ASIIN Seal & EUR-ACE®

Accreditation Report

Undergraduate Degree Programs
Geological Engineering
Geodesy and Geomatics Engineering
Urban and Regional Planning

Master's Degree Programs
Geological Engineering
Geodesy and Geomatics Engineering
Urban and Regional Planning

Provided by
Institut Teknologi Bandung

Version: 27 June 2025

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A About the Accreditation Process

Name of the degree program (in original language)	(Official) English translation of the name	Labels applied for [1]	Previous accreditation (issuing agency, validity)	Involved Technical Committees (TC)[2]
Program Studi Sarjana Teknik Geologi	Undergraduate of Geological Engineering Study Program	ASIIN, EUR-ACE® Label	ASIIN, 29.03.2019 – 30.09.2024 BAN-PT, 29.09.2020 – 30.09.2024 LAMTEKNIK – 20.12.2024	TC11
Program Studi Magister Teknik Geologi	Master of Geological Engineering Study Program	ASIIN, EUR-ACE® Label	BAN-PT, 13.12.2020 – 13.12.2025	TC11
Program Studi Sarjana Teknik Geodesi dan Geomatika	Undergraduate of Geodesy and Geomatics Engineering	ASIIN, EUR-ACE® Label	ASIIN, 29.03.2019 – 30.09.2024 BAN-PT, 29.09.2020	TC03, TC11

[1] ASIIN Seal for degree programs; EUR-ACE® Label: European Label for Engineering Programs

[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; TC 04 - Informatics/Computer Science; TC 05 - Materials Science, Physical Technologies; TC 06 - Engineering and Management, Economics; TC 07 - Business Informatics/Information Systems; TC 08 - Agriculture, Forestry, Food Sciences, and Landscape Architecture; TC 09 - Chemistry; TC 10 - Life Sciences; TC 11 - Geosciences; TC 12 - Mathematics; TC 13 - Physics; TC 14 - Medicine.

			– 30.09.2024 LAMTEKNIK – 20.12.2024	
Program Studi Magister Teknik Geodesi dan Geomatika	Master of Geodesy and Geomatics Engineering	ASIIN, EUR-ACE® Label	BANPT, 22.07.2021 – 22.07.2026	TC03, TC11
Program Studi Sarjana Perencanaan Wilayah dan Kota	Undergraduate in Urban and Regional Planning	ASIIN	ASIIN, 29.03.2019 – 30.09.2024 BAN-PT, 29.09.2020 – 30.09.2024	TC03
Program Studi Magister Perencanaan Wilayah dan Kota	Master of Urban and Regional Planning	ASIIN	BAN-PT, 07.09.2021 – 22.04.2026	TC03
Date of the contract: 13.06.2023 **Submission of the final version of the self-assessment report:** 21.11.2024 **Date of the onsite visit:** 16.–17.04.2025 **at:** Faculty of Earth Science and Technology and School of Architecture, Planning, and Policy Development				
Expert panel: Prof. Dr. rer. nat. Detlev Doherr, Offenburg University of Applied Sciences Prof. Dr. Leni Sophia Heliani, Universitas Gadjah Mada Prof. Dipl.-Ing. Frank Schwartze, University of Applied Sciences Lübeck Andreas Benoit, publicly appointed surveyor and consulting engineer in North Rhine-Westphalia				

Sheila Desta Ananda, Universitas Gadjah Mada	
Representative of the ASIIN headquarters: Tamina Renner	
Responsible decision-making committee: Accreditation Commission for Degree Programs	
Criteria used: European Standards and Guidelines as of May 15, 2015 ASIIN General Criteria, as of March 28, 2023 EUR-ACE® Framework Standards and Guidelines as of November 4, 2021 Subject-Specific Criteria of Technical Committee 03 – Civil Engineering, Geodesy and Architecture as of June 26, 2020 Subject-Specific Criteria of Technical Committee 11 – Geosciences as of December 9, 2011	

B Characteristics of the Degree Programs

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
Program Studi Sarjana Teknik Geologi / Undergraduate of Geological Engineering Study Program	S.T. (Sarjana Teknik) equal to B.Sc. (Bachelor of Science)	--	6	Full time	--	8 semesters	144 CU = 240 ECTS	Annually, 1959
Program Studi Magister Teknik Geologi / Master of Geological Engineering Study Program	M.T. (Magister Teknik) equal to M.Sc (Master of Science)	1. Geosciences 2. Petroleum Geology 3. Engineering Geology 4. Economic Geology (Mineral) 5. Volcanology and Geothermal	7	Full time	--	4 semesters	54 CU = 90 ECTS	Each semester, 1989
Program Studi Sarjana Teknik Geodesi dan Geomatika / Undergraduate of Geodesy and Geomatics Engineering	S.T. (Sarjana Teknik) equal to B.Sc. (Bachelor of Science)	--	6	Full time	--	8 semesters	144 CU = 240 ECTS	Annually, 1950
Program Studi Magister Teknik Geodesi dan Geomatika / Master of Geodesy and Geomatics Engineering	M.T. (Magister Teknik) equal to M.Sc (Master of Science)	1. Geospatial-based Disaster Risk Management 2. Geodesy and Geomatics Engineering 3. Land Administration 4. Hydrography	7	Full time	--	4 semesters	54 CU = 90 ECTS	Each semester, 1980
Program Studi Sarjana Perencanaan Wilayah dan Kota / Undergraduate in Urban and Regional Planning	Sarjana Teknik (ST)/BSc (Bachelor of Science in Urban and Regional Planning)	--	6	Full time / Hybrid learning (if necessary)	--	8 semesters	144 CU = 240 ECTS	Annually, 1959

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

B Characteristics of the Degree Programs

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
Program Studi Magister Perencanaan Wilayah dan Kota / Master of Urban and Regional Planning	Magister Perencanaan Wilayah dan Kota (MPWK)/ Master of Urban and Regional Planning (MPURP)	1. Urban Planning 2. Regional Development 3. Infrastructure and Transportation System 4. Urban Governance 5. Disaster Mitigation Planning 6. Innovation and Smart City System	7	Full time / Hybrid learning (if necessary)	Double Degree with 1. University of Groningen (MSc) 2. Keio University (MA) 3. Ritsumeikan University (MSc)	4 semesters	54 CU = 90 ECTS	Each semester, 1982

The State-Owned University Institut Teknologi Bandung (ITB) is one of Indonesia's most prestigious and oldest higher education institutions in science, engineering, and technology. Celebrating its 100th anniversary in 2020, ITB now comprises 12 faculties and schools, 128 study programs, and over 26,000 active students. According to the QS World University Rankings 2025, ITB ranks 256th globally and holds the 16th position among universities in Southeast Asia. It is consistently recognized as one of the leading universities in Indonesia for research, innovation, and technological development.

The Undergraduate and Master's Programs in Geological Engineering, as well as the Undergraduate and Master's Programs in Geodesy and Geomatics Engineering, are managed by the Faculty of Earth Science and Technology (FEST). The Undergraduate and Master's Programs in Urban and Regional Planning are managed by the School of Architecture, Planning, and Policy Development (SAPPD). The undergraduate programs are undergoing reaccreditation, while the Master's programs are being accredited for the first time.

The Faculty of Earth Science and Technology is a key academic unit at ITB, dedicated to advancing the fundamental understanding of Earth sciences. It focuses on disciplines such as geology, geophysics, meteorology, and oceanography, aiming to explore natural phenomena and provide insights into Earth's resources.

The Undergraduate Program in Geological Engineering (UPGE) at ITB is designed to produce graduates who are ready to pursue diverse careers in industry, research, government, and academia. According to the information provided, the program emphasizes a foundation in geoscience, equipping students to address real-world challenges such as resource

exploration, environmental management, and disaster mitigation. It fosters lifelong learning, global networking, and alignment with technological advancements and the Sustainable Development Goals. Students gain competencies in scientific problem-solving, data analysis, communication, teamwork, and ethical responsibility—preparing them for both immediate employment and advanced academic pursuits.

The Master's Program in Geological Engineering (MPGE) at ITB aims to produce qualified professionals and researchers who can contribute to various sectors, including oil and gas, mining, construction, regional development, volcanology, and geothermal energy. The program emphasizes advanced research skills, interdisciplinary problem-solving, and ethical professional conduct. Graduates are expected to integrate geological knowledge across key areas such as petroleum geology, engineering geology, economic geology, geoscience, and geothermal studies. With a strong foundation in research and innovation, the program prepares students to address complex geological challenges and gain national and international recognition in their fields.

The Undergraduate Program in Geodesy and Geomatics Engineering (UPGGE) at ITB aims to establish itself as a nationally and internationally recognized unit for excellence in surveying, mapping, and geographic information science, with a particular emphasis on Indonesia's distinctive environmental conditions and patterns of human activity. The program equips students with comprehensive knowledge and practical skills to solve real-world problems in industry, public service, and professional practice. Graduates are trained to address complex engineering challenges while considering technical, socio-economic, cultural, and environmental factors. They are also expected to uphold ethical standards, adapt to change, and compete at a global level.

The Master's Program in Geodesy and Geomatics Engineering (MPGGE) at ITB prepares graduates to become experts in geospatial sciences, with specializations in areas such as disaster risk management, land administration, hydrography, and geodetic engineering. The program emphasizes both foundational knowledge and advanced specialization. With a curriculum grounded in research and real-world application, the program equips students to tackle complex geospatial challenges, contribute to innovation, and support national development.

The School of Architecture, Planning, and Policy Development (SAPPD) at ITB plays an important role in education, research, and public policy. Established in 2005, programs from architecture, urban planning, development studies, and transportation have been offered under its umbrella since then. Since 2006, SAPPD has evolved into a multidisciplinary unit offering degrees from undergraduate to doctoral levels, supporting ITB's mission of advancing knowledge and global collaboration in its fields.

The Undergraduate Program of Urban and Regional Planning (UPURP) is designed to prepare graduates with basic knowledge, skills and attitudes required as planners, emphasizing their ability to think rationally and strategically with a comprehensive manner, to develop the best alternative solutions to problems, which are technically justifiable, socially acceptable, and morally responsible.

The Master's Program in Urban and Regional Planning (MPURP) provides knowledge, skills and realize attitudes in three ways: namely a comprehensive mindset and rational insight, the ability to think strategically and analytically to get the best alternatives, and the ability to formulate alternative solutions to the development problems that are technically and morally accountable and agreed upon by many parties. To achieve these objectives, the target of this study program is to prepare planners with academic and professional qualifications. Graduates of this program are expected to become professionals, practitioners, and researchers who have specific knowledge in the field of urban and regional planning.

C Expert Report for the ASIIN Seal[4]

1. The Degree Program: Concept, Content & Implementation

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

Evidence:

- Self-Assessment Report (SAR)
- Introduction booklets (e.g., "Introduction of Undergraduate Program of Geological Engineering")
- Curricula
- Homepage UPGE and MPGE
- Homepage UPGGE and MPGGE
- Homepage UPURP and MPURP
- Diploma supplement
- Module handbooks
- Objective-module-matrices matching SSC 03 and/or 11
- Discussions during the audit
- ASIIN Student Survey

Preliminary assessment and analysis of the experts:

The experts refer to the respective ASIIN Subject-Specific Criteria (SSC) of the Technical Committee 03 (Civil Engineering, Geodesy and Architecture) and the Technical Committee 11 (Geosciences), the objective-module-matrix for each degree program as well as the module handbooks as a basis for judging whether the intended learning outcomes of the programs under review correspond with the competences as outlined by the SSC.

[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.

In general, ITB distinguishes between Program Educational Objectives (PEO) and Program Learning Outcomes (PLO). PEOs describe the broad, long-term goals that graduates are expected to achieve within a few years after completing a degree program. They focus on graduates' career progression, continued education, professional growth, and contributions to society and their field. The PLOs, on the other hand, define the specific knowledge, skills, and competencies that students are expected to acquire by the time they graduate. These outcomes are directly measurable and focus on what students can demonstrate upon completion of the program. The descriptions of the PEOs and PLOs are comprehensive and include the achieved competencies and potential career opportunities of the graduates. The objective-module matrices clearly show how the PLOs are operationalized in the curriculum. According to the SAR, this guarantees that the intended competencies are systematically acquired across all semesters.

The PEO and PLO of all study programs under review are based on the vision and mission of ITB as well as that of faculties/schools, the ASIIN Subject-Specific Criteria for the Technical Committees 03 and/or 11, the national standards and regulations, and the relevance with the labor market and society and specific needs of the study programs.

The PEOs and PLOs are anchored in the introduction booklets (e.g., "Introduction of Undergraduate Program of Geological Engineering"), the curricula, and on the website. The PLOs are furthermore included in the diploma supplement (sample can also be accessed online) and the module handbooks (additionally, Course Learning Outcomes, CLO). Therefore, PEOs and PLOs are easily accessible for students, lecturers, and other interested third parties. The descriptions of the outcomes are comprehensive and include the achieved competencies and possible career opportunities of the graduates.

According to the Self-Assessment Report (SAR) and based on Presidential Regulation No. 8 of 2012 of the Republic of Indonesia, the undergraduate programs are classified at level 6 and the master's programs at level 8 of the Indonesian National Qualifications Framework (KKNI), which corresponds to European Qualifications Framework (EQF) levels 6 and 7 respectively.

The program educational objectives (PEOs) are reviewed at least every five years as part of the curriculum evaluation process. This review is conducted in stakeholder meetings involving faculty members, advisory board representatives, employers from both public and private sectors, and alumni. The aim is to evaluate the extent to which graduates have achieved the PEOs. The results of this evaluation serve as input for further curriculum development.

Graduates of all programs under review acquire a qualification profile that enables them to pursue professional careers in a variety of fields, including industry and entrepreneur-

ship, research and academia, and government. The learning objectives of all programs are practice-oriented and closely aligned with the needs of the labor market.

Graduates of UPGE acquire a comprehensive set of competencies that prepare students for diverse professional and academic paths. They should possess a solid foundation in geological sciences and be capable of applying their knowledge to real-world challenges such as resource and energy exploration, environmental management, and disaster mitigation. The program aims to equip them with the skills required to work effectively across various sectors, including industry, government, academia, and entrepreneurship. In addition, graduates should be trained to engage in lifelong learning, to stay abreast of scientific and technological advancements, and to contribute actively to sustainable development goals. They also should be well-prepared for advanced studies at the Master's level and should be able to contribute to scientific research, higher education, and the broader development of science and technology.

The MPGE aims to produce graduates who are qualified to work in research, education, and various applied geoscience sectors. It also prepares students for further academic studies at the doctoral level.

According to the SAR, graduates of UPGE and MPGE should be prepared to work in a broad range of professional fields, including the oil and gas industry, mineral and coal mining, geothermal energy, engineering geology, hydrogeology, environmental and resource policy, geohazards mitigation, and paleontology.

The UPGGE at ITB aims to prepare students for careers in the geospatial industry, government, or entrepreneurship. Graduates are expected to possess integrated knowledge of geodesy and geomatics engineering, apply this expertise to solve real-world problems, handle complex challenges using interdisciplinary engineering approaches, act ethically and professionally, and demonstrate adaptability and competitiveness in a global context.

According to the SAR, graduates of the UPGGE should be prepared to work in a wide range of professional fields, including terrestrial surveying, hydrography, aerial mapping, remote sensing, geographic information systems (GIS), and cartography. They should be qualified to manage geospatial data acquisition and analysis, lead survey teams, develop spatial databases and GIS models, and produce high-quality geospatial visualizations for various applications.

The MPGGE aims to produce graduates who can integrate and apply advanced knowledge to solve complex geospatial problems, adapt to changing professional contexts, act ethically, and compete effectively in global industry, public service, and research environments.

According to the SAR, graduates of MPGGE should be qualified to work in various professional fields, including geodetic science, geospatial data analysis, disaster risk management, hydrography, and cadastral or land management. They should be equipped to manage and apply geospatial information across a broad range of thematic and technical areas.

The UPURP aims to equip students with the ability to apply analytical planning techniques, communicate solutions effectively, lead teams, engage proactively in professional activities, and pursue advanced academic studies.

According to the SAR, graduates of UPURP should be prepared for a variety of professional roles, including assistant positions in planning consultancies, public administration, and community development. They may also work as research assistants or developers in the planning sector. Typical responsibilities include supporting spatial planning processes, implementing public policies, conducting field surveys, engaging in community initiatives, and contributing to academic or applied research.

The MPURP aims to prepare graduates to develop forward-looking planning processes, lead professional teams, contribute to policy reform, conduct and disseminate research, and community engagement, and pursue doctoral studies both nationally and internationally.

According to the SAR, graduates of MPURP should be qualified for professional roles such as spatial or development planners, project managers, policy analysts, researchers, and community advocates. They should be equipped to lead multidisciplinary planning projects, formulate development policies, conduct applied research, and engage in community-based initiatives, all within the framework of sustainable urban and regional development.

In conclusion, the expert panel finds that the intended learning outcomes are clearly defined and appropriately aligned with the Indonesian National Qualifications Framework (KKNI) as well as the European Qualifications Framework (EQF). They are systematically derived from the institutional vision and mission, the Subject-Specific Criteria of the ASIIN Technical Committees, and the needs of the labor market and society. The experts noted positively that in the ASIIN survey conducted during the discussion round, 100 % of the students stated that they feel like the content of their study program prepares them for their future career. The industry representatives participating in the discussion round also expressed great satisfaction with the graduates of ITB. The learning outcomes are regularly reviewed in a structured process involving relevant stakeholders. The experts confirm that the objectives and outcomes are transparently published and accessible to students, faculty, and external stakeholders. Furthermore, the expert panel confirms that the learning outcomes are realistic and achievable within the standard period of study.

Criterion 1.2 Name of the Degree Program

Evidence:

- Websites of the degree programs
- Self-Assessment Report
- Regulation of the Minister of Education, Culture, Research and Technology, No. 32/2021

Preliminary assessment and analysis of the experts:

The titles of all degree programs at ITB follow Regulation No. 32/2021 issued by the Indonesian Ministry of Education, Culture, Research, and Technology concerning the naming of study programs in higher education. The nomenclature is consistent with the specific objectives and intended learning outcomes of each program and aligns with the recognized scientific fields and classifications endorsed by relevant academic communities and professional associations.

Both the original Indonesian titles and their English translations are clearly defined in the Self-Assessment Report, the institutional websites and other related documents (e.g., module handbooks and diploma supplements). According to the SAR, all programs are primarily taught in Bahasa Indonesia, while international tracks, double degree options, and certain modules are offered in English or in bilingual formats. In the International Class, the language of instruction is fully English.

The expert panel confirms that the naming of the programs consistent across all relevant internal and public documents. The titles accurately reflect the academic level (EQF 6/7), the academic orientation, and content of the programs. The panel fully supports the current naming conventions and encourages their continued use.

Criterion 1.3 Curriculum

Evidence:

- Self-Assessment Report
- Module handbooks
- Rector Regulation No. 184/IT.1A/PER/2021
- Standard Operating Procedure No. 934/IT.1B04/KM/2021
- Academic Regulation 2024

- Discussions during the audit
- ASIIN Student Survey
- Requested subsequent submissions

Preliminary assessment and analysis of the experts:
Content and Structure

As part of its ongoing commitment to academic improvement, ITB has developed and implemented a revised curriculum starting in the 2024–2025 academic year. The revised curriculum offers students greater flexibility, allowing them to take courses across faculties and pursue a double major. These changes aim to ease previously tight schedules and encourage students to think more broadly and explore interdisciplinary perspectives.

The major changes in the new curriculum for the undergraduate programs include new admission regulations (see Criterion 1.4). Furthermore, all students now begin with a common course in the first semester and are assigned to a specific study program in the second semester. The undergraduate program curriculum includes a minimum load of 144 credit units (240 ECTS) to be completed over eight regular semesters, with a maximum course load of 20 credit units (33.3 ECTS) per semester (for the conversion of credit units, see Criterion 1.5). The curriculum framework consists of three parts:

1. ITB Compulsory Course Group (MKWI)
   Workload: 34 credit units (56.7 ECTS)
2. Study Program Compulsory Course Group (MKWP)
   Workload: 71–83 credit units (118.3–138.3 ECTS)
3. Free Elective Course Group (MKPB)
   Workload: at least 27 credit units (45 ECTS)

The ITB Compulsory Course Group includes basic knowledge in the natural sciences (mathematics, physics, and chemistry) as well as national compulsory courses such as Religion, Pancasila, Citizenship, and Indonesian Language. The experts understood the first year as a phase for aligning and strengthening students' academic foundations.

As part of the revised undergraduate program structure, students now have the option to choose a minor from another study program or pursue a double major by taking compulsory courses from other programs. Advanced undergraduate students may also take selected Master's-level courses in their final year. Furthermore, specialization elective courses have been introduced, allowing students to focus on specific thematic areas within their program.

The major changes in the new curriculum for the Master's programs are as follows: the total workload has increased from 36 to 54 credit units (90 ECTS) to reflect a new credit definition, with the program designed to be completed in four semesters. Additionally, ITB now offers four different completion schemes:

1. Master by Research (MBR): final assessment is a thesis manuscript and a scientific publication
   Workload: 16 credit units (26.7 ECTS)
2. Master by Thesis (MBT): final assessment is a thesis manuscript and a scientific publication or presentation
   Workload: 12 credit units (20 ECTS)
3. Master by Project (MBP): final assessment is a project report or project portfolio, and a scientific publication or presentation
   Workload: 12 credit units (20 ECTS)
4. Master by Courses (MBC): final assessment is a case study report
   Workload: 4–6 credit units (6.7–10 ECTS)

Each Master's program may choose to offer all four completion schemes or only a selection, depending on its academic focus and capacity.

The new Master's curriculum framework consists of four parts:

1. Institute Compulsory Course Group (MKWI)
   Workload: 7 credit units (11.7 ECTS)
2. Study Program Compulsory Course Group (MKWP)
   Workload: at least 6 credit units
3. Study Program Option Course Group (MKOP) (if available)
   Workload: at least 12 credit units (20 ECTS)
4. Free Elective Course Group (MKPB)

The ITB Compulsory Course Group (MKWI) includes general courses such as Digital Literacy and Academic Ethics (2 credit units / 3.3 ECTS), Research Methodology (3 credit units / 5 ECTS), and the Master's Thesis Defence (2 credit units / 3.3 ECTS), which are conducted by each study program. In addition, the Study Program Compulsory Course Group (MKWP) delivers content reflecting the program's specific scientific focus and core competencies, with a minimum of 6 credit units (10 ECTS), excluding the final project. Each master's program may also offer different specialization tracks, the so-called Study Program Option Courses. It is important to note that in the 2024 curriculum, ITB has introduced "specializations" for undergraduate programs, which consist of clusters of elective courses centered

around related themes. This approach differs from the “tracks” in master’s curricula which are designed to achieve specific learning outcomes.

All three undergraduate programs under review are designed to be completed in eight semesters, while the three Master’s programs under review are intended to be completed in four semesters. Each semester consists of a maximum of sixteen weeks of academic activities. All six study programs are offered as full-time degree programs. The students can extend their study time if needed; the maximum time allowed for students to finish the undergraduate programs is six years, and for the Master’s programs is three years.

The UPGE at ITB provides a strong foundation in the natural sciences and comprehensive training in geological disciplines and applied geoscience. It begins with a one-year Common Preparatory Level (36 credit units / 60 ECTS), covering mathematics, physics, chemistry, language, and introductory courses in earth sciences and engineering. This is followed by six semesters (108 credit units / 180 ECTS) of core geology courses that develop problem-solving abilities, data analysis skills, and both professional and interpersonal competencies. Students reportedly gain expertise in areas such as geophysics, geochemistry, structural geology, paleontology, and environmental geology, complemented by practical training in fieldwork and geological computation. In the final stages, they complete a capstone design project and a final project. The program offers six specialization tracks, namely Petroleum, Economic Geology, Geothermal, Geotechnics, Groundwater, and Geosciences. Alongside a broad selection of elective courses, the curriculum also integrates interdisciplinary components such as ethics and religion, Pancasila and civic education, and engineering-related subjects. The final project of UPGE has an extent of 3 credit units, which correspond to 5 ECTS points.

The MPGE at ITB is designed as research-oriented academic program totaling 54 credit units (90 ECTS). Students choose one of five specialization tracks: Geoscience, Petroleum Geology, Engineering Geology, Economic Geology, or Volcanology and Geothermal. All students complete a core set of compulsory courses, including modules such as Geoconcept, Geotectonic, and Regional Geology, and a final project. Each track builds on this foundation with dedicated courses aligned to its field, for example: Reservoir Petrography and Basin Analysis in the Petroleum Geology track; Applied Geomorphology and Engineering Geology of Rock in the Engineering Geology track; or Volcanic Geothermal Geochemistry and Geohazard and Geothermal Environment in the Volcanology and Geothermal track. In addition, a broad range of selective courses, covering topics like remote sensing, geohazard mitigation, petrology, and environmental analysis, allow students to deepen or broaden their expertise beyond their specialization.

The final thesis of MPGE is structured across two semesters, comprising 4 credit units (6.67 ECTS) in the third semester (*Thesis I*) and 4 credit units (6.67 ECTS) in the fourth semester (*Thesis II*). This is complemented by an additional 2 credit units (3.33 ECTS) for research dissemination related to the thesis or project and 3 credit units (5 ECTS) for the final defense. Altogether, the final thesis, research dissemination, and defense components amount to a total of 13 credit units (21.67 ECTS).

The final thesis of the MPGE program comprises 4 credit units (6.67 ECTS), complemented by 2 credit units (3.33 ECTS) for research dissemination related to the thesis or project, and 3 credit units (5 ECTS) for the final defense. It is possible to finish the MPGE with a Master by Research, Master by Thesis, or Master by Project.

The UPGGE at ITB provides a strong foundation in the natural sciences and core engineering disciplines, combined with comprehensive training in geospatial technologies and geodesy. After completing the one-year Common Preparatory Level, students progress through six semesters of core courses (81 credit units / 135 ECTS) in areas such as positioning, Geographic Information Systems, digital image processing, land development, and law. The curriculum also integrates supporting fields like mathematics, statistics, engineering, communication, business, and computer science to build both technical and interpersonal competencies. Students choose from four specialization areas: Geodesy, Hydrography, Spatial and Cadastre Systems, and Geographic Information Science and Technology. Furthermore, there is a wide range of elective courses. The curriculum structure of UPGGE emphasizes flexibility and interdisciplinary learning to prepare students for rapidly evolving professional demands. Practical training is included through an internship at private companies or government offices and a mandatory capstone design project as their final project, in which students apply geodesy and geomatics principles to solve a problem. The capstone design project has a total workload of 4 credit units (6.33 ECTS) and is divided into two components: a proposal phase (1 credit unit / 1.33 ECTS) and a main project phase (3 credit units / 5 ECTS). As part of the process, students present their project proposals in a seminar and expo at the end of the seventh semester and complete the program with a comprehensive exam, a final seminar, and a project defense in the eighth semester.

The MPGGE at ITB offers research-based academic training with a focus on solving complex problems in the field of geospatial engineering, while also providing students with a high degree of flexibility. The program builds on the undergraduate curriculum and prepares students for doctoral studies or leadership roles in academia, industry, and public institutions. Under the 2024 curriculum, students choose one of four majors, conceptually grouped into two academic science tracks and two corporate science tracks. The academic science tracks include the Geodesy and Geomatics Engineering Major and the Hydrography Major, both preparing students for research and further academic study. The corporate

science tracks consist of the Land Administration Major and the Geospatial-based Disaster Risk Management Major, focusing on practical, policy-oriented applications relevant to industry and public administration. This structure enables the students to align their studies with their individual academic or professional goals. A wide range of elective courses complements the core curriculum and allows for further specialization. The curriculum consists of three main components: compulsory courses for all students, compulsory courses within each specialization, and electives. The program's structure ensures a strong conceptual foundation in geospatial science, alongside applied expertise relevant to current challenges in national and regional development. While internships are not a formal part of the curriculum, students may undertake one on their own initiative, provided it does not interfere with their academic progress. As these internships are voluntary, they are not credited within the program. Overall, the MPGGE is designed to equip graduates with the scientific, technical, and analytical skills needed to advance the field of geodesy and geomatics engineering. The final thesis in MPGGE is structured into four components: a Thesis Proposal (4 credit units / 6.67 ECTS), Thesis I (4 credit units / 6.67 ECTS), Thesis II (4 credit units / 6.67 ECTS), and a Thesis Exam (3 credit units / 5 ECTS), resulting in a total workload of 15 credit units (25 ECTS).

The UPURP at ITB follows a four-stage structure designed to build planning competencies step by step. After a common first year focused on natural sciences and scientific thinking, students progress to core modules in planning theory and practice, covering social, economic, physical, environmental, and legal aspects. In later stages, they engage with key topics such as urban and regional planning, infrastructure, and policy, before selecting a specialization and completing a final project. Five specialization areas are available: Disaster in Urban and Regional Planning, Innovation and Modeling in Urban and Regional Planning, New Town Development/Large Scale Housing, Special Area Development, and Urban and Regional Economic Development. A mandatory internship (2 credit units / 3 ECTS), typically conducted after the third year, complements academic training and is jointly supervised by the university and the host institution. The Final Project in the UPURP carries a workload of 6 credit units, equivalent to 10 ECTS.

The MPURP at ITB is designed to provide advanced academic training in line with national standards and follows Bloom's taxonomy to clearly distinguish learning outcomes across degree levels. While undergraduate students are expected to reach the level of understanding, master's students operate at the levels of application, analysis, and evaluation, and doctoral students at the level of creation. The program focuses on equipping students with the capacity to formulate integrated and future-oriented planning strategies in the public domain, taking into account societal needs and resource availability. The curriculum consists of three main components: contemporary theories, concepts, and principles in

planning; specialized knowledge in one of six tracks, namely Urban Planning, Regional Development, Infrastructure and Transportation System, Urban Governance, Disaster Mitigation Planning, or Innovation and Smart City System; and a research component, including methodology and the master's thesis. The final thesis has an extent of 7 credit units, which corresponds to 11.67 ECTS points. In addition, there is also the defence of the thesis with 2 credit units (3.33 ECTS). Although an internship is not formally required in MPURP, students may participate in external internships upon approval by the head of the study program. Several curriculum structures are available for this program, namely regular coursework, Master by Research (MBR), and a Double Degree.

The expert panel is overall very satisfied with the curricular structure and content of all reviewed programs. They acknowledge that the modules are logically structured and build on each other in a coherent manner, thereby enabling students to achieve the intended learning outcomes as defined for each degree. The programs are generally well-balanced in terms of theoretical and applied content, and the structure reflects a clear progression from foundational knowledge to advanced, program-specific competencies.

While not the entire curriculum is offered in English, certain components are taught in English, particularly within the International Track, which has been available for undergraduate students in UPGE, UPGGE, and UPURP since 2022 (see also Criterion 1.3 on Student Mobility). In addition, the Human Resource Development Unit provides a range of English language courses and training opportunities for students, including IELTS and TOEFL preparation as well as general English courses. Key academic documents such as module handbooks and diploma supplements are available in both Bahasa Indonesia and English, ensuring accessibility for international stakeholders. The extent of practical components varies between programs, but the expert panel found them generally appropriate and well-balanced in relation to the academic objectives.

Nevertheless, the experts identify a number of areas for improvement. For all programs, they recommend increasing the number of courses offered in English to further support internationalization. This wish was also clearly expressed by many students in the ASIIN Student Survey. They also advise ensuring that students have ample opportunities to gain hands-on experience in laboratory settings and to engage in other practical components of the program, which are vital for developing applied skills and reinforcing theoretical knowledge.

Building on this, the experts recommend for the UPGE to expand the amount of fieldwork and geological mapping, which are essential components of geoscientific training. Hands-on experience in the field is crucial for developing practical skills and would not only enhance students' understanding of theoretical concepts but also better prepare them for

professional practice or research in diverse geological contexts. This recommendation is supported by the students, who expressed a strong interest in more extensive and varied field-based learning opportunities during the discussions.

In the UPGGE, the experts noted that the internship component is relatively short, comprising only 10 days in an office setting or 5 days in the field. However, they acknowledge the university's explanation that the internship is primarily intended to offer students a first insight into professional practice, and they consider this approach acceptable within the overall structure of the program.

Periodic Review of the Curriculum

The curriculum development at ITB is guided by five educational paradigms defined by the Academic Senate: quality-oriented education, outcomes-based education (OBE), learner-centered education (LCE), continuous improvement, and international accreditation and benchmarking. In line with the principle of continuous improvement, curricula are reviewed every five years and revised based on feedback from academic staff, alumni, professional associations, industry partners, and accreditation bodies.

The most recent revision took place from December 2023 to June 2024 in response to Ministerial Regulation No. 53/2023. The updated Curriculum 2024 has been approved by the Academic Senate and implemented across all study programs starting in the academic year 2024–2025. The reforms include revised program educational objectives (PEO), program learning outcomes (PLO), and teaching methods to ensure greater relevance, adaptability, and innovation. Student feedback plays a key role in the quality assurance process and is collected through mid-semester and end-of-semester evaluations, which are mandatory and directly influence course improvement. Further information on the internal quality assurance system is provided under Criterion 5.

The expert panel welcomed ITB's clear commitment to continuous improvement and noted positively that the new curriculum appears to be well received by both students and teaching staff. In the on-site discussions, the experts observed that both groups expressed a high level of engagement with the ongoing curricular reforms.

Student Mobility

One of the goals of the new 2024 curriculum is to allow students better mobility and foster internationalization. Since 2021, the Ministry of Education and Culture has introduced the national "Independent Study, Independent Campus" program (*Merdeka Belajar Kampus*

Merdeka, MBKM), which allows students to spend up to three semesters outside their home university. These activities include student exchange (domestic and international), internships, research projects, humanitarian and community services, independent projects, and entrepreneurial initiatives, all of which can be credited within the academic program. At ITB, the implementation of MBKM is governed by Rector Regulation No. 184/IT.1A/PER/2021 and further detailed in Standard Operating Procedure No. 934/IT.1B04/KM/2021.

In the Self-Assessment Report, the implementation of the MBKM program is addressed self-critically. Several challenges have been identified, including overlapping schedules with on-campus courses and administrative issues such as the grade entry process. However, it is noted that these difficulties have not had any negative impact on students' graduation timelines in recent years.

Since 2022, undergraduate students in UPGE, UPGGE, and UPURP can enroll via an "International Track", which includes a mandatory study period of one to two semesters abroad during their final year. As the program has only recently started and the first cohort is still in its second year, its implementation cannot yet be fully assessed.

For further information on student support for mobility, see Criterion 3.2.

As for the Master's programs, ITB offers an international inbound semester exchange program that allows foreign students to take up to 22 credit units (undergraduate level) or 12 credit units (master's level) per semester across two faculties. Students can participate in short-term (1–3 months) or full-semester (6 months) exchanges.

Student mobility is actively promoted in the MPURP through established Double Degree agreements with several international partner universities. Students who choose the Double Degree option spend their first year at ITB and their second year at one of the partner institutions in the Netherlands or Japan, including the University of Groningen, Ritsumeikan University, Keio University, Yamaguchi University, and Hiroshima University. Through these partnerships, students can choose the following specializations: Development Planning and Infrastructure Management (University of Groningen) or Regional Development and Policy Analysis (Japanese universities). Double Degree students are exempt from completing a standard MPURP track, as their specialization is developed through their studies abroad, providing them with valuable international exposure and complementary expertise in urban and regional planning. During the Double Degree program, students benefit from joint thesis supervision, and the grades obtained at the partner university are fully recognized and transferred to their academic record at ITB.

According to the university's subsequent submissions, the Double Degree program has so far heavily relied on government-funded scholarships. In the 2023/2024 academic year, eight students participated in the program and are currently completing their second year in Japan. However, due to budget cuts, there will be no Double Degree students in the 2024/2025 academic year.

In addition, MPURP and SAPPD actively promote international collaboration through initiatives such as the annual SAPPD Global Studio and joint teaching formats with partner institutions in Australia, Malaysia, Brazil, India, and Egypt.

The expert panel observes that student mobility is still a relatively new development at ITB, particularly within the reviewed programs. Nonetheless, they positively acknowledge that this aspect is currently being actively promoted and strategically expanded. The panel especially welcomes the increased curricular flexibility introduced through the 2024 reforms, as it facilitates student mobility. This approach is also well received by the students during the on-site discussions.

In this context, the experts are pleased to see the established Double Degree agreements and the participation of several students in the 2023/2024 academic year. It is unfortunate, however, that no new Double Degree students are enrolled in 2024/2025 due to budget cuts. The panel considers it highly desirable that this valuable opportunity for international exposure and academic exchange continues to be supported and further developed.

Nonetheless, based on the discussions with students, the expert panel recommends providing clearer and more transparent information on the structure, requirements, and intended learning outcomes of the international tracks. This would help students better understand the available academic pathways and make well-informed choices during their studies.

Criterion 1.4 Admission Requirements

Evidence:

- Self-Assessment Report
- Study Protocols UPURP and MPURP
- Admission website
- Academic Regulation 2024

Preliminary assessment and analysis of the experts:
As outlined in the Self-Assessment Report, undergraduate students at ITB may be admitted through national or international admission pathways. Regular national admission is managed centrally by the Executive Directorate of Management Admissions and Education Cooperation and comprises three routes: (1) the SNBT (*Seleksi Nasional Berdasarkan Tes*), a nationwide entrance examination; (2) the SNBP (*Seleksi Nasional Berdasarkan Prestasi*), which is based on academic performance in high school; and (3) the university's own independent pathway (*Seleksi Mandiri*/SM-ITB), which is tuition-based and not subsidised by the government. Applicants from disadvantaged backgrounds (e.g. KIP-K scholarship holders or students from remote regions) may be exempted from tuition fees under defined conditions.

International students may apply according to national regulations and ITB's internal requirements for international admission. They may enter from the first year or transfer from another institution, provided they submit a complete application including educational records, a valid passport, proof of English language proficiency, and other administrative documents. The admission process may involve written examinations or a special selection procedure. Upon acceptance, applicants receive an official letter from the Rector of ITB and must obtain a study permit issued by the Ministry of Higher Education prior to enrolment.

In addition to these routes, ITB offers the International Undergraduate Track, which is primarily aimed at Indonesian students from non-national curriculum schools. The program includes a mandatory study-abroad component to enhance students' international experience and competitiveness.

According to ITB's Academic Regulations from 2024, students may be admitted as transfer students if they have previously studied at another university. The number of credits that can be recognized toward the ITB curriculum, as well as the remaining study duration, is determined based on the university's internal credit transfer and recognition policies. Transfer students may take up to 18 credits during their first regular semester at ITB. Students enrolled at ITB also have the option to change degree programs internally, pending approval by the Vice Rector for Academic Affairs. In such cases, students are required to fulfill the full curriculum of the new program. Furthermore, students may engage in off-campus academic or non-academic activities for one semester, subject to faculty approval and proper documentation. These regulations demonstrate that ITB has institutional mechanisms in place to facilitate the transfer of academic achievements between higher education institutions and to support mobility within and beyond the university.

As is common practice in Indonesia, undergraduate students are initially admitted into a faculty or school rather than a specific degree program. During the Common Preparatory Level (TPB), they complete foundational courses and later indicate their preferred study programs. Final placement is based on their academic performance during the first year.

Admission to ITB's master's programs requires a Bachelor's degree from an accredited institution in a relevant or related field. Applicants to MPURP may be admitted from other disciplines if they have completed at least 6 credit units in planning-related fields or can demonstrate relevant professional experience. Similarly, applicants to the Master's programs MPGE and MPGGE with unrelated backgrounds may be accepted conditionally, provided they complete a preparatory program (e.g., a matriculation course or additional coursework).

The multi-stage admission process for all Master's programs includes administrative screening, aptitude and English language proficiency tests, and a subject-specific academic evaluation in the form of interviews or written examinations. In addition to the regular program, ITB offers Research-Based Master's tracks, Fast-Track schemes for outstanding undergraduates, and scholarship programs such as PMDSU and Ganesha Talent Assistance.

For UPGE, annual student intake between 2014 and 2019 remained relatively stable, ranging from 80 to 87 students. The program exhibited very low dropout or resignation rates, between 0 and 3 students per cohort. However, the number of graduates per year has decreased notably, from 87 graduates from the 2014 cohort to 43 in 2019. The average GPA across these cohorts ranged from 3.38 to 3.60 (for the grading system, see Criterion 2 Exams), indicating consistently solid academic performance. The average time to degree was approximately 9 semesters, though only a minority of students graduated within the regular 8-semester timeframe. The number of students graduating within the regular study period increased noticeably over time, reaching 49% in 2019.

For MPGE, student intake between 2016 and 2021 varies between 26 and 58 students per cohort. The number of graduates ranges from 12 to 55, with very low dropout or resignation rates, peaking at five students in 2016. The average GPA remains consistently across cohorts, ranging from 3.72 to 3.9. The average time to degree has decreased over the years, from 6.48 semesters in 2016 to 4.17 semesters in 2020, reflecting a notable improvement in study duration. The proportion of students graduating on time increased from 11.63% in 2016 to 44.44% in 2020. Graduation data for the 2021 cohort is not yet complete.

For UPGGE, student intake between 2014 and 2019 remains consistently high, ranging from 100 to 103 students per cohort. The number of graduates is similarly stable, between 94

and 101, with very low dropout rates of up to six students per year. The average GPA across cohorts ranges from 3.24 to 3.46, indicating solid academic performance. The average time to degree has gradually decreased over the years, from 8.51 semesters in 2014 to exactly 8 semesters in 2019.

For MPGGE, student intake between 2016 and 2021 ranges from 13 students in 2018 to 40 students in 2020. Remarkably, the program reports a dropout rate of zero across all cohorts. The average GPA remains consistent, ranging from 3.44 to 3.60. In terms of study duration, the average time to degree has stabilized at exactly 4 semesters in the most recent cohorts, reflecting a well-structured and efficient program progression.

For UPURP, student intake between 2014 and 2019 shows a clear upward trend, increasing from 107 students in 2014 to 143 in 2019. The number of graduates per cohort ranges from 89 to 128, with dropout figures remaining moderate at 6 to 12 students annually. The average GPA ranging from 3.11 to 3.43. The average time to degree has decreased significantly, from 9.41 semesters in 2014 to 8.12 semesters in 2019. In recent years, more than half of the students complete their studies within the regular study period, indicating a positive development in program efficiency.

For MPURP, student intake between 2016 and 2021 ranges from 60 to 98 students per year. Dropout numbers are consistently low, with no more than four students leaving the program in any given cohort. The average GPA remains stable across the years, between 3.67 and 3.74. Between half and three-quarters of each cohort complete the program within the intended duration of four semesters. In 2021, the average time to degree even fell for the first time slightly below the regular study period, reaching 3.92 semesters.

The results of the newly implemented curriculum are not yet visible in these statistics, and its impact on study duration and academic performance remains to be seen in the coming years.

The expert panel reviews the overall admission requirements for the Master's programs and questions whether they sufficiently ensure that all students possess the necessary academic foundation to succeed. Using MPURP as an example, the experts express concern that the requirement of 6 credit units in planning-related subjects or relevant work experience may be insufficient to compensate for the lack of a full undergraduate background in the field. In response, the university explains that each applicant undergoes a comprehensive selection process, including individual interviews to assess motivation, relevant knowledge, and experience, as well as academic potential through aptitude and language

tests. The expert panel acknowledges this as a plausible and well-structured approach to ensuring appropriate entry-level qualifications.

The auditors confirm that the admission requirements and procedures are transparent and consistently applied. In particular, the skills-based entrance examinations and the common first-year program are positively noted as effective mechanisms to ensure that all students meet the necessary academic standards before entering their chosen degree program.

The expert panel welcomes that ITB has established formal procedures for the recognition of prior academic achievements, including those earned at other higher education institutions. The existing academic regulations allow for credit transfer, internal program changes, and off-campus activities, thereby facilitating mobility both within and beyond the institution.

While the admission process is generally well-structured and transparent, there is one aspect that should be addressed: The academic protocols currently state under the admission requirements that students must not be color blind in order to be admitted. The panel emphasizes that such a physical condition must not be used as a criterion to exclude or disadvantage prospective students. While it is acknowledged that color vision can pose a challenge for certain tasks (such as distinguishing map features based on color), this should not result in the general exclusion of applicants. Instead, the panel suggests that the university provide early academic counselling and appropriate support measures to assist students with color vision deficiency, particularly for tasks involving color-based interpretation. However, it must be ensured that color blindness is not considered a disqualifying condition for admission to or participation in the degree program.

Furthermore, the experts note that, while ITB conducts regular curriculum reviews and stakeholder consultations, it remains unclear whether the admission requirements themselves are subject to a formal and systematic evaluation. The panel encourages the university to establish a structured mechanism to regularly assess whether the defined entry criteria adequately ensure that students possess the necessary subject-related knowledge upon admission.

Criterion 1.5 Workload and Credits

Evidence:

- Self-Assessment Report
- Academic Regulation 2024

- Module handbooks
- ITB Student Surveys
- ASIIN Student Survey
- Study protocols UPURP and MPURP

Preliminary assessment and analysis of the experts:

The credit system applied in the degree programs under review is based on student workload and is aligned with the ECTS framework. In the new curriculum, one credit unit (CU) at ITB equals 45 hours of total learning time, which includes contact hours, structured activities, and independent learning. This corresponds to 1 CU = 1.67 ECTS and applies to undergraduate, master's, and doctoral programs.

For Undergraduate programs, the minimum workload is 144 CU (6480 hours), which equals 240 ECTS and is generally distributed over eight regular semesters. A regular semester carries a workload of 18–20 CU (30–33.33 ECTS), equivalent to approximately 864–960 hours. The short (summer) semester is limited to 10 CU (16.67 ECTS), with a total workload of up to 480 hours. The average weekly workload for students is around 45 hours, which is in line with international expectations for full-time study.

For Master's programs, the minimum student workload is 54 CU (2430 hours), which corresponds to 90 ECTS. The credit allocation is based on the expected learning outcomes and the required study effort. Courses that include practical components or integrate multiple learning goals are assigned a higher number of credit units. Taken together, the undergraduate and master's programs amount to a total workload of approximately 330 ECTS.

To ensure that the assigned credits match the actual student workload, ITB conducts regular evaluations through student feedback surveys (*EDOM*), which are carried out twice each semester. In the most recent evaluation cycle, the average student rating for credit-workload conformity across all programs was above 3.5 on a 4-point scale, indicating a high level of satisfaction. These results confirm that the credit allocation per course is appropriate and reflects the actual workload.

In summary, the experts found that, in comparison to the objectives and content of the modules, the assigned workload appears realistic and well-balanced. Structure-related workload peaks have been avoided, which was also confirmed by the students; notably, 77% of students in the ASIIN Student Survey indicated that their studies leave them with enough free time for hobbies, friends, and family. Overall, the credit system is transparently defined, workload estimates are well-founded and regularly monitored, and adjustments,

where necessary, are data-based and well documented. Students are actively involved in the evaluation process.

While the overall workload distribution is appropriate, the experts identified one aspect that requires adjustment: In UPURP, students are required to complete a mandatory internship lasting at least two months or 40 working days. However, the corresponding course (PL4190 – Internship/Practical Work) is awarded only 2 CU (3 ECTS). Given the substantial time and effort involved, it must be ensured that the number of credit units awarded adequately reflects the actual student workload in accordance with the principles of the ECTS.

In MPURP, the final thesis is awarded 7 CU (11.67 ECTS), with an additional 2 CU (3.33 ECTS) for the thesis defense. The experts noted that this allocation appears relatively low for a Master's thesis, particularly in light of the quality of the theses reviewed, which may indicate a higher actual workload. However, as there were no further indications (e.g., student complaints or completion delays), the panel does not assume a systematic underestimation of workload. Nevertheless, the university is encouraged to evaluate the actual workload associated with the Master's thesis more closely in order to ensure that the credit allocation remains appropriate and aligned with ECTS standards.

Criterion 1.6 Didactic and Teaching Methodology

Evidence:

- Self-Assessment Report
- Module handbooks
- ASIIN Student Survey

Preliminary assessment and analysis of the experts:

The teaching and learning activities at ITB are continuously developed to support the achievement of the intended learning outcomes and promote student-centered learning. A wide range of teaching formats is employed to foster analytical thinking and methodological competence, including lectures, studio work, workshops, surveys, field practices, and both independent and group-based scientific writing.

To ensure a high quality of instruction, ITB places strong emphasis on the pedagogical qualification of its teaching staff. All lecturers are required to obtain national certification, which is preceded by the completion of the PEKERTI (Basic Technical Instructional Skills

Training) and Applied Approach (AA) programs. These certifications are designed to assess lecturer professionalism, support the academic profession, improve educational processes and outcomes, and promote academic integrity and ethics. According to student feedback, the teaching skills of the lecturers are rated very positively. Students also emphasize that the lecturers are approachable and provide guidance outside of formal teaching hours.

ITB supports the ongoing pedagogical development of its teaching staff through institutional structures such as the Directorate of Education Development (*Ditbangdik*), which responds flexibly to new educational demands. In response to the COVID-19 pandemic, ITB introduced *Edunex*, a dedicated learning management system (LMS), to facilitate online and hybrid learning. This platform remains in use and is complemented by *Microsoft Teams* and *SIX* (*Sistem Informasi Akademik*) to support academic activities. Although regular teaching has reverted to face-to-face formats, hybrid teaching is still permitted, especially when students are located on different campuses (e.g., Ganesha and Cirebon). In this context, the teaching staff appreciate the continued availability of online teaching formats as a useful "safety net."

The teaching staff's competence is particularly highlighted by student feedback: in the ASIIN survey, 100 % of respondents awarded their lecturers the top two grades for teaching skills (5: 55%, 4: 45%). Furthermore, both students and teachers show a high level of commitment to the institution and express a strong sense of identification with ITB. During the audit, the expert panel also gained a consistently positive impression of the lecturers' engagement and their pedagogical dedication. The teaching staff were described as approachable, supportive, and available beyond the classroom setting.

Overall, the expert panel confirms that ITB provides a well-balanced mix of contact hours and self-study time, integrates digital tools in a purposeful and sustainable manner, and regularly reviews and updates its teaching formats in light of institutional experience, student feedback, and national developments.

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

In its statement, the university explains that the information regarding the exclusion of color-blind students in the accreditation documents is outdated. It refers to the current admission regulations published on the university's website, which no longer include such a restriction for the degree programs under review. The experts consider the matter resolved and suggest issuing a recommendation to ensure that, across all programs,

appropriate individual accommodations are made available to support color-blind students when needed.

Regarding the allocation of credit units for the course Practical Work (PL4190), the university clarified that students are required to complete a minimum of 90 working hours over a period of up to two months, and that the Standard Operating Procedure (SOP) will be updated accordingly to avoid misunderstandings. The experts therefore do not consider a requirement necessary and instead propose issuing a recommendation.

2. Exams: System, Concept, and Organization

Criterion 2 Exams: System, Concept, and Organization

Evidence:

- Self-Assessment Report
- Examination Regulations for each program
- Module handbooks
- Academic Regulation 2024
- Code of Ethics Students
- Academic Protocols
- Code of Ethics Student (010/P/11-MWA/2014)
- Statistical data on the students' progress
- ASIIN Student Survey
- Discussions during the audit

Preliminary assessment and analysis of the experts:

At ITB, examinations serve to determine whether the intended learning outcomes (LOs) and course learning outcomes (CLOs) have been achieved. For all programs under review, student performance is assessed using a relative grading system, meaning that individual grades reflect performance in relation to the overall class. The final course grade typically consists of multiple components, such as assignments, quizzes, midterm exams, and final exams. Each course defines its own grading scheme and weighting system, which is

communicated to students via the course syllabus and the lecturer at the beginning of the semester and published through the *Edunex* lecture information system.

In the study programs under review, three main types of exam elements are used: (1) written midterm and final exams, typically scheduled in weeks 8 and 16 of the semester and lasting around 120 minutes, usually in the form of written questions or short essays; (2) 1–3 individual or group assignments per course, often involving reports, presentations, or creative formats, which may in some cases replace a written (midterm) exam; and (3) 2–4 short quizzes held after completing specific subtopics, designed to support ongoing learning and preparation for the final exam.

Students are informed about planned assessments at the beginning of the semester and have the right to receive feedback on their assessments, access their graded work, and consult with lecturers. The final grades are published via the university's student information system (*SIX*). The grading is as follows:

	Level				
	Exceptional	Excellent	Good	Satisfactory	Sufficient
Score	>3.76	3.26 – 3.75	2.76- 3.25	2.26 – 2.75	2.00 – 2.25
	90 – 100%	80 – 89%	70 – 79%	60 – 69%	50 – 59%
Index	A	AB	B	BC	<C

The grading system allows a "D" to be considered a passing grade during the Common Preparatory Level if the GPA is at least 2.00. From the second year onward, at least a "C" is required to pass.

The purpose of an examination is to assess an individual student's achievement in reaching the intended learning outcomes. The structure of an exam is generally designed to cover all three aspects of learning outcomes: knowledge, cognitive skills, and competence. In practice, however, most examinations focus primarily on assessing knowledge, while skills and competence are evaluated mainly in specific settings such as studios and internships.

Final theses or projects are a compulsory component of all degree programs and are conducted under the supervision of university staff. While collaboration with external partners is possible, ITB retains full academic responsibility. The thesis consists of a written research report related to the student's field of study and may include literature review, empirical research, or simulation. The topic is determined jointly by the student and the supervisor(s). The thesis is presented in an oral examination before a panel of at least three assessors: the supervisor(s), one examiner from the student's research area, and one from a different field.

Make-up exams and retake procedures are defined in the academic regulations and program-specific protocols, such as the Academic Protocol or the Examination Regulations, although practices vary among programs and lecturers. Students are eligible to apply for a make-up exam in justified cases, including illness (with medical certificate), death of close family members, official academic duties, religious obligations, mental health conditions (with psychiatric documentation), or exam schedule conflicts. Applications must be submitted with supporting documentation, and in the case of overlapping exams, students are required to coordinate directly with the lecturer. These measures aim to ensure fairness, transparency, and equal opportunities for all students.

The university upholds strict standards on academic integrity. Students are expected to complete their academic work honestly and independently, without engaging in any form of fraud, including plagiarism, cheating, or misuse of information. During exams, students must follow all rules and instructions and are explicitly prohibited from collaborating, copying, or using unauthorized materials. Violations of these provisions may lead to sanctions in accordance with university regulations.

The experts conclude that the examination system is well developed and contributes effectively to measuring the achievement of the defined learning outcomes. The variety of assessment formats, ranging from traditional written exams to practical reports and project work, reflects the diversity of the programs and their respective didactic approaches. The transparency of assessment criteria, the consistent publication of grading schemes, and the students' right to feedback all contribute to a fair and accountable evaluation process.

However, the experts identified some areas for improvement:

First, the experts note that the organization of retake examinations is currently inconsistent across programs. According to student feedback, some courses allow students to retake individual exams, while in others students must repeat the entire course in the following semester. Although the majority of students expressed general satisfaction with the examination process and the feedback they receive – with 50% stating they have never failed an exam and thus could not judge, and 27% indicating that resits are easy to manage – 18% reported that retake procedures could be improved. The panel notes that offering resits within the same semester could help avoid the need to repeat entire courses in a subsequent term, which may otherwise place an unnecessary burden on students‘ overall workload. A more standardized approach to resit policies across all programs could provide better support for students in completing their studies within the regular timeframe.

Furthermore, the experts recommend that in the case of jointly authored final theses or projects, the individual contribution of each student be clearly identified, particularly when the written report serves as the basis for the final oral examination. This is essential to

ensure that each student's achievement can be evaluated independently and in line with the qualification level. The university explained that this is addressed through a comprehensive examination, which includes individual interviews as part of the assessment process, ensuring individual grading. In addition, a group examination session (approximately three hours) is conducted, during which each student is explicitly asked to explain their individual role and contribution to the project. The experts appreciate this approach but suggest that the individual contributions of each student also be clearly documented in the written report itself in order to enhance transparency and ensure that individual achievements can be verified independently of the final oral examination.

For the GGE program, the experts point out a minor detail regarding the GIS course (PL2108). They suggest that all maps produced by students include not only the author's name but also the date of creation, and that this standard is clearly stated in the course guidelines and reflected in the assessment criteria.

As part of the on-site visit, the experts reviewed a representative sample of student work. With regard to the URP programs, the experts note in isolated cases (e.g. PL6233 *Transportation and Infrastructure Analytical Methods*) that the distinction between undergraduate and graduate-level assessments in written exams was not always sufficiently clear. However, based on the high quality of the reviewed Master's theses and the overall structure of the program, the panel is confident that the Master's program as a whole meets the expectations of EQF level 7. To ensure consistency across all forms of assessment, the experts recommend reviewing and, where necessary, refining the complexity and expectations of written exams to clearly reflect the intended qualification level.

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

[…]

3. Resources

Criterion 3.1 Staff and Development

Evidence:

- Self-Assessment Report
- Staff handbook

- Regulation of Ministry of Administrative and Bureaucratic Reform Regulation Nr. 17/2013
- Discussions during the audit

Preliminary assessment and analysis of the experts:
The teaching staff of the study programs under review is appropriately qualified and professionally oriented to ensure the successful implementation and further development of the degree programs. In line with Governmental Rule Nr. 37/2009, all academic staff members have a clearly regulated workload between 12 and 16 credit units per semester, which includes teaching, supervision, examination, research, community service, and administrative tasks. The academic positions are structured into five levels, from Instructor to Professor, each with defined rights and responsibilities as stated in the Regulation of the Ministry of Administrative and Bureaucratic Reform Nr. 17/2013.

Lecturers are assigned to research groups corresponding to their expertise—such as Urban Planning and Design, Remote Sensing and GIS, or Applied Geology—ensuring a high degree of thematic alignment between teaching, research, and program content. The programs are embedded in well-structured academic units, such as the Faculty of Earth Science and Technology (FEST) and the School of Architecture, Planning, and Policy Development (SAPPD). According to the information provided, the vast majority of academic staff members hold doctoral degrees. Additional details on staff qualifications and areas of expertise are provided in the following Tables:

Table 3.2 Statistics of Academic Staff in the Geological Engineering Study Program based on Academic Qualification and Gender

Category	Male	Female	Total	Number of PhD
Professor	8	0	8	8
Associate Professor	4	0	4	4
Assistant Professor	15	4	19	17
Total	27	4	31	29

Table 3.3. Statistics of Academic Staff in the Geodesy and Geomatics Engineering Study Program based on Academic Qualification and Gender

Category	Male	Female	Total	Number of PhD
Professor	6	0	6	6
Associate Professor	7	2	9	9
Assistant Professor	11	2	13	13
Lecturer	6	5	11	7
Total	**30**	**9**	**39**	**35**

Table 3.4 Statistics of Academic Staff in the URP Program based on Academic Qualification and Gender

Category	Male	Female	Total	Number of PhD
Professor	8	1	9	9
Associate Professor	10	3	13	13
Assistant Professor	14	4	13	13
Lecturer	7	15	22	6
Total	39	23	62	41

The recruitment of academic staff at ITB follows national regulations for public universities, ensuring transparency and equal opportunity. New lecturers are selected through a multi-stage process, including public announcements, formal examinations, and faculty-level interviews. Appointed candidates undergo a one- to two-year probationary period during which they are expected to contribute to education, research, and community service in line with the Indonesian Higher Education Tri Dharma. Staff performance is monitored through a digital system requiring the submission of semesterly work plans and self-evaluation reports. These tools support continuous quality management and allow faculty and university leadership to assess academic contributions.

The experts conclude that the composition, academic orientation, and qualifications of the teaching staff are appropriate to ensure the successful implementation and development of the degree programs. Moreover, the number of academic staff is sufficient to guarantee

an adequate student-to-staff ratio, allowing for effective supervision and support throughout the studies and during the preparation of final theses.

Professional development for academic and administrative staff at ITB is guided by national regulations and embedded in the university's internal quality assurance system. The promotion of academic staff follows the Regulation of the Ministry of Administrative and Bureaucratic Reform Nr. 17/2013, which stipulates a credit-based system where staff members accumulate points in areas such as teaching, research, community service, and academic administration. For instance, a lecturer aiming to advance from Assistant to Associate Professor must document 400 points, earned through activities including lectures, thesis supervision, publications, and committee work.

Faculty development is supported by research groups, whose heads are responsible for encouraging and monitoring staff progress. In addition, the Human Resources Development Unit (UPT PSDM) regularly offers training on pedagogical, administrative, and soft skills, such as leadership, project management, emotional intelligence, and research supervision. Academic staff are further supported in attending conferences, engaging in visiting researcher programs abroad, and participating in teaching methodology workshops focusing on student-centered learning and multimedia-based instruction.

Performance is continuously monitored using the national Lecturer Workload System (BKD), which is integrated into an online platform maintained by the Ministry of Education. Staff are also expected to submit a five-year development plan outlining planned training and academic activities. New lecturers receive structured onboarding, including training on curriculum design, syllabus development, and teaching techniques. Those without a doctoral degree are encouraged and supported in pursuing further studies domestically or abroad.

ITB has also defined clear criteria for the selection and evaluation of visiting lecturers, focusing on academic qualification, teaching experience, alignment with learning outcomes, and communication skills. In line with its five-year development plan, the university continues to invest in long-term staff planning. For instance, the GGE program anticipates hiring four new lecturers by 2030 and plans to promote nine associate professors to full professor status.

Summarizing, the experts noticed that the composition, scientific orientation and qualification of the teaching staff are suitable for sustaining the degree programs and that the quantity of the staff ensured a good professor student ratio with regard to the supervision of the students during their studies and final theses. They acknowledge the considerable efforts and workload of the academic staff. The experts recommend to continue supporting the academic staff in gaining international experience, e.g. through sabbaticals, research

stays or guest lectureships abroad, as this contributes to the further development and international visibility of the degree programs.

Criterion 3.2 Student Support and Student Services

Evidence:

- Self-Assessment Report
- ASIIN Student Survey
- Discussions during the audit

Preliminary assessment and analysis of the experts:

ITB provides comprehensive support structures to assist students in both academic and non-academic matters. Academic advisors are assigned from the first year and continue their guidance throughout the study period, including at the master's level. Certified counsellors offer additional psychological and personal support. The Student Affairs Office manages a wide range of scholarships and coordinates personal development trainings, while the Career Center supports employability. Administrative and technical services, including digital infrastructure, the central library, and computer labs, are well-established. These services effectively contribute to students achieving the intended learning outcomes and completing their studies on time. Most students report that they are well informed about where to find advice, counselling, and support for their studies and personal well-being. According to student feedback, they are very satisfied with the support services offered at ITB.

Financial support is available through a variety of scholarships administered by the Student Affairs Office. These include need-based, merit-based, and excellence scholarships, as well as funding from public and private sources. At the graduate level, ITB offers further financial support schemes such as the Fast-Track program (including full-tuition scholarships), the Ganesha Talent Assistance (GTA) program (covering 50% of tuition fees), and the PMDSU scheme, an accelerated doctoral track for future academics and researchers.

For international mobility, ITB students can apply for government-funded programs such as the Indonesian International Student Mobility Award (IISMA), which supports undergraduate students studying abroad. As of 2021, several students from the GGE programs have participated. Furthermore, ITB students actively engage in the Sakura Science Program, a scholarship-funded initiative by the Japan Science and Technology Agency, with nine students from UPGGE participating since 2017.

Overall, ITB's student support structures are well developed and contribute effectively to enabling students to complete their studies on time and achieve the intended learning outcomes. The experts recommend that, in light of the increased curricular flexibility and the introduction of double degree programs aimed at supporting international mobility, ITB should ensure that sufficient financial support is made available to enable a broader group of students to participate in such opportunities.

Criterion 3.3 Funds and equipment

Evidence:

- Self-Assessment Report
- On-site visit of the laboratories, lecture rooms, and the library
- ASIIN Student Survey
- Discussions during the audit

Preliminary assessment and analysis of the experts:

ITB's main funding sources include government funding, community funding, and tuition fees, with government and tuition funds accounting for approximately two-thirds of total income. While ITB centrally manages government and tuition income, faculties independently oversee community funding.

Funding is used to support consumables, equipment, and service costs across teaching, research, and administrative functions. Maintaining and upgrading educational facilities is a key institutional commitment.

Regarding infrastructure, the study program is equipped with adequate facilities aligned with its learning objectives and teaching strategies. These facilities are jointly provided by the faculty and the university and are regularly assessed through student and staff satisfaction surveys. Results are compiled each semester.

Overall, the experts are satisfied with the financial resources and equipment available to support the degree programs. The funding structure is well-organized and ensures a stable foundation for the implementation and development of the study programs. The infrastructure, including laboratories, learning spaces, and access to relevant software, was positively evaluated by the experts. In particular, the geological laboratories were highlighted as an example of high-quality practical education, for instance through the integration of LOGS analysis in teaching.

Nevertheless, the experts recommend that the university continue its efforts to modernize and upgrade the laboratory equipment on a regular basis to meet evolving educational and technological needs. Furthermore, it is advised to periodically assess whether the number and quality of available workspaces for students' self-study are sufficient to support effective and independent learning.

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

[…]

4. Transparency and Documentation

Criterion 4.1 Module Descriptions

Evidence:

- Self-Assessment Report
- Module handbooks
- Websites of the degree programs

Preliminary assessment and analysis of the experts:

The handbooks for all generally contain the required elements stipulated by the ASIIN General Criteria. These include module title, responsible lecturer(s), teaching methods, credit points and workload, intended learning outcomes, module content, admission and examination requirements, forms of assessment with explanation of mark calculation, recommended literature, and the date of last amendment.

The panel positively notes that the module descriptions are generally comprehensive. However, it should be ensured that the module handbooks are consistently accessible. According to the self-assessment report, they are available via the internal platform *SIX* and on the websites of each program. In practice, however, the expert panel was only able to locate them publicly on the websites of UPGE and MPGE. The experts therefore advise making the module handbooks readily accessible to external stakeholders as well.

Moreover, it should be ensured that all module descriptions consistently include the *admission and examination requirements* as well as the *date of last amendment*, as these elements were occasionally missing in the provided documents. For URP programs in

particular, the addition of a table of contents would significantly enhance usability and improve navigation for both students and external readers.

The expert panel also recommends updating the reading lists included in the module handbook to reflect more recent literature. This would enhance students' exposure to current developments in the respective fields and support their academic and professional preparation.

Criterion 4.2 Diploma and Diploma Supplement

Evidence:

- Sample Diploma Certificate
- Sample Transcript of Records
- Sample Diploma Supplement

Preliminary assessment and analysis of the experts:
The panel confirms that, in accordance with ITB's academic regulations and ASIIN requirements, all graduates of undergraduate and master's programs receive a Diploma (degree certificate), a Transcript of Records (Academic Transcript), and a Diploma shortly after graduation. These documents are provided in both Bahasa Indonesia and English.

In the Diploma, the awarded degree is stated. The Transcript of Records includes personal data, course codes, credit units, grades, and the final cumulative GPA. It also provides an explanation of the grading system used. The thesis title is also included in the certificate documents.

The Diploma Supplement follows national guidelines set by the Directorate General of Higher Education and aligns with the Indonesian Qualifications Framework. It contains comprehensive information about the graduate's qualification profile, the program's learning outcomes, the national education framework, admission requirements, assessment system, and achievements during the course of study (e.g., participation in workshops, student awards). This ensures transparency and comparability for both academic and professional purposes.

The expert panel appreciates the completeness and bilingual presentation of these documents and commends ITB for aligning them with international standards. Nonetheless, the expert panel recommends ensuring a more consistent structure and content of the Diploma Supplements across all programs. For instance, while the URP program includes a

description of the rating system, it does not mention student achievements, which are documented in other programs. A uniform format would enhance transparency, comparability, and recognition.

Additionally, the expert panel notes that the documentation does not include grade distribution information for the relevant reference group, as recommended by the ECTS Users' Guide. Such information is important for assessing the student's relative performance. The panel recommends that this information be included in future documentation across all programs to ensure clarity, transparency, and comparability of the degrees.

Criterion 4.3 Relevant Rules

Evidence:

- Self-Assessment Report
- Academic Regulation 2024
- Codes of Ethics (for different stakeholder groups)
- ASIIN Student Survey

Preliminary assessment and analysis of the experts:

The experts confirm that the rights and duties of both ITB and its students are clearly defined and binding. These are set out in the Academic Regulation, which include detailed provisions on academic procedures, examination rules, graduation requirements, and student conduct. Separate documents on "Codes of Ethics" outlines behavioral expectations and corresponding sanctions for lecturers and students. The document is available in both Bahasa Indonesia and English and is published on the academic website of ITB. However, as the experts were informed, access to some parts of the system, such as the academic platform *SIX*, is restricted to users within the university's intranet. The student code of conduct and academic regulations, including program structure, study levels, restrictions, and the maximum duration of study, are also compiled in an official booklet issued annually to all first-year students. This booklet can additionally be downloaded from the university's academic website.

The experts learned that students receive all relevant course-related information in the language of instruction, including syllabi and academic guidelines at the beginning of each semester. In addition, key program-related documents (such as curricula, study plans, and module handbooks) are available online and regularly updated. The experts appreciate that

the regulatory framework at ITB ensures transparency and accessibility for all relevant stakeholders.

In this context, the experts positively note that, according to the ASIIN Student Survey, 95% of the students stated that they are aware of how student representation is organized within university boards and decision-making bodies. This reflects a high level of transparency and student involvement in institutional processes.

What was perceived as an area for improvement during the audit discussions with students was the communication regarding the structure and requirements of the international tracks. The experts learned that students were sometimes unsure about when and based on which criteria courses would be offered in English which is information that is essential for the international track. Therefore, the experts recommend that ITB provides clearer and more transparent guidance on this matter to ensure that students can make informed decisions about their academic pathways.

Furthermore, the experts advise improving the consistency and clarity of the program websites. During the review process, it was sometimes difficult to locate key documents such as module handbooks, which were only publicly accessible for some degree programs (see Criterion 4.1). A more uniform and user-friendly structure would enhance accessibility and transparency for both internal and external stakeholders.

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

[…]

5. Quality management: quality assessment and development

Criterion 5 Quality management: quality assessment and development

The study program is subject to periodical internal quality assurance which includes all stakeholders. The results of these processes are incorporated into the continuous development of the program. Processes and responsibilities are defined for the further development of the program.

The results and any measures derived from the various quality assurance instruments used (various survey formats, student statistics, etc.) are communicated to the students.

Evidence:

- Self-Assessment Report
- Sample student survey questionnaire
- Results of student surveys
- ASIIN Student Survey
- Discussions during the audit

Preliminary assessment and analysis of the experts:

In accordance with the national regulations, quality assurance at ITB is ensured through both internal and external mechanisms. Externally, all study programs undergo regular re-accreditation through the National Accreditation Agency for Higher Education (BAN-PT) every five years, or, as in this case, through international accreditation bodies such as ASIIN.

Internally, ITB implements a structured quality assurance system in line with Rector's Regulation No. 264/PER/I1.A/HK/2014. The central actor in this system is the university-level Quality Assurance Unit (SPM). At the faculty and school level, quality assurance is further carried out by dedicated Quality Assurance Task Forces (*Gugus Kendali Mutu*), which coordinate and supervise the implementation of internal quality processes within their respective departments and study programs.

At the department or program level, education quality is assessed by measuring the achievement of Program Learning Outcomes (PLOs) and Performance Indicators (PIs). The PIs are aligned with ITB's strategic mid-term plan and are evaluated annually, contributing

to faculty and university-wide targets. The PLOs, defined in the curriculum, are assessed through specific performance criteria linked to each course.

At ITB the Quality Assurance Unit (SPM) evaluates the achievement of Program Educational Objectives (PEOs) and Program Learning Outcomes (PLOs) using data from faculty, students, and alumni. A central instrument for assessing PEO achievement is the annual tracer study conducted by the ITB Career Centre, which collects information on graduates' competencies, stakeholder feedback, and the relevance of higher education to the job market.

PLO achievement is monitored through student feedback mechanisms. During each semester, two evaluations take place: (1) interim evaluations via Edunex during the mid-term exam period and (2) final course evaluations (EDOM) at the end of the semester. The result of mid-term questionnaire should be disseminated and discussed with the students by the lecturers in class. The mid-term and end-of-semester surveys assess key aspects of teaching and learning, including instructional methods, evaluation practices, and grade composition. They review how lectures are implemented, gather student feedback and class statistics, and include instructor reflections. Based on the results, lecturers develop follow-up plans to improve future course quality. EDOM furthermore assesses PLOs, lecturer engagement, support, infrastructure and facilities. Lecturers are expected to respond to feedback, update a self-reflective lecture portfolio, and submit it to the director of education.

Regular faculty staff meetings, held biweekly or monthly depending on the program, serve as an important tool for quality management beyond formal mechanisms. Led by the head of study programs, they provide a forum for discussing teaching and learning, planning course assignments and schedules, addressing technical issues, and making minor curriculum adjustments.

At the beginning of each semester, the head of study programs and lecturers hold student hearings to gather feedback on curriculum, facilities, and educational activities. This input is used for ongoing program evaluation. Major curriculum revisions take place every five years and are based on evaluation studies and input from various stakeholders, including students, faculty, alumni, and professional associations. In addition, technical revisions are conducted after each semester to respond to current challenges and performance feedback. Alumni input is also collected through annual gatherings, national seminars, and internship supervisor reports, further contributing to the continuous improvement of the programs.

If a course receives a low rating (average score below 3.0, based on a scale where 1 = very unsatisfactory and 5 = very satisfactory) or shows a notable decline in evaluation results,

an internal review is carried out to determine the causes and introduce improvements for the following academic year. Although there is no formalized procedure for addressing low lecturer evaluations, lecturers with an average satisfaction score below 2.5 (based on a 1–4 scale, where 1 = very unsatisfied and 4 = very satisfied) receive a warning and are encouraged by the Vice Rector for Academic Affairs to enhance their teaching approach.

The expert panel is very satisfied with the quality management system in place. All recommendations from the previous accreditation have been implemented. In particular, the requirement to systematically discuss student feedback with the students themselves appears to be well established and effectively practiced. According to a recent ASIIN survey, 95% of students feel that their input is taken seriously in the further development of the program. Additionally, all students surveyed confirmed that lecturers are open to questions and constructive criticism. Overall, the experts commend the university's strong commitment to continuous improvement and stakeholder involvement.

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

[…]

D Additional Documents

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

No additional documents needed.

E Comment of the Higher Education Institution (12.06.2025)

The following quotes the comment of the institution:

“Regarding the admission policy for colorblind students, I would like to provide an update. Since 2024, ITB has implemented a new regulation […].

Notably, for the Bachelor of Geological Engineering program, the requirement for applicants to be free of colorblindness has now been removed.

Additional context and announcements related to this policy change are also available […].

As for the UPURP program, particularly regarding the allocation of ECTS credits for mandatory internships (PL4190 – Practical Work), the current requirement is a two-month internship period. However, it is common for students not to work full-time (i.e., 40 hours/week) during this period. Instead, their workload is distributed over the two months.

To avoid confusion, we will be updating our Standard Operating Procedure (SOP) for the internship course to clearly state that students are expected to complete a minimum of 90 working hours within a maximum of two months.”

The institution provided the following additional documents and links:

- Link to the updated admission regulations: https://admission.itb.ac.id/info/persyaratan-bebas-buta-warna/
- Additional context and announcements: https://admission.itb.ac.id/info/bebas-buta-warna-untuk-geologi-dan-pangan-itb/

F Summary: Expert recommendations (15.06.2025)

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

Degree Program	ASIIN Seal	Maximum duration of accreditation	Subject-specific label	Maximum duration of accreditation
Ba Geological Engineering	Without requirements	30.09.2032	EUR-ACE®	Subject to the approval of the ENAEE Administrative Council
Ma Geological Engineering	Without requirements	30.09.2030	EUR-ACE®	Subject to the approval of the ENAEE Administrative Council
Ba Geodesy and Geomatics Engineering	Without requirements	30.09.2032	EUR-ACE®	Subject to the approval of the ENAEE Administrative Council
Ma Geodesy and Geomatics Engineering	Without requirements	30.09.2030	EUR-ACE®	Subject to the approval of the ENAEE Administrative Council
Ba Urban and Regional Planning	Without requirements	30.09.2032	–	--
Ma Urban and Regional Planning	Without requirements	30.09.2030	–	--

Recommendations

For all degree programs

E 1. (ASIIN 1.3) It is recommended to increase the number of courses offered in English.

E 2. (ASIIN 1.4) It is recommended that all degree programs ensure appropriate individual accommodations are available for color-blind students where necessary.

E 3. (ASIIN 2) It is recommended to establish a consistent policy for retaking exams across all study programs. Where possible, resit opportunities should be offered within the same semester.

E 4. (ASIIN 2) It is recommended to ensure that all written exams adequately reflect the corresponding EQF level.

E 5. (ASIIN 3.3) It is recommended to continuously improve and modernize the equipment of the laboratories.

E 6. (ASIIN 4.3) It is recommended to provide clear and transparent information on the structure and requirements of the international tracks to ensure students understand the available academic pathways.

For the Undergraduate Program Geological Engineering

E 7. (ASIIN 1.3) It is recommended to increase the amount of field work and geological mapping in the Undergraduate Program of Geological Engineering.

For the Undergraduate Program Urban and Regional Planning

E 8. (ASIIN 1.5) It is recommended that the distribution of Credit Units for the Practical Work course (PL4190) be more clearly outlined in the next version of the Standard Operating Procedure (SOP).

For the Master's Program Urban and Regional Planning

E 9. (ASIIN 1.5) It is recommended to systematically and more thoroughly assess the actual workload for completing the Master's thesis in order to confirm the current credit allocation.

G Comment of the Technical Committees

Technical Committee 03 – Civil Engineering, Geodesy and Architecture (16.06.2025)

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.

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

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

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

Degree Program	**ASIIN Seal**	**Accredited by German Engineers**	**Maximum duration of accreditation**	**Subject-specific label**	**Maximum duration of accreditation**
Ba Geodesy and Geomatics Engineering	Without requirements	Without requirements	30.09.2032	EUR-ACE®	Subject to the approval of the ENAEE Administrative Council
Ma Geodesy and Geomatics Engineering	Without requirements	Without requirements	30.09.2030	EUR-ACE®	Subject to the approval of the ENAEE Administrative Council
Ba Urban and Regional Planning	Without requirements	--	30.09.2032	–	--
Ma Urban and Regional Planning	Without requirements	--	30.09.2030	–	--

Recommendations

For all degree programs

E 1. (ASIIN 1.3) It is recommended to increase the number of courses offered in English.

E 2. (ASIIN 1.4) It is recommended that all degree programs ensure appropriate individual accommodations are available for color-blind students where necessary.

E 3. (ASIIN 2) It is recommended to establish a consistent policy for retaking exams across all study programs. Where possible, resit opportunities should be offered within the same semester.

E 4. (ASIIN 2) It is recommended to ensure that all written exams adequately reflect the corresponding EQF level.

E 5. (ASIIN 3.3) It is recommended to continuously improve and modernize the equipment of the laboratories.

E 6. (ASIIN 4.3) It is recommended to provide clear and transparent information on the structure and requirements of the international tracks to ensure students understand the available academic pathways.

For the Undergraduate Program Urban and Regional Planning

E 7. (ASIIN 1.5) It is recommended that the distribution of Credit Units for the Practical Work course (PL4190) be more clearly outlined in the next version of the Standard Operating Procedure (SOP).

For the Master's Program Urban and Regional Planning

E 8. (ASIIN 1.5) It is recommended to systematically and more thoroughly assess the actual workload for completing the Master's thesis in order to confirm the current credit allocation.

Technical Committee 11 – Geosciences (19.06.2025)

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.

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

The Technical Committee deems that the intended learning outcomes of the degree programs do comply with the engineering specific parts of Subject-Specific Criteria of the Technical Committee 11 – Geosciences.

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

Degree Program	ASIIN Seal	Accredited by German Engineers	Maximum duration of accreditation	Subject-specific label	Maximum duration of accreditation
Ba Geological Engineering	Without requirements	Without requirements	30.09.2032	EUR-ACE®	Subject to the approval of the ENAEE Administrative Council
Ma Geological Engineering	Without requirements	Without requirements	30.09.2030	EUR-ACE®	Subject to the approval of the ENAEE Administrative Council
Ba Geodesy and Geomatics Engineering	Without requirements	Without requirements	30.09.2032	EUR-ACE®	Subject to the approval of the ENAEE Administrative Council
Ma Geodesy and Geomatics Engineering	Without requirements	Without requirements	30.09.2030	EUR-ACE®	Subject to the approval of the ENAEE Administrative Council

Recommendations

For all degree programs

E 1. (ASIIN 1.3) It is recommended to increase the number of courses offered in English.

E 2. (ASIIN 1.4) It is recommended that all degree programs ensure appropriate individual accommodations are available for color-blind students where necessary.
E 3. (ASIIN 2) It is recommended to establish a consistent policy for retaking exams across all study programs. Where possible, resit opportunities should be offered within the same semester.
E 4. (ASIIN 2) It is recommended to ensure that all written exams adequately reflect the corresponding EQF level.
E 5. (ASIIN 3.3) It is recommended to continuously improve and modernize the equipment of the laboratories.
E 6. (ASIIN 4.3) It is recommended to provide clear and transparent information on the structure and requirements of the international tracks to ensure students understand the available academic pathways.

For the Undergraduate Program Geological Engineering

E 7. (ASIIN 1.3) It is recommended to increase the amount of field work and geological mapping in the Undergraduate Program of Geological Engineering.

H Decision of the Accreditation Commission (27.06.2025)

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

The AC discusses the procedure and follows the assessment of the experts and the TCs without any changes.

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

The Accreditation Commission deems that the intended learning outcomes of the degree programs do comply with the engineering specific parts of Subject-Specific Criteria of the Technical Committee 03 – Civil Engineering, Geodesy and Architecture and the Technical Committee 11 – Geosciences.

The Accreditation Commission decides to award the following seals:

Degree Program	**ASIIN Seal**	**Accredited by German Engineers**	**Maximum duration of accreditation**	**Subject-specific label**	**Maximum duration of accreditation**
Ba Geological Engineering	Without requirements	Without requirements	30.09.2032	EUR-ACE®	Subject to the approval of the ENAEE Administrative Council
Ma Geological Engineering	Without requirements	Without requirements	30.09.2030	EUR-ACE®	Subject to the approval of the ENAEE Administrative Council
Ba Geodesy and Geomatics Engineering	Without requirements	Without requirements	30.09.2032	EUR-ACE®	Subject to the approval of the ENAEE Administrative Council
Ma Geodesy and Geomatics Engineering	Without requirements	Without requirements	30.09.2030	EUR-ACE®	Subject to the approval of the ENAEE Administrative Council
Ba Urban and Regional Planning	Without requirements	--	30.09.2032	–	--

Ma Urban and Regional Planning	Without requirements	--	30.09.2030	–	--

Recommendations

For all degree programs

E 1. (ASIIN 1.3) It is recommended to increase the number of courses offered in English.
E 2. (ASIIN 1.4) It is recommended that all degree programs ensure appropriate individual accommodations are available for color-blind students where necessary.
E 3. (ASIIN 2) It is recommended to establish a consistent policy for retaking exams across all study programs. Where possible, resit opportunities should be offered within the same semester.
E 4. (ASIIN 2) It is recommended to ensure that all written exams adequately reflect the corresponding EQF level.
E 5. (ASIIN 3.3) It is recommended to continuously improve and modernize the equipment of the laboratories.
E 6. (ASIIN 4.3) It is recommended to provide clear and transparent information on the structure and requirements of the international tracks to ensure students understand the available academic pathways.

For the Undergraduate Program Geological Engineering

E 7. (ASIIN 1.3) It is recommended to increase the amount of field work and geological mapping in the Undergraduate Program of Geological Engineering.

For the Undergraduate Program Urban and Regional Planning

E 8. (ASIIN 1.5) It is recommended that the distribution of Credit Units for the Practical Work course (PL4190) be more clearly outlined in the next version of the Standard Operating Procedure (SOP).

For the Master's Program Urban and Regional Planning

E 9. (ASIIN 1.5) It is recommended to systematically and more thoroughly assess the actual workload for completing the Master's thesis in order to confirm the current credit allocation.

Appendix: Program Learning Outcomes and Curricula

According to “Introduction of Undergraduate Program of Geological Engineering”, the following **objectives** and **learning outcomes (intended qualifications profile)** shall be achieved by the Undergraduate Program in Geological Engineering:

“The Educational Objectives of the Undergraduate Program of Geological Engineering (PEO) are as follows:

1. Career Achievements

    a) Produce graduates who are ready to work in various career paths, including industry, research, entrepreneurship, government agencies and academia.

    b) Producing graduates who are able to develop expertise in geology and apply it to real-world challenges, such as resource and energy exploration, environmental management, and disaster mitigation.

2. Self-Development

    a) Produce graduates who engage in continuous professional development throughout their careers (long-life learning) and national and international cooperation networks (networking).

    b) Producing graduates who always update their knowledge with the development of science in the field of geology, adapt to technological advances, and contribute to the Sustainable Development Goals.

3. Further Education

    a) Produce graduates who are ready to pursue advanced degrees (master's or doctorate) in geology or related fields.

    b) Producing graduates who can contribute to research, teaching, and advancing science and technology.”

The Program Learning Outcomes (PLO) of the Undergraduate Program of Geological Engineering are outlined in the following table:

No.	PLO	Program Learning Outcomes
1	*PLO-1*	*Able to identify, formulate, and solve complex scientific and engineering problems in geology by applying mathematics, science, and engineering principles.*
2	*PLO-2*	*Able to apply science and engineering design in geology to produce scientific findings and engineering solutions that meet certain requirements in specific geological fields.*
3	*PLO-3*	*Able to develop and conduct appropriate and systematic methodologies in conducting studies in the field of geology.*
4	*PLO-4*	*Able to collect, analyze, and interpret scientific and engineering data in the field of geology.*

No.	PLO	Program Learning Outcomes
5	*PLO-5*	*Able to communicate effectively orally and in writing to various audiences.*
6	*PLO-6*	*Able to function effectively and efficiently in a team whose members together provide leadership, create a collaborative and inclusive environment, and are adaptive in the face of challenges, changes, and technological developments.*
7	*PLO-7*	*Able to recognize ethical and professional responsibilities and be able to make appropriate judgments in various scientific and engineering situations in geology.*
8	*PLO-8*	*Able to consider public health, safety, and welfare, as well as cultural, social, economic, and environmental factors globally, in every activity and work related to science and engineering in the field of geology.*
9	*PLO-9*	*Able to acquire and apply new knowledge in geology's scientific and engineering fields as needed by using appropriate learning strategies.*
10	*PLO-10*	*Promoting the spirit of nationalism in continuously developing oneself in the professional and entrepreneurial world to compete globally.*

The following **curriculum** is presented:

Semester 1			Semester 2		
Code	Course	CU / ECTS	Code	Course	CU / ECTS
MA1101	Mathematics I	4 / 6.67	WI2001	Introduction to Engineering and Design	3/5
FI1101	Elementary Physics I	3 / 5	WI2002	Artificial Intelligence and Data Literacy	2/3.33
KI1101	General Chemistry I	3 / 5	WI2005	Indonesian Language	2/3.33
WI1101	Pancasila	2 / 3.33	WI2004	English	2/3.33
WI1102	Computational Thinking	2 / 3.33	GL1201	Physical Geology	3/5
WI1103	Introduction to Principles of Sustainability	2 / 3.33	GL1202	Crystallography and Mineralogy	3/5
WI1111	Basic Physics Laboratory	1 / 1.67	WF1211	Earth System	3/5
WI1112	Basic Chemistry Laboratory	1 / 1.67			
Total		**18 / 30**			**18 / 30**

Semester 3			Semester 4		
Code	**Course**	**CU / ECTS**	**Code**	**Course**	**CU / ECTS**

WI2003	Sports	2 / 3.33	WI201X	Religion	2 / 3.33
GL2101	Mathematics and Statistics for Geology	2 / 3.33	WI2006	Civic Education	2 / 3.33
GL2102	Geofluid	2 / 3.33	GL2201	General Geochemistry	2 / 3.33
GL2103	Rock and Soil Mechanics	2 / 3.33	GL2202	General Geophysics	2 / 3.33
GL2104	Structural Geology	3 (1) / 5 (1.67)	GL2203	Stratigraphy	2 / 3.33
GL2105	Paleontology	2 / 3.33	GL2204	Geomorphology	2 / 3.33
GL2106	Petrology	3 (1) / 5 (1.67)	GL2205	Tectonophysics	3 / 5
GL2107	Sedimentology	3 (1) / 5 (1.67)	GL2206	Optical Mineralogy and Petrography	3(1) / 5(1.67)
			GL2207	Micropaleontology	3(1) / 5(1.67)
Total		**19 / 31.67**	**Total**		**20 / 33.33**

Semester 5			**Semester 6**		
Code	**Course**	**CU / ECTS**	**Code**	**Course**	**CU / ECTS**
GL3101	Information System and Remote Sensing for Geology	2 / 3.33	GL3201	Law and Regulation on Earth Management	2 / 3.33
GL3102	Historical Geology	2 / 3.33	GL3202	Geology of Indonesia	2 / 3.33
GL3103	Reference Study	2 / 3.33	GL3203	Methodology for Field Geology	2 / 3.33
GL3104	Geological Hazard and Environmental	2 / 3.33	GL3204	Field Geology Mapping	3 / 5
GL3105	Volcanology	3 / 5	GL3205	Petroleum Geology	3 / 5
GL3106	Engineering Geology	3 / 5	GL3206	Hydrogeology	3 / 5
GL3107	Mineral Deposits	3 / 5	GL3207	Geothermal	2 / 3.33

				Geology	
	Elective Course	2 / 3.33	WI2023	Business Management and Entrepreneurship	2 / 3.33
Total		**19 / 31.67**	**Total**		**19 / 31.67**

According to "Introduction of Master Program of Geological Engineering", the following **objectives** and **learning outcomes (intended qualifications profile)** shall be achieved by the Master Program in Geological Engineering:

"The educational objective of the Master Program of Geological Engineering are to produce graduates who can work in the fields of research and education, oil and gas and coal industries, construction services and regional development, as well as volcanology and geothermal fields [OBJECTIVE 1] and to produce graduates who equipped to pursue advanced studies [OBJECTIVE 2].

These objectives strongly support the national competencies framework for master education and are consistent with the mission of the institution. Their consistency with ITB and FEST missions is realized through producing graduates that have integrated knowledge and skills as well as soft skills to be professionals and the ability to develop themselves with good ethics. Those program objectives accommodate the pressure of national demands (industry, society, and profession) and rapid change in survey and mapping methodology and technology. The objectives are related to Vision and Mission of ITB, ITB Goals, and the Vision and Mission of FEST."

The objectives of the MPGE and their alignment with the National Qualification Framework are presented in the table below.

	Specific Criteria of National Qualification Framework		
	Able to develop knowledge, technology, and/or art in the scientific field or professional practice through research, to produce innovative and tested work.	Able to solve problems of science, technology and/or art in their scientific field through an inter or multidisciplinary approach.	Able to manage research and development that is beneficial to society and science, and able to gain national and international recognition.
Objective 1	**V**	**V**	**V**
Objective 2	**V**	**V**	**V**

“Intended Learning Outcomes […]

1. Able to identify problems and find solutions through structured research.
2. Able to analyze and synthesize, and use evaluation skills in drawing conclusions from a research activity, in addition to the depth of master of knowledge.
3. Able to apply and integrate geological disciplines for interests: science development, exploration and development of hydrocarbon resources, minerals and coal, volcanology and geothermal, as well as environmentally sound engineering geology and geological disaster mitigation both individually and in collaboration with other parties.”

The following **curriculum** is presented:

Semester 1			Semester 2		
Code	Course	CU / ECTS	Code	Course	CU / ECTS
GL6100	Research Methodology in Geology	3 / 5	GL5041	Thesis Proposal	2 / 3.33
WI7001	Digital Literacy, AI, and Academic Ethics	2 / 3.33		Elective courses	12/20*
GL5101	Geoconcept	3 / 5			
GL5011	Geotectonics	3 / 5			
	Elective courses	3/5*			
Total		**14/ 23.38**			**22 / 23.38**

Semester 3			Semester 4		
Code	**Course**	**CU / ECTS**	**Code**	**Course**	**CU / ECTS**
GL6031	Thesis 1	4 / 6.67	GL6041	Thesis 2	4 / 6.67
	Elective courses (total)	9/15*	GL6045/6046	Research Dissemination Thesis /Project	2 / 3.33
			GL6099	Magister Defence	3 / 5
				Elective courses	4/6.67*
Total		**13 / 21.71**	**Total**		**13 / 21.71**

*minimum, track compulsory courses are included

According to the UPGGE Curriculum, the following **objectives** and **learning outcomes (intended qualifications profile)** shall be achieved by the Undergraduate Program in Geodesy and Geomatics Engineering:

“The objectives of the Geodesy and Geomatics Engineering study program focus on producing graduates who are able to become professionals working in the geospatial industry, government or as entrepreneurs. These objectives are:

a. Producing graduates who acquire integrated knowledge in Geodesy and Geomatics Engineering as required by industry, profession and public service.
b. Producing graduates who have the ability to utilize knowledge in solving relevant problems in industry, profession and public service.
c. Produce graduates who are able to handle complex open problems, especially by considering engineering solutions, which consist of technical, design, socioeconomic, cultural, environmental and business aspects.
d. Produce graduates who are able to demonstrate the ability to adapt, adjust and grow independently and compete globally.
e. Produce graduates who are able to demonstrate adherence to ethical and professional standards"

Learning Outcomes:

1. "Having and being able to apply mathematics and basic sciences in the field of Geodesy and Geomatics Engineering.
2. Possess appropriate knowledge and skills in specific subjects of Geodesy and Geomatics Engineering
3. Have knowledge and skills applied in specific subjects in Geodesy and Geomatics Engineering
4. Can identify, formulate and solve Geodesy and Geomatics Engineering problems
5. Can utilize and practice modern and uptodate technology, methods and tools in Engineering Geodesy and Geomatics
6. Have appropriate knowledge in professional practices such as law, management, entrepreneurship, writing report, communication, presentation, and environmental awareness
7. Can find appropriate literature and data sources
8. Understanding customers, as well as interdisciplinary requirements, orientation, and behavior
9. Professional openness and deep creativity
10. Leadership skills and ability to work in a team
11. Understand professional ethics and social responsibility
12. Ready to socialize and work in an engineering and scientific environment
13. Have an awareness of the importance of lifelong learning
14. Understand national characteristics and issues"

The following **curriculum** is presented:

Semester 1				Semester 2			
NO.	COURSE CODE	COURSE	CU / ECTS	NO.	COURSE CODE	COURSE	CU/ECTS
1	MA1101	Mathematics I	4/6.67	1	GD1201	Applied Linear Algebra	2/3.33
2	FI1101	General Physics I	3/5	2	GD1202	Mechanics and Gravity	3/5
3	KI1101	General Chemistry I	3/5	3	WI2001	Introduction to Engineering and Design	3/5
4	WI1101	Pancasila	2/3.33	4	WI2002	Artificial Intelligence and Data Literacy	2/3.33
5	WI1102	Computational Thinking	2/3.33	5	WI2004	English	2/3.33
6	WI1103	Introduction to Principles of Sustainability	2/3.33	6	WI2005	Indonesian Language	2/3.33
7	WI1111	Basic Physics Laboratory	1/1.67	7	WF1211	Earth System	3/5
8	WI1112	Basic Chemistry Laboratory	1/1.67				
Total = 18 CU/30 ECTS				Total = 18 CU/30 ECTS			
Total CU YEAR 1 = 36 CU/60 ECTS							

Semester 3				Semester 4			
NO.	COURSE CODE	COURSE	CU/ECTS	NO.	COURSE CODE	COURSE	CU/ECTS
1	GD2101	Statistics and Probabilistics	3/5	1	GD2201	Estimation and Approximation	2/3.33
2	GD2102	Positioning	3/5	2	GD2202	Geodetic Computation	3/5
3	GD2103	Physics of Waves	3/5	3	GD2203	Fundamentals of Physical Geodesy	2/3.33
4	GD2104	Geometric Geodesy	3/5	4	GD2204	Geometric Reference System	3/5
5	GD2105	Geospatial Law and Regulations	3/5	5	GD2205	Terrestrial Mapping	3/5
6	GD2106	Geospatial Expedition	2/3.33	6	GD2206	Satellite Geodesy	2/3.33
7	WI2003	Sports	1/1.67	7	**-****	General Elective Course	3/5
Total = 18 CU/30 ECTS				Total = 18 CU/30 ECTS			
Total CU YEAR 2 = 36 CU/60 ECTS							

Semester 5				Semester 6			
NO.	COURSE CODE	COURSE	CU	NO.	COURSE CODE	COURSE	CU
1	GD3101	Spatial Database	3/5	1	WI2006	Civic Education	2/3.33
2	GD3102	Cartography	3/5	2	WI201X	Religion	2/3.33

3	GD3103	Hydrography	3/5	3	GD3201	Construction Surveying	3/5
4	GD3104	Photogrammetry	3/5	4	GD3202	Remote Sensing	3/5
5	GD3105	GNSS Surveying	3/5	5	GD3203	Thematic Mapping	3/5
6	**-****	General Elective Course	3/5	6	GD3204	Field Camp	3/5
				7	**-****	General Elective Course	3/5
Total = 18 CU/30 ECTS				**Total = 19 CU/31.67 ECTS**			
Total CU YEAR 3 = 37 CU/61.67 ECTS							

Semester 7				**Semester 8**			
NO.	**COURSE CODE**	**COURSE**	**CU**	**NO.**	**COURSE CODE**	**COURSE**	**CU**
1	GD4101	Internship	2/3.33	1	WI2021	Industrial Engineering Management	2/3.33
2	GD4102	Capstone Project Proposal	1/1.67	2	GD4201	Capstone Project	3/5
3	GD4103	Geographic Information Systems	3/5	3	GD4202	Environmental Geography	3/5
4	GD4104	Cadastre System	3/5	4	**-****	General/Specialization Elective Course	3/5
5	**-****	General/Specialization Elective Course	3/5	5	**-****	General/Specialization Elective Course	3/5
6	**-****	General/Specialization Elective Course	3/5	6	**-****	General Elective Course	3/5
7	**-****	General/Specialization Elective Course	3/5				
Total = 18 CU/30 ECTS				**Total = 17 CU/28.33 ECTS**			
Total CU YEAR 4 = 35 CU/58.33 ECTS							
Total CU = 144 CU/240 ECTS							

According to the "Introduction to Master Program of Geodesy and Geomatics Engineering" and the Diploma Supplement, the following **objectives** and **learning outcomes (intended qualifications profile)** shall be achieved by the Master Program in Geodesy and Geomatics Engineering:

"The objectives of the MPGGE are to produce graduates who:

1. have synthesis integrated knowledge in the field of geodesy and geomatics engineering as demanded by the industry, professional fields, and public services;
2. possess skills in assessing the knowledge to solve relevant problems in the industry, professional fields, and public services;
3. are able to solve open and complex problems, especially by integrating engineering solutions, comprising of technical, design, socio-economics, cultural, environmental, and business aspects;
4. display abilities to adapt, adjust, and grow independently as well as to compete globally; and
5. act out ethical and professional standards."

Learning Outcomes

"The GGE formulates the learning outcomes as the students are expected:

1. to have and be able to apply mathematics and basic sciences in the field of geodesy and geomatics engineering
2. to have appropriate knowledge and skills in the subject specific of geodesy and geomatics engineering
3. to have applied knowledge and skills in the subject specific of geodesy and geomatics engineering
4. to be able to identify, formulate and solve geodesy and geomatics engineering task and problems
5. to be able to utilize and practice modern and recent technology, methods and tools in geodesy and geomatics
6. to have appropriate knowledge in professional practice such as laws, management, entrepreneurship, report writing, communication, presentation and environmental awareness
7. to be able to find appropriate literatures and data sources
8. to understand customer as well as interdisciplinary requirements, orientation and behaviour
9. to profound professional openness and creativity"

The following **curriculum** is presented:

Semester I				Semester I I			
	Code	Course Name	credits		Code	Course Name	credits
1	GD5101	Geospatial Reference Systems	3	1	GD5201	Mapping Methodology	3
2	GD5102	Data Analysis Techniques	3	2	GD5202	Spatial and Cadastre Legal Systems	3
3	GD5103	Research methodology	3	3	GD5203	Integration of Coastal and Marine Science	3

		Amount	9			Amount	9

Semester III				Semester IV			
	Code	Course Name	credits		Code	Course Name	credits
1	GD6101	Geospatial Information Analysis	3	1	GD6090	Thesis	6
2		Choice	3	2		Choice	3
3		Choice	3				
		Amount	9			Amount	9

Number of credits for Major Courses: 27 **credits**

According to the Curriculum and the Diploma Supplement, the following **objectives** and **learning outcomes (intended qualifications profile)** shall be achieved by the Undergraduate Program in Urban and Regional Planning:

"Bandung Institute of Technology's Urban and Regional Planning Education aims to produce graduates with the following characteristics:

1. Can act as a spatial planner and manager of regional and city development.
2. Can apply the method of planning analysis techniques in solving problems faced in a structured manner and present, concisely, and interestingly.
3. They can be accepted and graduate well in further education in regional and urban planning in their field of work.
4. Able to play an active role in the planning profession and other activities."

„Learning Outcomes

- Understand basic knowledge of natural science and technology to hone the scientific thinking required in planning and design.
- Understand the basic spatial elements and principles of regional and city planning, including location patterns and spatial structure, environment and natural resources, and infrastructure systems.
- Understand the basic non-spatial elements and principles of regional and city planning including regional and city economics, housing systems, social and population aspects, as well as development financing and institutions.

- Able to analytically apply applicable procedures, regulations and instruments to implement spatial concepts in urban planning and design, regional and village planning, and infrastructure planning.
- Able to explain professional ethics and professional responsibility
- Able to apply planning analysis methods appropriately and relevantly
- Able to communicate and articulate ideas effectively both visually, verbally, and in writing to various stakeholders in society and politics
- Able to collaborate in a multi-disciplinary team on the basis of understanding that there are relationships between disciplines and that each has different professional competencies Able to conduct reliable and scientific research in the field of regional and urban planning
- Able to integrate regional and urban planning and design processes based on real field conditions by considering existing needs and constraints using a rational approach. participatory, comprehensive, innovative, and creative."

The following **curriculum** is presented:

Semester I					Semester II				
No	Code	Course Name	CU	ECTS	No	Code	Course Name	CU	ECTS
1	MA1101	Mathematics I	4	6.67	1	PL1203	Introduction to Urban and Regional Planning	2	3.33
2	FI1101	Elementary Physics I	3	5	2	PL1204	Urban and Regional Statistics	3	5
3	KI1101	General Chemistry	4	6.67	3	PL1221	Introduction to Environmental Geology	3	5
4	WI1101	Pancasila	2	3.33	4	WI2002	Artificial Intelligence and Data Literacy	2	3.33
5	WI1103	Introduction to Principles of Sustainability	2	3.33	5	WI2004	English	2	3.33
6	WI1115	Housing Laboratory	2	3.33	6	WI2001	Introduction to Engineering and Design	3	5
					7	WI2005	Indonesian Language	2	3.33
					8	WI2003	Sports	1	1.67
		Total	**17**	**28.33**			**Total**	**19**	**31.67**

Semester III					Semester IV				
No	Code	Course Name	CU	ECTS		Code	Course Name	CU	ECTS
1	PL2108	Geographic Information System in Planning	4	6.67	1	PL2207	Planning Process Studio	3	5
2	PL2106	Location and Land Use	3	5	2	PL2206	Environment and Natural Resources	4	6.67
3	PL2109	Urban and Regional Analytics	4	6.67	3	PL2212	Urban Planning	3	5
4	PL2153	Introduction to Economics and Space	4	6.67	4	PL2232	Urban and Regional Infrastructure Planning	4	6.67
5	PL2132	Urban and Regional Infrastructure	3	5	5	PL2222	Demographic and Social Aspects	3	5
		Total	**18**	**30**			**Total**	**17**	**28.33**
Semester V					**Semester VI**				
No	Code	Course Name	CU	ECTS		Code	Course Name	CU	ECTS
1	PL3142	Planning Law	2	3.33	1	PL3209	Regional and Infrastructure Planning Studio	5	8.33
2	PL3144	Development Administration Management	2	3.33	2	PL3201	Planning History and Thought	2	3.33
3	PL3109	Urban and Infrastructure Planning Studio	5	8.33	3	PL3205	Planning Evaluation Techniques	2	3.33
4	PL3114	Introduction to Housing System	2	3.33	4	WI2006	Citizenship	2	3.33
5	PL3121	Regional and Rural Planning	4	6.67	5	WI201X	Religion	2	3.33
6		Elective	3	5	6		Elective	3	5
					7		Elective	3	5
		Total	**18**	**30**			**Total**	**19**	**31.67**
Semester VII					**Semester VIII**				
No	Code	Course Name	CU	ECTS		Code	Course Name	CU	ECTS
1	PL4101	Research Methods	2	3.33	1	PL4290	Final Project	6	10
2	PL4111	Development Control	2	3.33	2		Elective	3	5
3	PL4113	Site Planning Studio	4	6.67	3		Elective	3	5
4	WI2022	Project Management	2	3.33	4		Elective	3	5
5	PL4191	Internship	2	3.33	5		Elective	3	5
6		Elective	3	5					
7		Elective	3	5					
		Total	**18**	**30**			**Total**	**18**	**30**

According to the Curriculum and the Diploma Supplement the following **objectives** and **learning outcomes (intended qualifications profile)** shall be achieved by the Master Program in Urban and Regional Planning:

"The Master Program of Urban and Regional Planning at Institut Teknologi Bandung aims to produce graduates with the following characteristics:

1. Graduates can develop substantive and anticipatory planning processes for current and future needs and challenges.
2. Graduates capable of leading a team of professional planners in governmental or non-governmental organizations and encouraging policy reform processes in implementing urban and regional planning.
3. Graduates can conduct and disseminate research and community service in urban and regional planning."

„Learning Outcomes

- Mastering the theory and ethics of planning and sustainable regional and urban development
- Mastering theories and methods in processes and substances in the field of specialization of regional and urban planning and development
- Able to apply and communicate critically theories, systems, processes, and methods to solve regional and urban planning and development problems by taking into account spatial, economic, socio-cultural, environmental, infrastructure, technological and institutional factors
- Able to conduct research in the field of specialization of regional and urban planning and development"

The following **curriculum** is presented:

Semester I					Semester II				
No	Code	Course Name	CU	ECTS	No	Code	Course Name	CU	ECTS

1	PL5108	Planning Theory	3	5	1	PL5208	Research Methodology	3	5
2	WI7001	Digital Literacy, AI & Academic Ethics	2	3.33	2	PL6209	Planning Thematic Studio	6	10
3	PL51X1	Track Course 1	3	5	3	PL52XX	Track Course 3	3	5
4	PL62XX	Track Course 2 (with practicum)	4	6.67	4	PL62XX	Track Course 4	3	5
5		Elective Course 1	3	5			Elective Course 3	3	5
6		Elective Course 2	3	5					
		Total	**18**	**30**			**Total**	**18**	**30**
Semester III					**Semester IV**				
No	**Code**	**Course Name**	**CU**	**ECTS**	**No**	**Code**	**Course Name**	**CU**	**ECTS**
1		Elective Course 4	3	5	1	PL6092	Thesis Defence	2	3.33
2		Elective Course 5	3	5	2	PL6091	Thesis	7	11.67
3		Elective Course 6	3	5					
		Total	**9**	**15**			**Total**	**9**	**15**