrance Test Institute (Lembaga Tes Masuk Perguruan Tinggi, LTMPT) carries out the process of student data collection, registration, and implementation of university entrance selection in Indonesia on the national level. At UNILA, the New Student Admissions Management Agency (Badan Pengelola Penerimaan Mahasiswa Baru, BP PMB) is in charge of carrying out the admission procedure. All information about the requirements, how to register, the stages of the registration process, exam schedules, and announcement of selection results are managed by this agency.

In general, UNILA implements three student recruitment methods, namely SNBT, SNBP, and SMMPTN with a minimum quota of 40%, 20%, and 30%, respectively. This is based on an official UNILA regulation from 2022. Provisions regarding the selection mechanism for new student admissions can be accessed via the UNILA homepage (https://www.unila.ac.id/en/), which can be accessed by all prospective students both domestically and abroad. Apart from information regarding entrance selection, the website also provides information about service standards and mechanisms for carrying out lecture activities as outlined in academic guidelines.

Undergraduate students at UNILA have to pay tuition fees (UKT). The fees for each study programme vary according to the operational costs of learning. In addition, UKT for each student is different according to the financial ability of their parents. Students with a very weak economic background do not have to pay any tuition fees (group I) and the highest tuition fee (group VIII) is IDR 8.936.000 (EUR 530) per year. Several grants for students with financial difficulties are available, such as from the government, industries, and foundations.

UNILA also recognises courses taken outside UNILA based on Credit Achievement Units (SKP). If the qualifications obtained externally are comparable to the intended learning outcomes, these achievements are recognised. The recognition rules are defined in the Academic Regulations. The experts confirm that this process is in line with the principles of the Lisbon Convention.

The experts note that in all three programmes under review, the number of applicants is many times higher than the capacity of the respective programmes and thus the number of students accepted. In Civil Engineering, for example, the capacity in recent years has been around 150 students, while the average number of applicants per year has been around 1 400. In Electrical Engineering, the average number of applicants per year was 580, while 150 students were accepted. In Mechanical Engineering, the average number of applicants per year has been around 540, of which around 155 per year have been accepted. The experts are pleased to note that the three programmes under review receive a significantly high number of applications and that the demand is much higher than the number of available places.

The experts conclude that the admission requirements are binding and transparent. They confirm that the entry requirements support students in achieving the intended learning outcomes.

Criterion 1.5 Workload and Credits

Evidence:

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

Preliminary assessment and analysis of the experts:

The credit system at UNILA follows the National Standards for Higher Education of Indonesia (SNPT), in which all programmes use a credit point system called SKS. According to this, 1 SKS is awarded for 170 minutes of workload per week divided into 50 minutes contact time/classes, 60 minutes structural assignments, and 60 minutes individual studying. This calculation of 1 SKS equalling 170 minutes of workload applies to all teaching forms including practicums, field trips, etc. Each semester spans over 16 weeks.

The experts note that this formula is correctly and consistently applied to the calculation of SKS in the modules. However, they note discrepancies in the conversion of SKS into ECTS points in the study plans of all three study programmes. For example, 1 ECTS comprises 45.3 hours (170 min x 16 weeks = 2,720 min). Assuming that 1 ECTS comprises 25 hours (as stated in the self-evaluation report), this would result in a conversion rate of 1 SKS = 1.81 ECTS points. However, when going through the credit and workload information in the study documents, the experts find a conversion rate of 1.56. Therefore, the experts insist

that UNILA verify the conversion rate from SKS to ECTS points and calculate all ECTS points correctly.

The Civil Engineering programme comprises 145 SKS, which equals 262 ECTS points. The Electrical Engineering programme and the Mechanical Engineering programme comprise each 144 SKS (260 ECTS points). The experts note that the number of credits is evenly distributed over the entire duration of each Bachelor's programme, which are eight semesters. On average, students take 19 - 21 SKS per semester. Bachelor's students with high academic achievement though can take more courses (up to 24 SKS) to speed up their studies; the academic advisor must approve this.

However, as mentioned before, the experts have identified inconsistencies in the workload of the internship. While the university indicates that the internship comprises 90 hours and is thus awarded 2 SKS, the industry partners report that the internship actually comprises 180 hours, which would equal 4 SKS. The experts therefore request that UNILA verify and define the actual workload and award credits accordingly.

Similarly, the experts learn that students actually work more on the thesis than the workload indicates. According to the module description, the thesis (4 SKS), together with the research proposal and research results seminars (1 SKS each), is worth 6 SKS (equivalent to 11 ECTS points), which is 272 hours and would mean that students spend between 7 and 9 weeks on the thesis, if they work between 30 and 40 hours per week. However, teachers as well as students report that students actually work on the thesis for an entire semester, i.e. 16 weeks. This means not only that the actual workload of students is much higher than indicated in the module descriptions, but also that the credits awarded are not in line with the workload. For this reason, the experts require that UNILA verifies and revises the actual workload for the thesis and awards credit points accordingly.

With regard to the average time taken by students to complete their studies, the experts note that the average length of study exceeds the expected eight semesters/four years. For example, students in Electrical Engineering take an average of 5.3 years, in Civil Engineering 5.6 years and in Mechanical Engineering 5.2 years to complete their studies. The dropout rates are as follows: 8% in civil engineering, 3% in electrical engineering, and 10% in mechanical engineering. The university explains that the main reason for the delay in study duration has already been identified and that these are economic factors. For example, students often struggle to pay tuition fees for the following semester and/or have to work alongside their studies in order to afford to study. However, UNILA claims that this problem has been addressed through various scholarship schemes and that the statistics have shown a positive trend in recent years. Furthermore, the university explains that the COVID-19 pandemic caused many obstacles, including restrictions on student activities,

which had an impact on students' performance and their possibilities to carry out research as part of the final project.

During the audit, students report that the overall workload is reasonable and consistent with the workload indicated in the module descriptions and the credits awarded. They confirm that the reasons for extensions to the duration of study are not due to problems with workload. They also verify that they are regularly asked about their actual workload. The experts are satisfied that there are no overall problems with workload. They also consider the workload estimates to be realistic and well-founded, and find the universities' arguments about the reasons for the extension of the length of study and the measures taken to address them convincing, and see no need to make any recommendations or requirements on this point.

In conclusion, the experts find that the three programmes under review use a sound credit system that takes into account both contact hours and self-study time. They also confirm that the calculation of credits awarded for the modules and the conversion to ECTS are correct, with the exception of the internship and the final thesis. Here, UNILA has to verify the actual workload and duration of the internship and ensure that the credits awarded are in line with the workload. Thus, the experts think that workload in the 7th and 8th semester should be around 20 SKS and not 9 SKS as stated in the curriculum.

Criterion 1.6 Didactic and Teaching Methodology

Evidence:

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

Preliminary assessment and analysis of the experts:

Various teaching and learning methods such as lectures, class and group discussions, case studies, demonstrations, assignments, simulations, experiments, field studies, internships, and problem-based learning are applied in all three undergraduate programmes under review. Structured activities include 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 to develop their abilities with respect to critical thinking, written/oral communication, data acquisition, problem solving, and presentations.

The most common method of learning is class session, with several courses having integrated laboratory work. Lecturers generally prepare presentations to support the teaching process. In addition, several courses include teaching practice sessions or micro-teaching (i.e. students presenting teaching practice trials in front of their peers). 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. In addition, practical activities should enable students to be acquainted with academic research methods. All students at UNILA have access to the digital academic information system (Sistem Informasi Akademik, SIAKADU). The students' profiles (student history, study plan, academic transcript and grade point average/GPA, lecturer evaluation, course list) are available via SIAKADU. In addition, course materials and supporting documents compiled by the lecturers are provided via SIAKADU. For online learning processes, UNILA provides a digital platform called "UNILA Virtual Class", which can be accessed by all students and lecturers.

The experts learn that the quality assurance team of UNILA regularly evaluates the effectiveness of the teaching methods and meets with all lectures to discuss ways of improving the quality of the learning and teaching process.

Students report that they are satisfied with the different forms and methods of teaching. They confirm that the teaching methods are student-centred and that the teachers are committed to helping students when they have difficulties in learning the subject matter.

In summary, the expert group considers that the teaching methods and tools are appropriate to support students in achieving the intended learning outcomes. They confirm that the programmes include a variety of teaching and learning methods and practical elements adapted to the specific subject culture and study format.

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

The University has submitted a detailed response to the draft report, which can be found in Chapter E of this report. However, the experts do not see much improvement or sufficient evidence of improvement in the points previously criticised.

Thus, they find that the revised module descriptions do not really address the shortcomings discussed earlier. For example, they note that the learning outcomes in the module descriptions are still on a general basis and reflect the content of the modules rather than the actual competences. With regard to the comment on the calculation of credits and their

conversion into ECTS points, they appreciate the clarification of the actual number of credits for internships and the thesis. However, there is no adequate explanation/verification of the conversion from SKS to ECTS. For this reason, the requirement should be maintained.

However, the experts see a concrete improvement with regard to the intended learning outcomes for the final thesis in the Bachelor's programme in Electrical Engineering. Here the experts appreciate that the wording "Students are able to have devotion to Almighty God, demonstrate a religious attitude and uphold human values in performing their duties based on religion, morals and ethics" has been changed to "Internalise a good spirit of ethics, independence, struggle and lifelong learning", which is now free of the religious aspect. The experts therefore consider this recommendation to be fulfilled.

The criterion is partly fulfilled.

2. Exams: System, Concept and Organisation

Criterion 2 Exams: System, Concept and Organisation

Evidence:

- Self-Assessment Report
- Module descriptions
- UNILA Academic Guidelines
- Discussions during the audit
- Sample exams & theses

Preliminary assessment and analysis of the experts:

According to the Self-Assessment Report, the students' academic performance is evaluated based on written exams, oral exams, presentations, practical work, papers, and reports. Written forms of assessment methods include multiple choice, essays, quizzes, calculations, structured assignments, and exams (mid-semester exams and end-of-semester exams). The practical work requires students to write a report of their observations, which will be assessed by a laboratory assistant. In addition, depending on the course, students' participation and performance in class may also be assessed and taken into account in the final module grade. Students are required to attend at least 80 % of the lectures and have to participate in all practical activities.

The form of each exam is mentioned in the module descriptions that are available to the students via UNILA's homepage and the digital platform SIAKADA. Usually, there are two

written exams in each course (besides the assignments, homework, and presentations): the mid-term exam, which is conducted in 8th week of the semester, and the final exam in 16th and 17th week.

All stages of the learning assessment results are announced to students to be checked for correctness. If there is an error by the lecturer in giving grades, students can apply for correction of grades to the teacher by bringing evidence in the form of exam files and structured assignments. Students can access their grades at any time through SIAKADU.

Students' academic achievements are evaluated at the end of the semester; they can continue studying if they have completed a minimum of 40 SKS with a minimum GPA of 2.00 at the end of the fourth semester 4, and a minimum of 80 SKS with a minimum GPA of 2.00 at the end of eighth semester. In semester 14, if students do not meet 144 SKS and a GPA of 2.00 then they have to drop out because the study period has ended. If a student fails a course in a certain semester, the student can re-take the course at the next opportunity. Students are given twice the opportunity to re-take failed courses. If students still fail, they will be facilitated with a remedial course called “Studi Terbimbing”. Which means that students attend an additional coaching course in order to prepare them for passing the final exam.

Each of the grades carries a numeric value for the purpose of calculating a weighted average on a 4.00 scale. These values are indicated below:

Final score (0-100)	Quality Letters	Quality Score	Assessment Status
grade ≥ 76	A	4,0	Passed
71 ≤ grade < 76	B+	3,5	Passed
66 ≤ grade < 71	B	3,0	Passed
61 ≤ grade < 66	C+	2,5	Passed
56 ≤ grade < 61	C	2,0	Passed
50 ≤ grade < 56	D	1,0	Passed*
grade < 50	E	0,0	Not Passed

Table 8: Numeric value of the grades, Source: SAR UNILA

In general, the experts receive a positive impression of the examination system: After reviewing the documentation and examination samples, they conclude that UNILA has a sound examination system. They also confirm that a variety of competence-based assessment forms are used in the three programmes, which are adequate to assess the achievement of course and programme learning outcomes and which correspond to EQF level 6.

They also note positively that the assessment forms are reviewed regularly and that the assessment system is monitored to ensure fairness and appropriateness.

The students echo the impressions of the experts: They confirm that they are satisfied with the examination system for all three programmes and that they receive all relevant information, such as examination dates and assessment criteria, at the beginning of the semester. The examination policy is transparent for all concerned. When asked about the workload and the level of difficulty of the examinations, students say that both are appropriate and manageable.

Nevertheless, the experts note a number of peculiarities in the examination system. Firstly, they note that in most modules in all three programmes the final examination accounts for only 20% of the final mark and ask about the reasons for this. The programme coordinators explain that it is their strategy to assess students on the basis of a combination of different forms of assessment, rather than one main examination, in order to have a more nuanced view of student performance. The experts understand the programme coordinators' motives, but nevertheless recommend that the final examination should be given more weight as part of the overall module mark in order to increase the objectivity and comparability of the of the score by means of a test which poses equal conditions to all students. Furthermore, the experts note that the grade point average in all three degree programmes is around 3.75, which seems remarkably high given that the level of the examinations is appropriate. They suggest that UNILA consider revising its grading system to ensure a more reasonable mapping of students' abilities to their grades.

Finally, the experts note from the documentation that there are transparent rules for resitting examinations due to illness or other urgent reasons. In such cases, students must present a medical certificate and obtain the permission of the teacher concerned to arrange a resit. However, the experts are unable to find any information on systematic support for students with special needs. The representatives of the Rectorate argue that there are indeed regulations in this case and that UNILA provides various forms of support for students with special needs. The experts call for a document outlining UNILA's commitment to supporting all students according to their needs.

The Bachelor’s Thesis

Students in the final year are required to complete a final project by conducting research according to their field of interest. Each student will be guided by two supervisors who are determined by the Head of the Study Programme according to their expertise. The thesis includes writing a proposal in the seminar, preparing the written thesis, and presenting the results in the thesis seminar. The research topic should be relevant to the expertise of the

supervisor and co-supervisor. Students can also choose research topics according to their interests.

The assessment of the thesis is carried out in three stages: 1) assessment of the proposal seminar; 2) seminar assessment of final research results; and 3) comprehensive thesis assessment. Student research proposals are evaluated through a proposal seminar attended by two supervisors and one lecturer. The research results seminar is held after completing the research and making a research report. The final grade is based on the quality of the written thesis, literature review, research methods, originality of ideas, and performance in the seminars such as media quality, presentation skills, and discussion abilities.

As part of the on-site visit, the experts also inspect exemplary Bachelor's Theses from all three programmes. Overall, they find the quality of the theses satisfactory and in line with EQF level 6. However, they remark that the exemplary thesis in the Civil Engineering programme are practice-orientated and rather weakly rooted in scientific research. They note that the presented theses have a clear structure and analysis, but few references to academic sources. While this is generally sufficient for a bachelor's level, they still recommend that the bachelor thesis should have an increased scientific component.

As mentioned in chapter 1.1 of this report, the experts find in the module description of the thesis the objective to “demonstrate a religious attitude”. They express concerns regarding the potential for discrimination or disadvantage towards students who do not have a religious affiliation. However, they welcome the assurance from the programme coordinators that students without a religious affiliation will not be assessed based on this criterion and will not face any disadvantage. Given that these students will be assessed solely on their academic performance, the experts propose that the objectives and intended learning outcomes of the thesis be revised to emphasise scientific and soft skills exclusively.

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

The experts note that UNILA, in response to the draft report and to their observation that the higher education institution does not have official regulations defining compensation mechanisms for students with special needs, submits its guidelines for disabled students. The experts review the document and find that it sufficiently addresses the various mechanisms to support students with special needs. They conclude that the university has complied with this aspect.

The criterion is fulfilled.

3. Resources

Criterion 3.1 Staff and Development

Evidence:

- Self-Assessment Report
- Staff Handbook
- Study plans
- Module descriptions
- Discussions during the Audit

Preliminary assessment and analysis of the experts:
At UNILA, the staff members have different academic positions. There are professors, associate professors, lecturers, and assistant lecturers. The academic position of each staff member is based on research activities, publications, academic education, supervision of students, community service, and other supporting activities. For example, a full professor needs to hold a PhD degree. In addition, the responsibilities and tasks of a staff member with respect to teaching, research, and supervision depend on the academic position. The teaching staff is complemented by non-academic staff, consisting of librarians, technicians and administrative staff.

In the Civil Engineering bachelor's programme, there are a total of 18 lecturers, of whom 3 hold a professorship, 15 hold a PhD and 24 hold a Master's degree. In the Bachelor's degree in Electrical Engineering, there are 31 lecturers, of whom 1 holds a professorship, 16 have a PhD, 12 hold a Master's degree and 2 are currently pursuing a PhD. In the Department of Mechanical Engineering, there are 31 teachers involved in the undergraduate programme, of whom 2 hold a professorship, 11 have a PhD and 18 have a Master's degree. This results in a student-staff ratio of 1:18 in Civil Engineering, 1:20 in Electrical Engineering and 1:16 in Mechanical Engineering. All figures are within the student-staff ratio defined by the Ministry. The experts also learn that in each of the three study programme, there are also regularly guest lecturers for instance from the UK, Malaysia, Thailand, Japan and other countries.

Details of the academic qualifications of the teaching staff are described in the Staff Handbook, which is available on the programme website. All full-time members of the teaching staff are required to be involved in (1) teaching/advising, (2) research and (3) community service. However, the workload between the three areas may vary from teacher to teacher. On average, one third to one half of the weekly workload is spent on teaching (i.e. 12 to 20 hours out of 40 hours), about one third, i.e. 13 hours, on research (6 hours are the minimum

requirement) and about 5 hours on administrative work. Teachers confirm in the audit that they consider this distribution of workload to be appropriate and that they have sufficient time to carry out their respective tasks.

During the audit, the experts discuss with the faculty their research activities. The teachers report that they have various forms of collaboration, i.e. with other universities, with departments within UNILA and with companies. For example, in the civil engineering department, they are currently collaborating with the water research department on a hydro energy project. They also receive funding from the Ministry for some projects. In order to keep up to date with the latest developments in their respective fields, all of the teachers also take part in at least one international conference a year.

Students report that they are very satisfied with the teaching staff and particularly appreciate the time and effort that teachers put into mentoring and supporting students. Students also report that teachers are generally open to criticism and that, in addition to the surveys, students are welcome to give feedback directly in class at any time.

In summary, the experts confirm that the composition, scientific orientation and qualification of the teaching staff – beside the already mentioned points – are suitable for successfully implementing and sustaining the three degree programmes.

Staff Development

UNILA encourages the training of its academic and technical staff to improve their pedagogical skills and teaching methods. Therefore, the university offers its staff a portfolio of different workshops and courses.

All staff members are required to obtain the PEKERTI (Program Peningkatan Keterampilan Dasar Instruksional) certificate or the Applied Approach certificate. This is a compulsory training for all staff members that focuses on advancing pedagogical knowledge. It is designed particularly for junior faculty members to introduce various teaching methods, learning strategies, preparation of assessments, class management, as well as syllabus and course content development. In addition, all teachers at UNILA are obligated to attend the lecturer certification programme held by the Directorate General of Higher Education (Direktorat Jenderal Pendidikan Tinggi Ditjen, DIKTI). An official teaching certificate is issued after the faculty member has completed the certification process.

Young staff members with a Master's degree are encouraged to pursue doctoral studies (usually abroad). To support this policy, UNILA provides foreign language training and organises seminars presenting scholarships from various sources.

Lecturers' professional development in pedagogical and professional skills is conducted through workshops, webinars and seminars both within and outside UNILA. Relevant data for each lecturer is recorded in the SISTER system and is one of the assessment components of the lecturers' Career Development Evaluation (CDE). To enhance the language skills of the faculty members, UNILA supports various programmes organised by the Language Centre (UPT Bahasa), including training sessions such as "Communication Skill for English, IELTs and TOEFL".

In the audit, the teaching staff state that they regularly participate in the services offered by UNILA. The experts are pleased to note that teachers are well supported. They also find that the mechanisms in place to promote staff development are adequate and ensure that the quality of the programmes is maintained.

Nevertheless, teachers report that they would like more opportunities for academic mobility. Currently, few teachers are given the chance to visit foreign universities. The experts welcome this suggestion and recommend that UNILA increase support for academic mobility through teacher exchanges.

Student Support

UNILA offers a comprehensive advisory system for all undergraduate students. At the start of the first semester, every student is assigned to an academic advisor. Each academic advisor is a member of the academic staff and is responsible for approximately 20 students from her/his classes. He/she is the student’s first port of call for advice or support on academic or personal matters.

The role of the academic advisor is to help the students with the process of orientation during the first semesters, the introduction to academic life and the university’s community, and to respond promptly to any questions. They also offer general academic advice, make suggestions regarding relevant careers and skills development and help if there are problems with other teachers. During the semester, counselling activities are usually offered three times, namely at the beginning of the semester (before the courses start), mid-semester, and at the end of the semester. The students confirm during the discussion with the experts that they all have an academic advisor, whom they can approach if guidance is needed.

The fourth-year students who prepare their final project (mini-thesis) usually have two supervisors, who are selected based on the topic of the final project. One supervisor could be an external supervisor, if the student performs the final project outside UNILA. The thesis

supervisor is responsible for providing advice and guidance to students in determining research topics, writing proposals, supervising the implementation of research, writing reports, and assisting students in presenting their research results.

All students at UNILA have access to the digital academic information system (Sistem Informasi Akademik, SIAKADU). The students' profiles (student history, study plan, academic transcript and grade point average/GPA, lecturer evaluation, course list) are available via SIAKADU. In addition, course materials and supporting documents compiled by the lecturers are provided via SIAKADU.

To help students finding suitable jobs after graduation, UNILA has established the Center for Career and Entrepreneurship Development (CCED), which announces job vacancies and opportunities to students, offers career guide and coaching, provides psychological support, and conducts alumni surveys.

Finally, there are several student organizations at UNILA; they include student's activity clubs, which are divided into arts, sports, religious and other non-curricular activities.

The experts notice the good and trustful relationship between the students and the teaching staff. There are enough resources available to provide individual assistance, advice and support for all students. The support system helps the students to achieve the intended learning outcomes and to complete their studies successfully and without delay. The students are well informed about the services available to them.

Criterion 3.2 Funds and equipment

Evidence:

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

Preliminary assessment and analysis of the experts:

Basic funding of the undergraduate programme and the facilities is provided by UNILA and the Faculty of Engineering. According to the self-assessment report, the university's budget is derived from the government (about 60%), tuition fees, and business units. The obtained funds are categorized as HR investment costs, facility investment costs, and infrastructure investment costs. Funds allocated for HR investment include workshops, research activities, community service, student affairs, and scientific journals. UNILA or the Indonesian government can provide additional funds for research activities, but teachers have to apply for them.

The Faculty of Engineering's annual budget is determined at the university level. Every year, UNILA's management will ask the faculties to prepare an activity plan and budget for the next period. The budget planning is based on the objectives to be achieved in the next year and is prepared at the end of the year. The process starts with a meeting at departmental level to discuss the identification of activities to be proposed by the department. The results of this meeting are then discussed in a coordination meeting on budget planning at faculty level. The results thereof are brought to the university level for funding approval. If the proposed budget for the activity is approved, the activity can be carried out in the following year.

The experts are able to gain an overall picture of the budget and how it is distributed. However, they lack detailed information on the generated income and how it is ensured that this income is sufficient to cover all expenditure. They request further information on the size of the budget and how it is managed and spent, in order to verify that there is secure funding and reliable financial planning for the three programmes over the next six years.

During the on-site visit, the expert group visits various classrooms, laboratories and other facilities. In the Electrical Engineering programme, there are nine laboratories, including the Electrical Power Conversion Laboratory, the High Voltage Laboratory, the Electrical Power Systems Laboratory, the Control Engineering Laboratory, the Electronics Laboratory, the Electrical Measurement Laboratory, the Telecommunications Laboratory, the Digital Engineering Laboratory and the Computer Laboratory. The Mechanical Engineering Department offers nine laboratories with one technician for each laboratory. The Civil Engineering programme uses seven laboratories (Highway laboratory, Hydraulics laboratory, Soil mechanics laboratory, Materials and construction laboratory, Structural analysis laboratory, Drawing studio, and Surveying laboratory). UNILA also provides a list of the exact equipment used in each of the three programmes. The classrooms have a maximum capacity of 40 students and are equipped with LCD screens, air conditioning and wifi connection.

Besides the facilities at the Faculty of Engineering, there is the Integrated Laboratory with modern research equipment for advanced laboratory work. The Integrated Laboratory is used by staff members from all faculties upon appointment.

All UNILA students have access to the main library. The library has a central collection of print books and e-books, which is updated on an annual basis. It also provides access to several digital scientific databases such as ScienceDirect, Taylor & Francis, and Elsevier.

During the course of the experts' visit to the laboratories, they observe that there are no significant bottlenecks and confirm that the laboratories of all three programmes are equipped with the necessary basic equipment. However, in the laboratories utilised by the

Civil Engineering and Mechanical Engineering programmes, they identify a variety of outdated or even broken equipment. For instance, in the Mechanical Engineering laboratory, the experts find a Computer Numerical Control (CNC) machine to be inoperable. While this equipment is not deemed essential for the successful completion of the bachelor's programme, the experts recommend that any such equipment should be either restored to full functionality or replaced with new tools. In the case of the CNC machine, the experts advocate the acquisition of simulation software for modern material processing, a measure that would serve to reduce expenditure, given that the software renders the physical machine redundant. Additionally, the experts propose the acquisition of state-of-the art structural analysis and design software for the Civil Engineering and Mechanical Engineering programmes, because the software is not existing or it is outdated. For the Mechanical Engineering programme, in particular, the experts recommend acquiring simulation software for CAM/CAE (computer aided engineering) including but not limited to, autodesk inventor, solidworks, fusion, etc. to familiarize students with software used in the industries.

In the Civil Engineering Department, the experts learn that there is no electronic measuring equipment (e.g. strain gauges, load cells, data acquisition system) which is essential to "conduct competitive and innovative research in sustainable civil engineering" and for a Bachelor's training in the laboratory. Testing of concrete beams and columns require high precision measuring devices. They therefore request that students be given access to up-to-date electronic measuring equipment. Next, the experts recommend to increase the load capacity and the stiffness of the testing frame and the jack to be able to test real concrete components. In addition, the experts find that some of the software used in the study programme is outdated for design of real structures. As this software is no longer state of the art, the experts recommend replacing it with modern software.

In order to provide students with access to more advanced laboratories, which UNILA might not be able to afford, the experts suggest strengthening the general collaboration with industry and finding more internship partners. This would allow students in all three programmes to gain exposure and experience with more advanced equipment during their bachelor's studies.

In addition, during their visit to the laboratories in all three programmes, the experts find that some laboratory work is not carried out under the precautionary safety measures. For example, during their visit, the experts observed that in one of the laboratories, a milling machine was running and was being used by a group of students who were standing very close to the machine and watching the milling process. None of them were wearing safety goggles. However, safety glasses were available and, after a brief request, they all put them

on to protect their eyes. In addition, the expert found that students working on lathes/turning machines in the manufacturing labs were not wearing proper PPE such as goggles, gloves and helmets and thus were at risk of being hit by metal debris. Overall, the experts did not find any safety instructions on the walls of the laboratories. They therefore insist that laboratory instructions for safety measures be developed and that it be ensured that staff and students follow them.

The students indicate that they are satisfied with the facilities at UNILA, noting that all the tools and software deemed necessary by them are available. They also state that they can indicate wishes in terms of new facilities via the teaching surveys. The teaching staff deem the labs and facilities sufficient, but they agree with the experts that more modern and advanced equipment would be desirable for both teaching and research purposes.

In summary, the expert group has determined that the current facilities and equipment are adequate for the execution of the three study programmes, enabling students to achieve the intended learning outcomes. However, given the overall need for equipment modernisation, the experts advocate for the updating of the labs and the acquisition of new equipment and software. Additionally, it is imperative to ensure the implementation of safety instructions in all laboratories. Finally, UNILA must provide more detailed and concrete information on how it is ensured that there is secure funding for all three programmes.

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

UNILA provides a detailed overview of its financial income and plans for the coming years. The experts consider that this demonstrates the financial security of the study programmes for the coming accreditation period and that the requirement is therefore sufficiently met.

With regard to the laboratory instructions for security measures, UNILA only states that security procedures are in place, but does not define what the procedure is and does not provide evidence of this. Therefore, the experts upload the requirement that laboratory safety procedures should be developed and implemented by staff and students.

Regarding the suggestions for new/updated equipment (both software and hardware), the experts acknowledge the efforts made by UNILA, but do not consider that their requirements and recommendations have been adequately met or evidenced. For this reason, the experts maintain the above assessment.

The Criterion is not fulfilled.

4. Transparency and Documentation

Criterion 4.1 Module Descriptions

Evidence:

- Self-Assessment Report
- Module descriptions
- Websites of all study programmes

Preliminary assessment and analysis of the experts:
Having studied the module descriptions, the experts confirm that the module descriptions in Electrical Engineering and Mechanical Engineering contain information on all relevant aspects (course name, person(s) responsible for the module, course code, total student workload, credit points awarded, grading scale, intended learning outcomes, content, recommended reading, possible prerequisites, examination methods and assessment criteria). However, in the case of the Civil Engineering programme, the experts point out that the module descriptions contain information on all the aspects mentioned above, with the exception of recommended reading and possible prerequisites. They request that the module descriptions in the Civil Engineering programme be supplemented with this information.

As mentioned in Chapter 1.3 of this report, the experts identify some additional shortcomings in the module descriptions of all three programmes. They note that a few module descriptions are missing, e.g. for the module 'Physics' in Electrical Engineering. They also find that many content descriptions (e.g. of the "Capita Selecta" and "Automatic System Design" modules) are not specific and do not give a clear insight into the content actually taught. Other module descriptions show discrepancies in the relationship between content, title and intended learning outcomes. For example, the module 'Computer-Aided Design' covers the simulation of control systems using Matlab and is therefore inconsistent with the title. Another example is the module "Motor Design using FPGAs", which deals with power converters and therefore does not correspond to the title. Moreover, the title of “Engineering Physics” does not correspond to the content which seems to be mechanics, and the content of module SIP 620110 is missing. The experts also criticise the lack of differentiation between learning objectives (as a goal) and outcomes (as a realistic expectation of achievement). Finally, the experts observe that the distinction between compulsory and elective modules is not always clear. Consequently, while certain modules are designated as compulsory in the module descriptions, under the rubric of 'Semester in which the course is taught', some of these modules are classified as electives. In summary, the experts emphasise the necessity for a comprehensive revision of the module descriptions to ensure that

each module is accompanied by a complete description, and that the descriptions are clear, precise, consistent, and provide accurate information.

The students confirm during the discussions that information about the modules are always available online and that details concerning examinations and contents are provided at the beginning of each course by the teaching staff.

Criterion 4.2 Diploma and Diploma Supplement

Evidence:

- Exemplary diploma certificate per study programme
- Exemplary transcript per study programme
- Exemplary Diploma Supplement per study programme

Preliminary assessment and analysis of the experts:
The experts confirm that students from all three programmes receive a Diploma/Certificate, a Diploma Supplement and a Transcript of Records on graduation. However, it is noted by experts that the Diploma Supplement is provided in Bahasa (instead of English) and lacks some essential information, such as the programme learning outcomes, a classification of the degree programme with regard to the respective education system, the graduate's final grade and statistical data, as defined in the ECTS Users' Guide, which allow the reader to assess the individual grade. The statistical data provide insight into the performance of other graduates in the same cohort, enabling external parties to assess and compare the graduate's final grade. Furthermore, it has been noted by the experts that both the Diploma Supplement and the Transcripts of Records are devoid of any information pertaining to the ECTS points awarded for the successful completion of the study programme. In conclusion, the aforementioned experts call upon UNILA to provide a revised Diploma Supplement for each programme, in English and including all necessary information as outlined above.

Criterion 4.3 Relevant Rules

Evidence:

- Self-Assessment Report
- All relevant regulations as published on the university’s webpage
- Audit Discussions

Preliminary assessment and analysis of the experts:
The experts confirm that the rights and duties of both UNILA and the students are clearly defined and binding. All rules and regulations are published on the university’s website. Students confirm that they receive the course material at the beginning of each semester

and that the course material as well as all other relevant information about the degree programmes (e.g., module handbook, study plan, intended learning outcomes) is available to them via UNILA's online learning platform.

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

The experts note the revised module descriptions. They appreciate that the module descriptions in the Civil Engineering programme now include information on recommended reading and any prerequisites for each module. However, as mentioned in Chapter 1.1, they do not see any improvement in the other points previously criticised.

The experts review the revised Diploma Supplement and note that the new template now includes all the required information. The requirement is therefore fully met.

The criterion is partly fulfilled.

5. Quality management: quality assessment and development

Criterion 5 Quality management: quality assessment and development

Evidence:

- Self-Assessment Report
- Audit Discussions

Preliminary assessment and analysis of the experts:

According to the self-assessment report, UNILA has an institutional system of quality management aiming at continuously improving the degree programmes. This system relies on internal (IQAS) as well as external (EQAS) quality assurance. IQAS encompasses all activities focused on implementing measures for improving the teaching and learning quality at UNILA. EQAS focuses on both national and international accreditations. Every degree programme and every Higher Education Institution in Indonesia has to be accredited by the National Accreditation Board of Higher Education.

At university level, the implementation of internal quality assurance is coordinated by the Institute for Learning Development and Quality Assurance (LP3M), which has several centres related to internal quality assurance, namely:

1) Center for Quality Assurance (Pusat Penjaminan Mutu) related to the implementation of internal quality audits,

2) Center for Curriculum Development and Management of Independent Learning Independent Campus (MBKM), related to curriculum monitoring and evaluation activities, including internships, and student exchanges,

3) Center for Development of Instructional Activities and Learning Innovations (Pusat Pengembangan Aktivitas Instruksional dan Inovasi Pembelajaran), related to monitoring and evaluating the use of learning strategies, and

4) Center for Development of Online Learning and Distance Education (Pusat Pengembangan Pembelajaran Daring dan Pendidikan Jarak Jauh), related to monitoring and evaluating the use of e-learning and online learning media in improving student learning outcomes.

On the faculty level, the implementation of internal quality assurance is coordinated by the Faculty Quality Assurance Team, while at programme level it is carried out by the Study Program Quality Assurance Team.

Quality assurance at the faculty level includes (1) carrying out internal monitoring and evaluation of all study programmes and periodic evaluation of academic staff performance; (2) coordinating the implementation of lecture evaluations based on student perceptions conducted every semester; (3) updating the accreditation data of study programmes at the faculty level; (4) submitting the results of internal monitoring and evaluation of study programmes and staff members to the Dean and the Head of LP3M.

The organisational structure of UNILA is depicted in the following diagram:

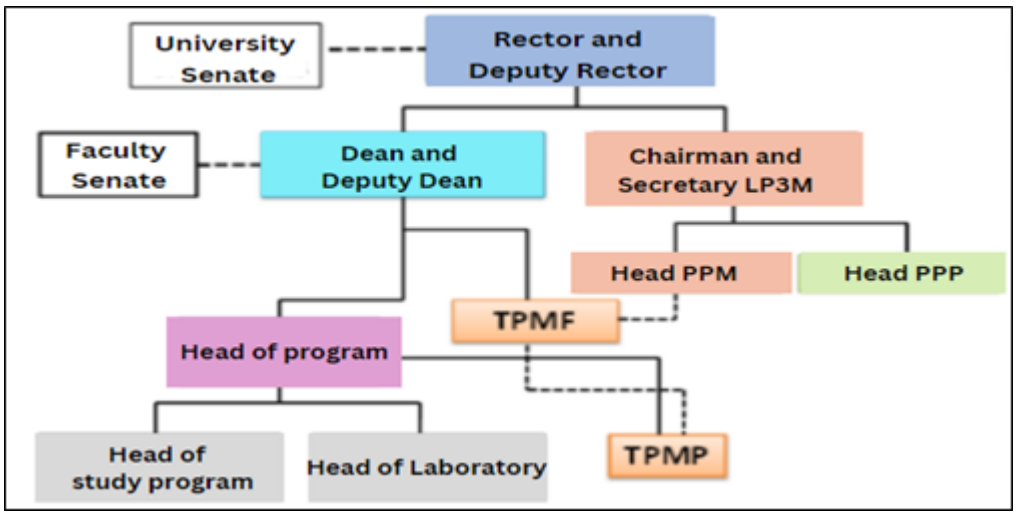

Diagram 1: Organisational Structure UNILA, Source: SAR UNILA

Internal assessment of the quality of the degree programme is mainly provided through student, alumni, and employer surveys. The students give their feedback on the courses by filling out the questionnaire online at the end of each semester. Students assess various

aspects such as students' understanding, lecturer's responsiveness, course delivery, lecturer's proficiency, explanation of course objective, and references in each enrolled course.

UNILA also regularly (usually once a year) conducts Internal Quality Audits (Audit Mutu Internal, AMI), which are aimed at ensuring that the implementation and management of the study programmes are in line with the university's vision and mission and the Programme Educational Objectives (PEO). During the AMI, every study programme will analyse data on the implementation of educational and research activities, which are documented in the form of reports, monitoring data, and evaluation results. Next, the AMI results will be reported to the TPMF chairman and communicated to the faculty leadership and LP3M. Furthermore, based on the AMI results, the faculty conducted workshops for all study programmes in order to discuss and implement the required measures for improving the study programme.

In addition, UNILA regularly conducts alumni tracer studies and has an alumni association. By taking part at this survey, alumni can comment on their educational experiences at UNILA, the waiting period for employment after graduation, their professional career and can give suggestions how to improve the programme. Furthermore, there is the Career Development Centre at UNILA, which offers help to find suitable internships, announces job vacancies, and offers courses to develop soft skills. UNILA organises a job fair every year, in addition, the contacts students make during the internships sometimes lead to job offers. UNILA also offers a homecoming day for alumni. The Vice-Rector for Student Affairs and Alumni is responsible for this area.

The experts discuss during the audit if there are regular meetings with the partners on faculty or department level, where they discuss the needs and requirements of the employers and possible changes to the degree programme. They learn that employers and alumni are regularly invited to participate at the programme review workshops to give their feedback on the content of the degree programmes. The experts appreciate that UNILA stays in contact with its alumni and has a close relation with its partners.

The students confirm in the audit that surveys are carried out regularly and that they are informed of the results of the evaluation shortly afterwards. They state that the university management takes their feedback into account and that improvements are usually implemented quickly. The students state that they also have the opportunity to communicate their suggestions and criticism to lecturers and the university management at any time.

The experts inquire about the extent to which students are involved in the quality management of programmes. The students explain that there is a student union and that representatives of this union ensure that student feedback is passed on to the university management. In addition, students' opinions are taken into account in the form of surveys and

feedback discussions between teachers and students. Students claim to be satisfied with this system. The experts agree that this is sufficient, but recommend that students be included in governing bodies and be directly involved in decision-making processes for the further development of the programme.

In summary, the expert group confirms that the quality management system is suitable to identify weaknesses and to improve the degree programme. All stakeholders are involved in the process.

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

The experts maintain their previous assessment.

The criterion is fulfilled.

D Additional Documents

No additional documents needed.

E Comment of the Higher Education Institution (26.02.2025)

The following quotes the comment of the institution:

„ Criterion 1.1

Civil Engineering

We respectfully acknowledge that our original mission statement may have been overly ambitious. In response to this assessment, and in alignment with our ongoing five-year curriculum revision, we have reached a consensus to make a modest adjustment to our vision. The revised mission statement is as follows: Graduates of the Bachelor's degree programme in Civil Engineering should "have a lifelong learning spirit and be able to design, implement, and supervise civil engineering construction by taking into account construction standards, cost considerations, and disaster impacts, with a particular emphasis on coastal environmental infrastructure."

Electrical Engineering

The competence of Bachelor's degree programme Electrical Engineering was developed refers to National Higher Education Standards (SN Dikti) regulator which consists of Knowledge, Attitudes, General Skills, and Special Skills. Bachelor's degree programme Electrical Engineering has 13 learning outcomes which comprise 2 Attitudes, 4 General Skills, 5 Special Skills, and 2 Knowledge competencies (refer to table B.3 in SAR). The phrases of "Internalize a good spirit of ethics, independence, struggling, and life-long learning; and Demonstrate leadership and responsible attitude on their expertise independently" are learning outcomes of attitude. All learning outcomes are supported by the appropriate courses in curriculum. For instance, Engineering Mathematics does not contribute to the achievement of 2 competencies of attitude (refer to Table B.7 in SAR which describe matrix of learning outcomes and module). The revised module of Engineering Mathematics has attached in evidences.

The competence of Bachelor's degree programme Electrical Engineering was developed refers to National Higher Education Standards (SN Dikti) regulator. SN Dikti provides National Standardized program learning output consisting of Knowledge, Attitudes, General Skills, and Special Skills. There are 10 competences of attitude in SN DIKTI. The competences mention in the module handbook of thesis: "Students are able to have devotion to Almighty God, demonstrate a religious attitude, and uphold human values in carrying out their duties based on religion, morals, and ethics" are particular attitude competences described in SN DIKTI. While, Bachelor's degree programme Electrical Engineering has been summarized 10 competences of attitude in SN DIKTI become to 2 competences as learning outcomes. The

learning outcomes in proposal seminar, progress seminar, and thesis has revised as attached in evidences.

Mechanical Engineering

There are no further comments on this section

Criterion 1.3

Civil Engineering

We respectfully clarify that, in fact, the Civil Engineering programme offers electives in five distinct areas, not four. These areas are: Structures, Hydrotechnics, Geotechnics, Transportation, and Construction Management as already stated in the SAR. For further details, please refer to the Module Handbook provided in the evidence

We respectfully clarify that, in response to this recommendation, we have prepared a dedicated 1 SKS course for "M. Kuliah KKL" or “Fieldwork Lecture” as part of the forthcoming 2026 curriculum revision. Fieldwork Lecture provides a clear illustration of the practical application of civil engineering knowledge in the field, with the hope that students become even more enthusiastic about studying civil engineering. This course is scheduled to be implemented in Semester 5, considering that students in that semester are already enrolled in design courses such as Steel Truss Structure, Reinforced Concrete Beam, Geometry Design, and Foundation Design. Additionally, students are concurrently taking design courses like Steel Frame Structure, Reinforced Concrete Plate and Column, and Drainage System, which further reinforce their practical understanding. The integration of the KKL course in Semester 5 is intended to enhance the practical application of theoretical knowledge, thereby addressing the experts’ recommendation.

We respectfully clarify that Pascal and FORTRAN are designed to introduce students to fundamental programming algorithms. For the purposes of thesis research and the execution of design assignments, however, our curriculum incorporates current software solutions, including AutoCAD, Revit, PLAXIS, and HEC-RAS.

We respectfully clarify that, for the Civil Engineering programme, the internship (KP) is planned to comprise 90 hours over a period of three months—equating to approximately 7–8 hours per week—rather than 180 hours as initially indicated. Importantly, these 7–8 hours per week can be implemented flexibly in accordance with the dynamic nature of project work and student activities, thereby allowing students to adjust their workload based on current project demands and personal schedules. Moreover, the internship is conducted in construction projects or in planning activities that meet the requisite criteria, as specified in the Internship Guidelines. Additionally, students are permitted to enroll in other courses concurrently during the internship period, as reflected in their study plans (KRS).

We respectfully acknowledge the concern regarding internship placements. In response, we are committed to establishing formal Memoranda of Understanding (MOUs) with industry stakeholders to enhance support and broaden int

We respectfully acknowledge the concern regarding internship placements. In response, we are committed to establishing formal Memoranda of Understanding (MOUs) with industry stakeholders to enhance support and broaden internship opportunities for our students. This initiative is aimed at fostering stronger cooperation between our study programmes and industry partners, thereby ensuring that students can benefit from a more extensive network of internship opportunities. At this time, we are in the process of initiating further MOUs with stakeholders from the consulting, contracting, and private sectors, such as PT TESTINDO, Nindya Karya, BPJN (Balai Pelaksana Jalan Nasional Lampung), SUCOFINDO, Kreasi Perdana Group, INKINDO, and PERKINDO.

We respectfully acknowledge the observations regarding student mobility. In response, we wish to clarify that our institution has already integrated student exchange opportunities within the framework of the MBKM (Independent Campus Learning Programme). To illustrate, we have successfully facilitated student exchanges, including:

a. **Akbar Fauzi**, who participated in a student exchange programme at Institut Teknologi Bandung;

b. **Taufiqurrahman**, who participated in a student exchange programme at Universitas Pembangunan Nasional Veteran Jawa Timur; and

c. **Dinda Mardhatila**, who also participated in a student exchange programme at Universitas Pembangunan Nasional Veteran Jawa Timur.

We respectfully clarify that several students already deliver presentations, such as internship seminars, proposals, and research results in English. Looking ahead, within the framework of the 2026 curriculum revision—which is currently underway—we are targeting that 10% of our courses be offered in English. Courses proposed for this initiative include Steel Frame Structure, Steel Portal, Applied Statistics, Introduction to Transportation System, Indeterminate Structure Analysis, and Determinate Structure Analysis.

Electrical Engineering

There is mistake during translation of the course title. The title “Computer- Aided Design” should be written as “Control System Design by Computer”, and “ Motor Design using FPGAs” become “Design of Electric Motor Speed Control Based on Field Programmable Gate Array (FPGA)”. We have revised module of “Control System Design by Computer”, Design of Electric Motor Speed Control Based on Field Programmable Gate Array (FPGA)”, ‘Capita Selecta”, and “Automatic System Design" as attached in evidence below.

Mechanical Engineering

There are no further comments on this section.

Criterion 1.5

Civil Engineering

With the presence of international students studying at FT Unila and alumni of the Faculty of Engineering Unila who continue their studies abroad, a credit transfer system known as the European Credit Transfer System (ECTS) is needed. In addition, ECTS is also required for study programs that apply for international accreditation. To address this, the Faculty of Engineering UNILA has issued a Dean's Circular No. 170A/U26.15/PP/2025 concerning: Guidelines for Calculating the Conversion of Student Study Loads European Credit Transfer and Accumulation System (ECTS). This circular stipulates that 1 credit unit is equivalent to 1.6 ECTS. Undergraduate Program in Electrical Engineering and Mechanical Engineering has curricular activities of 144 sks which is equivalent to 230,4 ECTS, as well as Civil Engineering Bachelor Program has curricular activities of 145 sks which is equivalent to 232 ECTS

We respectfully acknowledge that there has been a discrepancy in our conversion of SKS to the actual instructional hours. In response, for the Civil Engineering programme, the originally stated internship workload of 180 hours over a 90-day period will be revised to 90 hours over a period of three months—approximately 7–8 hours per week. Additionally, students are permitted to enroll in other courses concurrently during the internship period, as reflected in their study plans (KRS).

We respectfully clarify that although students report engaging with their thesis work over the full semester (16 weeks), this does not imply that they work on the thesis full-time—24 hours a day over six semesters. Rather, students dedicate only a few hours per week to their thesis work, according to their individual needs. Based on our calculation, 6 SKS corresponds to 6 × 170 minutes per week, or approximately 1020 minutes (17 hours) per week, which we consider to be appropriate given the actual workload. Therefore, we maintain that the credit allocation for the thesis accurately reflects the time and effort required by our students. This calculation is in accordance with Rector Regulation No. 12 of 2022 and Rector Regulation No. 2 of 2024 about Academic Regulation, Part VII, Article 17, which stipulates that “one SKS for learning activities—such as practicum, studio practice, workshop practice, field practice, research, community service, or other similar learning processes—is equivalent to 170 (one hundred and seventy) minutes per week per semester”

We respectfully clarify that for the Civil Engineering programme, the internship (KP) originally scheduled for 180 hours over a 90-day period will be revised. In our programme, the internship will now consist of 90 hours over a period of three months—approximately 7–8 hours per week. Additionally, students are permitted to enroll in other courses concurrently during the internship period, as reflected in their study plans (KRS). This arrangement has

been deliberately maintained for the 7th and 8th semesters to ensure that students can complete their thesis work on schedule, in accordance with the requirements of the National Independent Accreditation Agency for Engineering (LAM-TEKNIK). Specifically, to achieve the maximum score in the accreditation assessment, the study duration must be no less than 4.5 years and more than 70% of students must graduate on time.

Electrical Engineering

There are no further comments on this section

Mechanical Engineering

There are no further comments on this section

Criterion 2

Civil Engineering

We respectfully clarify that the assessment components have been structured as follows:

a. Middle Semester Exam: 15%
b. Semester Exam: 35%
c. Quiz 1: 5%
d. Quiz 2: 5%
e. Final Assignment: 40%

This assessment composition has been meticulously designed to capture various dimensions of student learning and performance. We remain committed to reviewing and refining our grading practices as necessary to ensure they remain fair, rigorous, and reflective of our students' competencies.

The Faculty of Engineering pays close attention to students with special needs to get good service according to funding capabilities. Some things that have been done such as: special road access, policies that support services in the form of dean's circular letter no. 38 / UN26.15 / PP / 2025. The policy taken is an elaboration of the Unila rector's policy as stated in the rector's regulation no. 2 of 2024 concerning academic regulations, and supported by the Guidebook for Disabled Student Services in Higher Education published by the Ministry of Research, Technology, and Higher Education, Directorate of Learning and Students, Directorate of Learning, 2017.

We respectfully clarify that we have instituted a policy requiring a minimum of 20 references for the thesis, which must include papers from accredited local and international journals. This policy is designed to enhance the academic rigor and scientific foundation of our students' theses.

Electrical Engineering

There are no further comments on this section

Mechanical Engineering

There are no further comments on this section

Criterion 3.1

Civil Engineering

We respectfully clarify that there are already initiatives in place to support teacher mobility. For example, Civil Engineering faculty members are currently participating in mobility activities through assignments at the Institut Teknologi Sumatera, where they serve in teaching and structural roles. This initiative reflects our ongoing commitment to enhancing international academic exposure and collaboration. . One form of support provided by the University for teacher mobility activities is that the University facilitates and arranges these initiatives through formal Cooperation Documents (MoU) with relevant parties.

We respectfully clarify that there are already initiatives in place to support teacher mobility. For example, Civil Engineering faculty members are currently participating in mobility activities through assignments at the Institut Teknologi Sumatera, where they serve in teaching and structural roles. This initiative reflects our ongoing commitment to enhancing international academic exposure and collaboration. One form of support provided by the University for teacher mobility activities is that the University facilitates and arranges these initiatives through formal Cooperation Documents (MoU) with relevant parties.

Electrical Engineering

There are no further comments on this section

Mechanical Engineering

There are no further comments on this section

Criterion 3.2

Civil Engineering

The Faculty of Engineering in budget planning and use involves the Departments. The Faculty of Engineering in the last 3 years managed a budget of 12.2 billion rupiah in 2023, 9.6 billion in 2024 and 8.5 billion in 2025. The decrease in the budget received by the Faculty of Engineering from UNILA was due to the building maintenance with large funds being directly managed by the University. Every year, the Department manages a budget of 40% - 50% of the total budget given by the university to the faculty, which is used for activities at the department level to support the implementation of education, research and community

service. The funds managed by the Faculty are used for activities that support the Tri Dharma of higher education, including building repairs and maintenance, cleaning operations and others. For example, the item for the use of funds for the Faculty of Engineering which is a combination of the planning of the Department and Faculty in 2025, as shown in the following Table.

NO.	ITEM	TOTAL (RP)	PERCENTAGE
1	OFFICE OPERATIONS AND CLEANING OUTSOURCING	703.130.000	8,3%
2	OFFICIAL TRAVEL FUND	580.353.000	6,8%
3	HUMAN RESOURCE DEVELOPMENT	416.836.800	4,9%
4	GREENMETRIC, ZI, ISO, MR	67.193.200	0,8%
5	SOCIALIZATION, PROMOTION AND UNILA ANNIVERSARY	324.466.500	3,8%
6	FACILITIES AND INFRASTRUCTURE, MAINTENANCE (BUILDINGS, YARDS, ELECTRICITY NETWORKS, INVENTORY, OFFICIAL VEHICLES)	1.530.161.865	18,0%
7	LECTURES and PRACTICUM	1.657.161.935	19,5%
8	ADMISSION OF NEW STUDENTS	130.674.100	1,5%
9	INSTITUTIONAL DEVELOPMENT AND STUDY PROGRAMS	262.000.100	3,1%
10	STUDENT ACTIVITIES	344.930.400	4,1%
11	RESEARCH, COMMUNITY SERVICE, SEMINAR, AND PUBLICATION	1.469.864.600	17,3%
12	PROCUREMENT OF LABORATORY EQUIPMENT AND OTHERS	1.020.282.500	12,0%
		8.507.055.000	**100%**

The Faculty of Engineering strives to improve the quality of the Study Program by optimizing the use of the budget, as well as seeking funding grants from the central government, especially for the procurement of laboratory equipment. Efforts to obtain this grant have been obtained, such as: the Electrical Engineering Undergraduate Study Program received a grant from the Independent Campus Competition Program (PKKM) for 2 years (2022 and 2023) and the Mechanical Engineering Undergraduate Study Program received a grant from the PKKM in 2024. In 2024, the University of Lampung received a grant from the State University Revitalization Program of 80 billion rupiah for the procurement of laboratory equipment

and its supporting facilities. From this fund, the Faculty of Engineering received additional laboratory equipment with a total value of 12 billion rupiah.

We respectfully clarify that at the end of 2023, we submitted a proposal for the procurement of new laboratory equipment. This proposal has been approved, and the procurement process for several key items is currently underway. These items include essential equipment such as strain gauges, load cells, and a data acquisition system, which are critical for conducting competitive and innovative research in sustainable civil engineering.

For instance, strain gauges have been utilized in studies on reinforced concrete beams, columns, protected concrete, and concrete submerged in seawater. These studies employ both read-out devices and vibrating wire embedded strain gauges.

Funding for the procurement of these instruments and strain gauges has been secured through winning research competitions at UNILA as well as through personal funds.

Moreover, to further support competitive and innovative research in sustainable civil engineering, additional studies using Ground Penetrating Radar (GPR) have been conducted within student theses.

Furthermore, research supported by the UNILA Integrated Laboratory and the Laboratory of Materials and Construction has been conducted using Scanning Electron Microscopy (SEM).

We respectfully clarify that moving forward, we are committed to formalizing partnerships through Memoranda of Understanding (MOUs) with relevant industry stakeholders. This initiative aims to secure enhanced access to advanced laboratory facilities and internship opportunities for our students, thereby complementing our academic programmes with practical, industry-driven experiences.

Electrical Engineering

There are no further comments on this section

Mechanical Engineering

Since the assessment visit from the experts, Mechanical Engineering Bachelor Programme were on process on acquiring new equipment and software. This new equipment and software are funded through 2024 PRPTN and PKKM scheme.
Regarding PPE and safety procedure Mechanical Engineering Bachelor Programme is enforcing a safety induction prior to lab works. Mechanical Engineering Bachelor Programme also in process on acquiring more PPE for students.

Criterion 4.1

Civil Engineering

We respectfully clarify that a thorough revision of all module descriptions has been undertaken. The updated modules now provide complete and accurate information, meeting the required standards for clarity, precision, and consistency.

Electrical Engineering

The module of “Physics” in Electrical Engineering is presented in the evidences below. We have revised the module of “Control System Design by Computer”, Design of Electric Motor Speed Control Based on Field Programmable Gate Array (FPGA)”, ‘Capita Selecta”, and “Automatic System Design" in evidences of criterion 1.3. Comprehensive revision of the module descriptions for Electrical Engineering will be carried out during the periodical curriculum review this year.

Mechanical Engineering

There are no further comments on this section

Criterion 4.2

Civil Engineering

The Diploma Supplement for each study programme has been revised, in English and includes all necessary information.

Electrical Engineering

The Diploma Supplement for each study programme has been revised in English and includes all necessary information.

Mechanical Engineering

The Diploma Supplement for each study programme has been revised in English and includes all necessary information.

F Summary: Expert recommendations (28.02.2025)

Taking into account the additional information and the comments given by UNILA the peers 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	30.09.2030	/	/
Ba Electrical Engineering	With requirements for one year	30.09.2030	/	/
Ba Mechanical Engineering	With requirements for one year	30.09.2030	/	/

Requirements

For all programmes

A 1. (ASIIN 1.5) Verify the students' actual workload in terms of the final thesis and internships and ensure that the credits awarded to these units are in line with the actual workload.

A 2. (ASIIN 4.1) Provide module descriptions for all modules and ensure that the description is precise, accurate and detailed enough to give a comprehensive overview of the module content, learning outcomes and prerequisites. Also ensure that the title, learning outcomes and content are consistent. Verify the categorisation into elective and compulsory modules.

A 3. (ASIIN 3.2) Develop laboratory instructions for safety measures and ensure that staff and students implement them.

For Civil Engineering

A 4. (ASIIN 3.2) Provide access to electronic measurement equipment.

Recommendations

For all Programmes

E 1. (ASIIN 1.3) It is recommended that opportunities for student and academic mobility be improved and made more transparent to students.

E 2. (ASIIN 1.3) It is recommended to increase the number of courses taught in English.

E 3. (ASIIN 3.2) It is recommended that collaboration with industry be strengthened to provide students with access to more advanced laboratories for internships.

E 4. (ASIIN 2) It is recommended that more weight is given to the final examination in the calculation of module grades.

E 5. (ASIIN 5) It is recommended to make students' representatives members of the boards on programme level at UNILA and to directly involve them in the decision making processes for further developing the degree programme.

For Civil Engineering and Mechanical Engineering

E 6. (ASIIN 3.2) It is recommended that currently broken equipment is repaired and out-dated equipment is replaced.

E 7. (ASIIN 3.2) It is recommended that students be provided with software for the analysis of structures used in practice.

For Mechanical Engineering

E 8. (ASIIN 3.2) It is recommended to purchase simulation software for CAM/CAE.

For Civil Engineering

E 9. (ASIIN 1.3) It is recommended to use software programmes that reflect the state of the art.

E 10. (ASIIN 2) It is recommended to strengthen the scientific component of the bachelor thesis.

E 11. (ASIIN 1.3) It is recommended that students are given more opportunities to visit construction sites.

G Comment of the Technical Committees

Technical Committee 01 – Mechanical Engineering/Process Engineering (13.03.2025)

Assessment and analysis for the award of the ASIIN seal:

The TC discusses the procedure and follows the vote of the experts without any changes.

The Technical Committee 01 – Mechanical Engineering/Process Engineering recommends the award of the seals as follows:

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

Technical Committee 02 – Electrical Engineering/Information Technology (07.03.2025)

Assessment and analysis for the award of the ASIIN seal:

The TC discusses the procedure and follows the vote of the experts without any changes.

The Technical Committee 02 – Electrical Engineering/Information Technology recommends the award of the seals as follows:

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

Technical Committee 03 – Civil Engineering, Geodesy and Architecture (06.03.2025)

Assessment and analysis for the award of the ASIIN seal:

The TC discusses the procedure and follows the assessment of the experts 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	30.09.2030	/	/

H Decision of the Accreditation Commission (25.03.2025)

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

The Commission discusses the procedure and follows the vote of the experts 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	30.09.2030	/	/
Ba Electrical Engineering	With requirements for one year	30.09.2030	/	/
Ba Mechanical Engineering	With requirements for one year	30.09.2030	/	/

Requirements

For all programmes

A 1. (ASIIN 1.5) Verify the students' actual workload in terms of the final thesis and internships and ensure that the credits awarded to these units are in line with the actual workload.

A 2. (ASIIN 4.1) Provide module descriptions for all modules and ensure that the description is precise, accurate and detailed enough to give a comprehensive overview of the module content, learning outcomes and prerequisites. Also, ensure that the title, learning outcomes and content are consistent. Verify the categorisation into elective and compulsory modules.

A 3. (ASIIN 3.2) Develop laboratory instructions for safety measures and ensure that staff and students implement them.

For Civil Engineering

A 4. (ASIIN 3.2) Provide access to electronic measurement equipment.

Recommendations

For all Programmes

E 1. (ASIIN 1.3) It is recommended that opportunities for student and academic mobility be improved and made more transparent to students.

E 2. (ASIIN 1.3) It is recommended to increase the number of courses taught in English.

E 3. (ASIIN 3.2) It is recommended that collaboration with industry be strengthened to provide students with access to more advanced laboratories for internships.

E 4. (ASIIN 2) It is recommended that more weight is given to the final examination in the calculation of module grades.

E 5. (ASIIN 5) It is recommended to make students' representatives members of the boards on programme level at UNILA and to directly involve them in the decision making processes for further developing the degree programme.

For Civil Engineering and Mechanical Engineering

E 6. (ASIIN 3.2) It is recommended that currently broken equipment is repaired and outdated equipment is replaced.

E 7. (ASIIN 3.2) It is recommended that students be provided with software for the analysis of structures used in practice.

For Mechanical Engineering

E 8. (ASIIN 3.2) It is recommended to purchase simulation software for CAM/CAE.

For Civil Engineering

E 9. (ASIIN 1.3) It is recommended to use software programmes that reflect the state of the art.

E 10. (ASIIN 2) It is recommended to strengthen the scientific component of the bachelor thesis.

E 11. (ASIIN 1.3) It is recommended that students are given more opportunities to visit construction sites.

I Fulfilment of Requirements (12.12.2025)

Analysis of the experts and the Technical Committees (03.12.2025)

Requirements

For all degree programmes

A 1. (ASIIN 1.5) Verify the students' actual workload in terms of the final thesis and internships and ensure that the credits awarded to these units are in line with the actual workload.

Initial Treatment	
Peers	Fulfilled Justification: The University of Lampung reports that the 6-SKS thesis corresponds to approximately 272 hours and is systematically monitored through logbooks and rubric-based assessments. The 2-SKS internship likewise follows national requirements, lasts around three months, and is verified through daily logbooks and supervisor evaluations. The monitoring has shown that the actual workload of the students corresponds to designated workload and the credits awarded. They also add that some students may choose to spend more time on their internships, but this would be on a voluntary basis. The experts appreciate that the workload of the final thesis and the internships is monitored, documented and verified. On this basis, they conclude that the credits awarded appear to be in line with the actual workload.
TC 01	fulfilled Justification: The TC follows the vote of the experts.
TC 02	fulfilled Justification: The TC follows the vote of the experts.
TC 03	fulfilled Justification: The TC follows the vote of the experts.
AC	fulfilled Justification: The commission follows the vote of the experts.

A 2. (ASIIN 4.1) Provide module descriptions for all modules and ensure that the description is precise, accurate and detailed enough to give a comprehensive overview of the module content, learning outcomes and prerequisites. Also, ensure that the title,

learning outcomes and content are consistent. Verify the categorisation into elective and compulsory modules.

Initial Treatment	
Peers	Fulfilled Justification: The experts acknowledge that the module descriptions for the 3 programmes have been extensively edited and improved, resulting in precise, accurate and detailed descriptions that provide a comprehensive overview of the module content, learning outcomes and prerequisites. They also recognise the distinction between elective and compulsory modules and ensure that the titles, learning outcomes and content of the modules are consistent with each other.
TC 01	fulfilled Justification: The TC follows the vote of the experts.
TC 02	fulfilled Justification: The TC follows the vote of the experts.
TC 03	fulfilled Justification: The TC follows the vote of the experts.
AC	fulfilled Justification: The commission follows the vote of the experts.

A 3. (ASIIN 3.2) Develop laboratory instructions for safety measures and ensure that staff and students implement them.

Initial Treatment	
Peers	Fulfilled Justification: The experts welcome the fact that UNILA has provided extensive and detailed laboratory instructions on safety measures, which are in line with international standards, as well as guidance on how to ensure that students and staff implement them.
TC 01	fulfilled Justification: The TC follows the vote of the experts.
TC 02	fulfilled Justification: The TC follows the vote of the experts.
TC 03	fulfilled Justification: The TC follows the vote of the experts.
AC	fulfilled Justification: The commission follows the vote of the experts.

For Civil Engineering

A 4. (ASIIN 3.2) Provide access to electronic measurement equipment.

Initial Treatment	
Peers	fulfilled Justification: UNILA provides evidence that it has purchased an electronic servo-hydraulic testing machine for use in tensile, compressive and flexural strength tests on steel and other construction materials. The device enables the automatic recording of load–displacement and stress–strain data. The experts welcome the addition of this equipment to the laboratory and consider the requirement to have been fulfilled.
TC 03	fulfilled Justification: The TC follows the vote of the experts.
AC	fulfilled Justification: The commission follows the vote of the experts.

Decision of the Accreditation Commission (12.12.2025)

Degree programme	**ASIIN-label**	**Subject-specific label**	**Accreditation until max.**
Ba Civil Engineering	All requirements fulfilled	/	30.09.2030
Ba Electrical Engineering	All requirements fulfilled	/	30.09.2030
Ba Mechanical Engineering	All requirements fulfilled	/	30.09.2030

Appendix: Programme Learning Outcomes and Curricula

According to Study Programme Guide Book, the following **objectives** and **learning outcomes (intended qualifications profile)** shall be achieved by the Bachelor degree programme Civil Engineering:

Attitude

1. Devoted to the Almighty God and uphold humanity's values in doing the duty
2. Fulfilling task with moral, ethics and manner
3. Being proud and patriotic citizens contributing to the national quality of life improvement and supporting world peace
4. Capable to be part of team work and showing social awareness and being eager to be independent
5. Valuing cultural diversity, perspective, belief, religion, and other's point of view.
6. Abiding law citizen, prioritize national interest and society

Knowledge

Capable to design and apply innovative construction, eco-friendly, low-cost, adaptive to climate change; mastering civil engineering tools and software, collecting information, and applicable procedure that has been determined; showing good performance emphasize in coastal building and infrastructure.

Specific Knowledge and Skill

1. Capable to fulfil task as technician, analyst, and engineer with low-cost approach, emphasizing in coastal building and infrastructure that adaptive to climate change
2. Knowledgeable and skillful to fulfill the requirements of applicable standard incorporating factual and specific expertise emphasizing in coastal building and infrastructure that adaptive to climate change; hence capable to complete task properly and thoroughly

General Skill

1. Responsible and enable to fulfil task holistically.
2. Have a willingness to learn throughout lifetime.

The following **curriculum** is presented:

Courses in Semester-1

No.	Code	Course	Credit(s)	ECTS	Status	Pre-required Course
1	UNI 620106	Indonesian Language	2 (2-0)	3,13	C	-
2	UNI 620108	Pancasila	2 (2-0)	3,13	C	-
3	SIP 620112	Mathematics	2 (2-0)	3,13	C	-
4	SIP 620101	Engineering Physics	2 (2-0)	3,13	C	-
5	SIP 620102	Material Technology	3 (2-1)	4,69	C	-
6	SIP 620103	Engineering Drawing	2 (2-0)	4,69	C	-
7	SIP 620105	Statistics and Probability	2 (2-0)	3,13	C	-
8	SIP 620104	Statics	3 (3-0)	4,69	C	-
	Total		19 (18-1)	29,69		

Courses in Semester-2

No.	Code	Course	Credit(s)	ECTS	Status	Pre-required Course
1	UNI 62010*	Religion	3 (2-1)	4,69	C	-
2	UNI 620107	Civic	2 (2-0)	3,13	C	-
3	SIP 620106	Calculus	2 (2-0)	3,13	C	-
4	SIP 620107	Civil Engineering Drawing	2 (0-2)	4,69	C	-
5	SIP 620108	Mechanics of Materials	3 (3-0)	4,69	C	-
6	SIP 620109	Surveying	3 (2-1)	4,69	C	-
7	SIP 620110	Statically Determinate Structures Analysis	3 (3-0)	4,69	C	-
8	SIP 620111	Environmental Engineering	2 (2-0)	3,13	C	-
	TOTAL		20 (16-4)	32,81		

Courses in Semester-3

No.	Code	Course	Credit(s)	ECTS	Status	Pre-required Course
1	SIP 620201	Soil Mechanics 1	3 (2-1)	4,69	C	-
2	SIP 620202	Applied Statistics	2 (2-0)	3,13	C	-
3	UNI 620203	Entrepreneurship	3 (2-1)	4,69	C	-
4	SIP 620204	Statically Indeterminate Structures Analysis	3 (3-0)	4,69	C	-
5	SIP 620205	Hydrology	2 (2-0)	3,13	C	-
6	SIP 620206	Fluid Mechanics	3 (2-1)	4,69	C	-
7	SIP 620207	Fundamental of Traffic Engineering	2 (2-0)	3,13	C	-
8	SIP 620208	Computer Programming	3 (2-1)	4,69	C	-
	TOTAL		21 (17-4)	32,81		

Courses in Semester-4

No.	Code	Course	Credit(s)	ECTS	Status	Pre-required Course

1	SIP 620209	Numerical Methods and Computation	2 (2-0)	3,13	C	-
2	SIP 620210	Soil Mechanics II	3 (2-1)	4,69	C	Soil Mechanics I (P)
3	SIP 620211	Structural Modeling	3 (2-1)	4,69	C	-
4	SIP 620212	Reinforced Concrete Beams	3 (3-0)	4,69	C	Statics (P), Statically Indeterminate Structures Analysis(T)
5	SIP 620213	Steel Truss Structures	2 (2-0)	3,13	C	Statics (P), Statically Indeterminate Structures Analysis(T)
6	SIP 620214	Hydraulics	3 (2-1)	4,69	C	-
7	SIP 620215	Geometrics Design	2 (2-0)	3,13	C	Surveying (T)
8	SIP 620216	Introduction to Transportation System	2 (2-0)	3,13	C	-
9	SIP 620217	Foundation Design I	2 (2-0)	3,13	C	Soil Mechanics I (P)
		TOTAL	22 (19-3)	34,41		

Courses in Semester-5

No.	Code	Course	Credit(s)	ECTS	Status	Pre-required Course
1	SIP 620301	Reinforced Concrete Plate-Column	3 (3-0)	4,69	C	Indefinite Static Analysis (MT-P) (S)
2	SIP 620302	Steel Frame Structures	3 (3-0)	4,69	C	Indefinite Static Analysis (MT-P) (S)
3	SIP 620303	Dynamic Analysis	2 (2-0)	3,13	C	Statics (P), Calculus (P)
4	SIP 620304	Drainage	2 (2-0)	3,13	C	Hydrology (T)
5	SIP 620305	Coastal Engineering	2 (2-0)	3,13	C	-
6	SIP 620306	Fundamentals of Pavement Engineering	3 (2-1)	4,69	C	-
7	SIP 620307	Foundation Design II	2 (2-0)	3,13	C	Foundation Design I (P), Soil Mechanics (P)
8	SIP 616308	Fundamentals of Railway	2 (2-0)	3,13	C	-
		TOTAL	19 (18-1)	29,69		

Courses in Semester-6

No.	Code	Course	Credit(s)	ECTS	Status	Pre-required Course
1	SIP 620309	Earthquake Engineering	3 (3-0)	4,69	C	Statically Indeterminate Structures Analysis(P)
2	SIP 620310	Road and Bridge Engineering	2 (2-0)	3,13	C	Reinforced Concrete Beams (P)
3	SIP 620311	Water Resources Engineering	2 (2-0)	3,13	C	-
4	SIP 620312	Irrigation Engineering	3 (2-1)	4,69	C	Hydrology (P)

5	SIP 620313	Port Engineering	2 (2-0)	3,13	C	Coastal Engineering (P)
6	SIP 620314	Railway Engineering	2 (2-0)	3,13	C	Fundamentals of Railway (P)
7	SIP 620315	Project Management	2 (2-0)	3,13	C	-
8	Elective (E)		4	6,25	E	
		TOTAL	20 (19-1)	31,25		

Courses in Semester-7

No.	Code	Course	Credit(s)	ECTS	Status	Pre-required Course
1	SIP 620401	Internship	2 (0-2)	3,13	C	a
2	SIP 620402	Research Methodology	2 (2-0)	3,13	C	-
3	SIP 620403	Implementation and Dissemination Constr uction Methods	2 (2-0)	3,13	C	-
4	SIP 620404	Design of Civil Engineering	4(1-3)	6,25	C	-
5	SIP 620405	Cost and Time Management	2 (2-0)	3,13	C	-
6		Elective (E)	2	3,13	E	
		TOTAL	14 (9-5)	21,88		

Courses in Semester-8

No.	Code	Course	Credit(s)	ECTS	Status	Pre-required Course
1	UNI 620401	Student Community Service	3 (0-3)	4,69	C	a
2	SIP 620429	Research Proposal Seminar	1 (0-1)	1,56	C	b
3	SIP 620430	Research Result Final	1 (0-1)	1,56	C	c
4	SIP 620431	Thesis/Final Assignment	4 (0-4)	6,25	C	d
		TOTAL	9 (0-9)	14,06		

According to Study Programme Guide Book, the following **objectives** and **learning outcomes (intended qualifications profile)** shall be achieved by the Bachelor degree programme Electrical Engineering:

Table 2. Graduate Learning Outcomes / Programme Learning Outcomes (PLOs)

Graduate Learning Outcomes: Attitude	
CODE	**DESCRIPTION**
A1	Internalize a good spirit of ethics, independence, struggling, and life-long learning
A2	Demonstrate leadership and responsible attitude on their expertise independently.
Graduate Learning Outcomes: General Skill	
CODE	**DESCRIPTION**
GS1	Able to apply logical and innovative thinking in the context of developing or implementing science and technology in their expertise.
GS2	Able to implement science and technology to produce proper solutions based in accordance to the available resources.
GS3	Able to work independently and collaboratively.
GS4	Able to write up a scientific description of the research in the form of a project report
Graduate Learning Outcomes: Special Skill	
CODE	**DESCRIPTION**
SS1	Able to apply the principles of mathematics, science, and engineering to solve the electrical engineering problems.
SS2	Able to design environment-friendly systems, components and processes which have business value.
SS3	Able to perform standardized tests, measuring, and conduct experiments as well as analyse and interpret the results.
SS4	Able to analyse, and design electrical circuits, computer programming, software, analogue and digital electronics, microcomputers, voice and data communications, as well as standards for manufacturing, testing, operating, and maintaining systems in the field of electrical engineering.
SS5	Able to apply principle of project management, health and safety issues on electrical engineering
Graduate Learning Outcomes: Knowledge	
CODE	**DESCRIPTION**
K1	Knowledge of mathematics, science, and engineering principles to solve engineering problems in the field of electrical engineering.

Graduate Learning Outcomes: Knowledge	
CODE	**DESCRIPTION**
K2	Knowledge of electrical circuits, computer programming, software, analogue and digital electronics, microcomputers, voice and data communications and standards for manufacturing, testing, operating and maintaining systems in the field of electrical engineering.

The following **curriculum** is presented:

Semester-1

	Code	Courses	CREDIT	ECTS	STATUS	
					M	E
1	UNI620106	Indonesian Language	2	3.17	M	
2	UNI620108	Pancasila	2	3.17	M	
3	UNI620109	Ethics and Local wisdom	2	3.17	M	
4	EET 620106	*Study Skill*	2	3.17	M	
5	EET 620101	Calculus 1	3	4.76	M	
6	EET 620102	Physics	4	6.34	M	
7	EET 620103	Electrochemical Engineering	2	3.17	M	
8	EET 620104	Introduction to Information Technology	2	3.17	M	
9	EET 620105	Engineering Drawing	2	3.17	M	
		Total	21	33.29		

Semester-2

	Code	Courses	CREDIT	ECTS	STATUS	
1	UNI620101	Religion - Islam	3	4.76	M	
	UNI620102	Religion - Catholic			M	
	UNI620103	Religion - Protestant			M	
	UNI620104	Religion - Hindu			M	
	UNI620105	Religion - Buddha			M	
2	UNI620107	Civic Education	2	3.17	M	
3	EET 620107	English	3	4.76	M	
4	EET 620108	Calculus 2	3	4.76	M	
5	EET 620109	Algorithm and Programming	3	4.76	M	
6	EET 620110	Electrical Measurement	2	3.17	M	
7	EET 620111	Electrical Measurement - Laboratory	1	1.59	M	
8	EET 620112	Electric Circuit 1	3	4.76	M	
		Total	20	31.73		

Semester-3

	Code	Courses	CREDIT	ECTS	STATUS	
1	EET620201	Engineering Mathematics 1	3	4.76	M	
2	EET620202	Probability and Statistics	3	4.76	M	
3	EET620203	Electromagnetic Fields	3	4.76	M	
4	EET620204	Electric Circuit 2	3	4.76	M	
5	EET620205	Electric Circuit - Laboratory	1	1.59	M	
6	EET620206	Electronics Fundamentals	3	4.76	M	
7	EET620207	Electronics Fundamentals - Laboratory	1	1.59	M	
8	EET620208	Control Systems Fundamentals	3	4.76	M	
9	EET620209	Control Systems Fundamentals - Laboratory	1	1.59	M	
		Total	21	33.33		

Semester-4: Electrical Power Engineering and Electronics and Control

	Code	Courses	CREDIT	ECTS	STATUS	
1	EET620210	Environmental Science	2	3.17	M	
2	EET620211	Engineering Mathematics 2	3	4.76	M	
3	EET620212	Numerical Methods	2	3.17	M	
4	EET620213	Signals and Systems	3	4.76	M	
5	EET620214	Fundamentals of Telecommunication Systems and Networks	3	4.76	M	
6	EET620215	Fundamentals of Telecommunication Systems and Networks - Laboratory	1	1.59	M	
7	EET620216	Electric Power systems Fundamentals	3	4.76	M	
8	EET620217	Electric Power systems Fundamentals - Laboratory	1	1.59	M	
9	EET620218	Materials Electrotechnics	2	3.17		E
		Total	20	31.73		

Semester-4: Telecommunication and Information Technology

	Code	Courses	CREDIT	ECTS	STATUS	
1	EET620210	Environmental Science	2	3.17	M	
2	EET620211	Engineering Mathematics 2	3	4.76	M	
3	EET620212	Numerical Methods	2	3.17	M	
4	EET620213	Signals and Systems	3	4.76	M	
5	EET620214	Fundamentals of Telecommunication Systems and Networks	3	4.76	M	
6	EET620215	Fundamentals of Telecommunication Systems and Networks - Laboratory	1	1.59	M	
7	EET620216	Electric Power systems Fundamentals	3	4.76	M	
8	EET620217	Electric Power systems Fundamentals - Laboratory	1	1.59	M	
9	EET620219	Electromagnetic Field in Telecommunication	2	3.17		E
		Total	20	31.73		

Semester-5 Electrical Power Engineering

	Code	Courses	CREDIT	ECTS	STATUS	
1	EET620301	Power System Analysis	3	4.76		E
2	EET620302	Power System Analysis - Laboratory	1	1.59		E
3	EET620303	Electric Power Transmission	2	3.17		E
4	EET620304	Power System Distribution	2	3.17		E
5	EET620305	High Voltage Engineering	2	3.17		E
6	EET620306	High Voltage Engineering - Laboratory	1	1.59		E
7	EET620307	High Voltage Apparatus	2	3.17		E
8	EET620308	Electric Machines	3	4.76		E
9	EET620309	Electric Machines - Laboratory	1	1.59		E
10	EET620310	Power Electronics	2	3.17		E
11	EET620311	Power Electronics - Laboratory	1	1.59		E
		Total	20	31.73		

Semester-5 Electronics and Control Engineering

	Code	Courses	CREDIT	ECTS	STATUS	
1	EET620312	Digital Electronics	3	4.76		E
2	EET620313	Digital Electronics - Laboratory	1	1.59		E
3	EET620314	Electronic Systems	3	4.76		E
4	EET620315	Electronic Systems - Laboratory	1	1.59		E
5	EET620316	Digital Signal Processing	3	4.76		E
6	EET620317	Computer-Aided Design	2	3.17		E
7	EET620318	Advance Control Systems	3	4.76		E
8	EET620319	Instrumentation Systems	2	3.17		E
9	EET620320	Artificial Intelligence	2	3.17		E
		Total	20	31.73		

Semester-5 Telecommunication and Information Technology

	Code	Courses	CREDIT	ECTS	STATUS	
1	EET620321	Communication Systems	3	4.76		E
2	EET620322	Operating System and Application of Mobile Device	2	3.17		E
3	EET620323	Fibre Optics Technology	3	4.76		E
4	EET620324	Communication Systems - Laboratory	1	1.59		E
5	EET620325	Fixed Wireless and Mobile Wireless Networks	3	4.76		E
6	EET620326	Digital electronics	3	4.76		E
7	EET620327	Discrete-Time Signal Processing	3	4.76		E
8	EET620328	Data Structure and Modelling	2	3.17		E
		Total	20	31.73		

Semester-6 Electrical Power Engineering

	Code	Courses	CREDIT	ECTS	STATUS	
1	EET620329	Research Methods	2	3.17	M	
2	EET620330	Project Management and OHSA	2	3.17	M	
3	EET620331	Protection Systems	3	4.76		E
4	EET620332	Insulation Systems	2	3.17		E
5	EET620333	Insulation Coordination	2	3.17		E
6	EET620334	Stability and Control of Electric Motors	2	3.17		E
7		Selected Topics in Electric Power Engineering	6	9.52		E
		Total	19	30.13		

Semester-6 Electronics and Control Engineering

	Code	Courses	CREDIT	ECTS	STATUS	
1	EET620329	Research Methods	2	3.17	M	
2	EET620330	Project Management and OHSA	2	3.17	M	
3	EET620335	Advance Control Systems - Laboratory	1	1.59		E
4	EET620336	Peripheral and Interfaces	3	4.76		E
5	EET620337	PLC	3	4.76		E
6	EET620338	Embedded Systems	2	3.17		E
7	EET620339	Embedded Systems - Laboratory	1	1.59		E
8	EET620340	Optimization Techniques	3	4.76		E
9		Selected Topics in Electronics and Control Engineering	2	3.17		E
		Total	19	30.13		

Semester-6 Telecommunication and Information Technology

	Code	Courses	CREDIT	ECTS	STATUS	
1	EET620329	Research Methods	2	3.17	M	
2	EET620330	Project Management and OHSA	2	3.17	M	
3	EET620342	Antennae and Applications	3	4.76		E
4	EET620343	Modelling and simulation of Communication Systems	3	4.76		E
5	EET620344	Data Broadband Technology and Communication	3	4.76		E
6	EET620345	Wireless Communications	3	4.76		E
7	EET620346	Telecommunication Networks - Laboratory	1	1.59		E
8		Selected Topics Telecommunication and Information Technology Engineering	2	3.17		E
		Total	19	30.13		

Semester-7 Electrical Power Engineering

	Code	Courses	CREDIT	ECTS	STATUS	
1	UNI620401	Community Service Program*	3	4.76	M	
2	EET620401	Capita Selecta	2	3.17	M	
3	EET620402	Industrial Experience**	2	3.17	M	
4	EET620403	Entrepreneurship	3	4.76	M	
5		Selected Topics	8	12.69		E
		Total	18	28.55		

Semester-7 Electronics and Control Engineering

	Code	Courses	CREDIT	ECTS	STATUS	
1	UNI620401	Community Service Program*	3	4.76	M	
2	EET620401	Capita Selecta	2	3.17	M	
3	EET620402	Industrial Experience**	2	3.17	M	
4	EET620403	Entrepreneurship	3	4.76	M	
5	EET620404	Microelectronics	2	3.17		E
6		Selected Topics	6	9.52		E
		Total	18	28.55		

Semester-7 Telecommunication and Information Technology

	Code	Courses	CREDIT	ECTS	STATUS	
1	UNI620401	Community Service Program*	3	4.76	M	
2	EET620401	Capita Selecta	2	3.17	M	
3	EET620402	Industrial Experience**	2	3.17	M	
4	EET620403	Entrepreneurship	3	4.76	M	
5	EET620405	Telecommunication Transmission Systems	2	3.17		E
6		Selected Topics	6	9.52		E
		Total	18	28.55		

Semester-8

	Code	Courses	CREDIT	ECTS	STATUS	
1	EET620406	Proposal Seminar ***	1	1.59	M	
2	EET620407	Progress Seminar	1	1.59	M	
3	EET620408	Final Project	4	6.34	M	
		TOTAL (Credits)	145	230		

According to Study Programme Guide Book, the following **objectives** and **learning outcomes (intended qualifications profile)** shall be achieved by the Bachelor degree programme Mechanical Engineering:

Area	Code	Description
Attitude	S01	Fear of God Almighty and able to show a religious attitude
	S02	Upholding human values in carrying out duties based on religion, morals, and ethics;
	S03	Internalizing academic values, norms, and ethics
	S04	To act as citizens who are proud and love their homeland, have nationalism and a sense of responsibility to the state and nation;

	S05	Appreciate the diversity of cultures, views, religions, and beliefs, as well as the opinions or original findings of others;
	S06	Contribute to improving the quality of life in society, nation, state, and the progress of civilization based on Pancasila;
	S07	Cooperate and have social sensitivity and concern for society and the environment;
	S08	Obey the law and discipline in the life of society and the state;
	S09	Internalize the spirit of independence, struggle, and entrepreneurship.
	S10	Demonstrate a responsible attitude towards work in their area of expertise independently;
General Skills	**KU1**	Able to apply logical, critical, systematic, and innovative thinking in the context of the development or implementation of science and technology that pays attention to and applies humanities values in accordance with their field of expertise;
	KU2	Able to study the implications of the development or implementation of science, technology or art in accordance with their expertise based on scientific principles, procedures and ethics to produce solutions, ideas, designs, or art criticisms as well as compile a scientific description of the results of their studies in the form of a thesis or final project report;
	KU3	Able to make appropriate decisions in the context of solving problems in their area of expertise, based on the results of information and data analysis;
	KU4	Able to manage learning independently;
	KU5	Able to maintain and develop a network with supervisors, colleagues, colleagues both inside and outside the institution;
Special Skills	**KK1**	Able to apply mathematics, science, and *engineering principles* to solve *complex engineering problems* ;
	KK2	Able to find the source of engineering problems through the process of investigation, analysis, interpretation of data and information based on engineering principles;
	KK3	Able to conduct research which includes identification, formulation and analysis of engineering problems;

	KK4	Able to formulate alternative solutions to solve complex engineering problems by taking into account economic, public health and safety, cultural, social and environmental factors (*environmental considerations*);
	KK5	Able to design systems, processes, and components with an analytical approach and consider technical standards, aspects of performance, reliability, ease of application, sustainability, and pay attention to economic, public health and safety, cultural, social and environmental factors;
	KK6	Able to choose resources and utilize appropriate engineering design and analysis tools based on information technology and computing to carry out engineering activities.
Knowledge	**P01**	Able to master the theoretical concepts of natural science, engineering mathematics applications; *engineering principles* , engineering science and engineering design required for the analysis and design of mechanical systems, processes, products or components;
	P02	Able to master the principles and techniques of designing mechanical systems, processes, or components;
	P03	Able to master the latest principles and *issues* in economics, social, ecology in general;
	P04	Able to master knowledge of communication techniques and the latest/latest technological developments.

The following **curriculum** is presented:

Type of Courses	Code	Course	Precondition	CU	ECTS
SEMESTER I					
Compulsory Course	UNI620106	Indonesian Language		3 (2-1)	4.77
	UNI620108	Pancasila Education		2 (2-0)	3.18
	MSN620109	Engineering English		2 (2-0)	3.18
	MSN620110	Calculus 1		2 (2-0)	3.18
	MSN620111	Physics I		3 (3-0)	4.77
	MSN620112	Chemistry		2 (2-0)	3.18
	MSN620113	Mechanical Engineering Drawing		3 (2-1)	4.77
	MSN620114	Introduction to Mechanical Engineering		1 (1-0)	1.59
	MSN620116	Algorithms and Computer Programming		2 (2-0)	3.18
	MSN620117	Computer Programming Practicum		1 (0-1)	1.59
		Amount		21 (18-3)	
SEMESTER II					
*) chosen according to the religion adopted	UNI620101	Islamic education *)		3 (2-1)	4.77
	UNI620102	Catholic Religious Education *)		3 (2-1)	4.77
	UNI620103	Christian education *)		3 (2-1)	4.77
	UNI620104	Hindu Religious Education *)		3 (2-1)	4.77
	UNI620105	Buddhist Education *)		3 (2-1)	4.77
Compulsory Course	UNI620107	Citizenship education		2 (2-0)	3.18
	MSN620118	Calculus II		2 (2-0)	3.18
	MSN620119	Physics II		2 (2-0)	3.18
	MSN620120	Probability and Statistics		2 (2-0)	3.18
	MSN620121	Kinematics		2 (2-0)	3.18
	MSN620122	Materials Engineering		3 (3-0)	4.77
	MSN620122	Structural Statics		3 (3-0)	4.77
	MSN620123	Physics Practicum	MSN620112 MSN620119	1 (0-1)	1.59
	MSN620124	Materials Engineering Practicum	MSN620122	1 (0-1)	1.59
		Amount		21 (18-3)	
SEMESTER III					
Compulsory Course	MSN620201	Occupational Health and Environmental Safety		2 (2-0)	3.18
	MSN620202	Engineering Mathematics I		3 (3-0)	4.77
	MSN620203	Physical Metallurgy		2 (2-0)	3.18
	MSN620204	Material Strength Mechanics		3 (3-0)	4.77
	MSN620205	Engineering Dynamics		2 (2-0)	3.18
	MSN620206	Thermodynamics Engineering I	MSN620119	2 (2-0)	3.18
	MSN620207	Electrical Power Engineering	MSN620119	2 (2-0)	3.18
	MSN620208	Manufacturing Process I		2 (2-0)	3.18
	MSN620209	Electrical Power Engineering Practicum		1 (0-1)	1.59
	MSN620210	Physical Metallurgy Practicum	MSN620205	1 (0-1)	1.59

	MSN620218	Engineering Measurement		2 (2-0)	3.18
		Amount		22 (20-2)	
SEMESTER IV					
Compulsory Course	MSN620211	Engineering Mathematics		3 (3-0)	4.77
	MSN620212	Heat Transfer		2 (2-0)	3.18
	MSN620213	Thermodynamics Engineering II	MSN620206	2 (2-0)	3.18
	MSN620214	Fluid Mechanics I		2 (2-0)	3.18
	MSN620215	Machine Element I	MSN620204	3 (3-0)	4.77
	MSN620216	Manufacturing Process II		2 (2-0)	3.18
	MSN620217	Machine maintenance		2 (2-0)	3.18
	MSN620219	Metrology		2 (1-1)	3.18
	MSN620220	Manufacturing Process Practicum + CAM	MSN620208 MSN620216	2 (0-2)	3.18
	UNI620209	Entrepreneurship		3 (2-1)	4.77
		Amount		23 (19-4)	
SEMESTER V					
Compulsory Course	MSN620301	Numerical Method		3 (3-0)	4.77
	MSN620302	Project/Operations Management		2 (2-0)	3.18
	MSN620303	Mechanical Vibration	MSN620119	3 (3-0)	4.77
	MSN620304	Fluid Mechanics II	MSN620214	2 (2-0)	3.18
	MSN620305	Heat Transfer II	MSN620212	2 (2-0)	3.18
	MSN620306	Machine Element II	MSN620215	2 (2-0)	3.18

	MSN620307	Biomass Energy		2 (2-0)	3.18
	MSN620308	Research Methodology		2 (2-0)	3.18
	MSN620309	Engineering Economics		2 (2-0)	3.18
	MSN620310	Basic Mechanical Phenomena Practicum	MSN620212, MSN620214, MSN620303,	2 (0-2)	3.18
		Amount		22 (19-2)	
SEMESTER VI					
Compulsory Course	MSN620311	Energy Conversion Machine	MSN620206 MSN620214	3 (3-0)	4.77
	MSN620312	Mechanical System Design		2 (2-0)	3.18
	MSN620313	Automatic Control		3 (3-0)	4.77
	MSN620315	Machine Performance Practicum	MSN620206 MSN620211	2 (0-2)	3.18
*) Choose according to the concentration of interest	MSN620xxx*	Elective Course 1		3 (3-0)	4.77
	MSN620xxx*	Elective Course 2		3 (3-0)	4.77
	MSN620xxx*	Elective Course 3		3 (3-0)	4.77
		Amount		19 (17-2)	
Elective Course					
Energy conversion	MSN620318	Heat Exchanger	MSN620213, MSN620305	3 (3-0)	
	MSN620319	Internal combustion engine	MSN620208, MSN620214	3 (3-0)	
	MSN620320	Fuel and Combustion Process		3 (3-0)	
	MSN620321	Gas Turbine		3 (3-0)	

	MSN620322	Computational Fluid Dynamics	MSN620215, MSN620304	3 (3-0)	
	MSN620323	Pumps and Compressors		3 (3-0)	
	MSN620324	Hydraulic and Pneumatic		3 (3-0)	
	MSN620325	Wind Turbine		3 (3-0)	
	MSN620326	Thermal Energy Storage		3 (3-0)	
Mechanical/ Machine Construction	MSN620327	Finite Element Method	MSN620301	3 (3-0)	
	MSN620328	Pressure Vessel Design	MSN620206	3 (3-0)	
	MSN620329	Building Acoustics	MSN620303	3 (3-0)	
	MSN620330	Rail Vehicle Engineering	MSN620303	3 (3-0)	
	MSN620331	Material Moving Equipment	MSN620217 MSN620309	3 (3-0)	
	MSN620332	Computational Kinematics and Dynamics	MSN620121 MSN620207	3 (3-0)	
Material	MSN620333	Powder Metallurgy	MSN620205	3 (3-0)	
	MSN620334	Polymer	MSN620112	3 (3-0)	
	MSN620335	Ceramics and Synthesis	MSN620112	3 (3-0)	
	MSN620336	Biomaterials		3 (3-0)	
	MSN620337	Heat and Surface Treatments	MSN620205	3 (3-0)	
	MSN620338	Corrosion and its Prevention	MSN620112	3 (3-0)	
	MSN620339	Creep and Visco Elasticity	MSN620112	3 (3-0)	
Production Engineering	MSN620340	Production Tools	MSN620210 MSN620216	3 (3-0)	
	MSN620341	Product Design and Development	MSN620312	3 (3-0)	

	MSN620342	Machining Engineering	MSN620210 MSN620216	3 (3-0)	
	MSN620343	Forming Technique		3 (3-0)	
	MSN620344	Welding and Fabrication Engineering		3 (3-0)	
SEMESTER VII					
Compulsory Course	UNI620401	Community Service Program		3 (0-3)	4.77
	MSN620402	Capstone Design		3 (0-3)	4.77
	MSN620403	Mechatronics		2 (2-0)	3.18
	MSN620404	Mechatronics Practicum		1 (0-1)	1.59
	MSN620405	Internship		2 (0-2)	3.18
*) Choose according to the concentration of interest	MSN620xxx*	Elective Course 3		3 (3-0)	4.77
	MSN620xxx**	Elective Course 4		3 (3-0)	4.77
	MSN620xxx**	Elective Course 5		3 (3-0)	4.77
		Amount		20 (8-9)	
Elective Course					
Energy conversion	MSN620410	Solar Energy Engineering	MSN620213 MSN620305	3 (3-0)	
	MSN620411	Steam Power Generation System	MSN620208 MSN620214	3 (3-0)	
	MSN620412	Combustion Air Treatment		3 (3-0)	
	MSN620413	Energy Management		3 (3-0)	
	MSN620414	Refrigeration and Air Conditioning Engineering	MSN620208 MSN620214	3 (3-0)	
	MSN620415	Two Phase Flow	MSN620215	3 (3-0)	

			MSN620304		
	MSN620416	Compressible Flow		3 (3-0)	
	MSN620417	Gasification and Pyrolysis	MSN620313	3 (3-0)	
	MSN620418	Water Turbine	MSN620304	3 (3-0)	
	MSN620419	Marine Power Plant		3 (3-0)	
	MSN620420	Organic Rankine Cycle Generator		3 (3-0)	
Mechanical/ Machine Construction	MSN620421	Piping System Design and Analysis	MSN620123 MSN620206	3 (3-0)	
	MSN620422	Thin Walled Structure	MSN620206	3 (3-0)	
	MSN620423	Robotic Dynamics	MSN620207	3 (3-0)	
	MSN620424	Noise Control	MSN620303	3 (3-0)	
	MSN620425	Mechanical Structure Dynamics		3 (3-0)	
	MSN620426	Engine Dynamics and Vibration		3 (3-0)	
Material	MSN620427	Composite	MSN620122	3 (3-0)	
	MSN620428	Casting Technique	MSN620205	3 (3-0)	
	MSN620429	Behavioral Materials Mechanics	MSN620206	3 (3-0)	
	MSN620430	Fatigue and Fracture Mechanics		3 (3-0)	
	MSN620431	Coating Technique	MSN620122	3 (3-0)	
	MSN620432	Non-Destructive Testing		3 (3-0)	
	MSN620433	Material and Process Selection	MSN620122	3 (3-0)	
	MSN620434	Manufacturing System	MSN620337	3 (3-0)	
	MSN620435	Quality Control and Assurance		3 (3-0)	
	MSN620436	Production Planning and Control		3 (3-0)	

Production Engineering	MSN620437	Non-Metal Manufacturing Engineering	MSN620210 MSN620216	3 (3-0)	
	MSN620438	Manufacturing Automation	MSN620402	3 (3-0)	
	MSN620439	Manufacturing Modeling and Simulation		3 (3-0)	
	MSN620440	CAD/CAM		3 (3-0)	
	MSN620441	Additive Manufacturing		3 (3-0)	
SEMESTER VIII					
Final Project	MSN620407	Thesis Proposal Seminar		1 (0-1)	1.59
	MSN620408	Thesis Result Seminar		1 (0-1)	1.59
	MSN620409	Thesis		4 (0-4)	6.36
		Amount		6 (0-6)	
	Sum course taken by student is			**154**	**244.86**