



**ASIIN Seal**

## **Accreditation Report**

**Bachelor's Degree Programmes**

***Biology Education***

***Biology***

***Chemistry***

Provided by

**Universitas Tanjungpura, Indonesia**

Version: 27 March 2026

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## A Accreditation Status

### Result Overview

The most recent decision for the ASIIN Seal was made by the ASIIN Accreditation Commission on 27.03.2026.

| Degree Programmes    | ASIIN Seal                   | Validity                |
|----------------------|------------------------------|-------------------------|
| Ba Biology           | Accredited with requirements | 27.03.2026 - 22.07.2027 |
| Ba Biology Education | Accredited with requirements | 27.03.2026 - 22.07.2027 |
| Ba Chemistry         | Accredited with requirements | 27.03.2026 - 22.07.2027 |

### Requirements

#### For all degree programmes

- A 1. (ASIIN 3.2) Submit a concept and a timetable on how to update and increase the instruments and how to renovate the laboratories in the departments within the accreditation period.
- A 2. (ASIIN 3.2) Strictly follow international standards on safety regulations in all departmental laboratories.
- A 3. (ASIN 5) Close the feedback loops and inform the students about the results of the satisfaction questionnaires.

#### For the Bachelor Biology Education

- A 4. (ASIIN 4.1) Update the module descriptions with respect to the students' workload and the awarded ECTS points.

### Recommendations

#### For all degree programmes

- E 1. (ASIIN 1.3) It is recommended to increase students' academic mobility and to encourage students to spend some time abroad during their studies.
- E 2. (ASIIN 1.3) It is recommended to introduce more English elements in the courses.

## B About the Accreditation Process

| Name of the degree programme (in original language)                                                                                                                                                                                                                                                         | (Official) English translation of the name   | Labels applied for <sup>1</sup> | Previous accreditation (issuing agency, validity)             | Involved Technical Committees (TC) <sup>2</sup> |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------|---------------------------------|---------------------------------------------------------------|-------------------------------------------------|
| Biologi                                                                                                                                                                                                                                                                                                     | Undergraduate programme in Biology           | ASIIN                           | LAMSAMA <sup>3</sup> : „very good“<br>05.06.2023 - 05.06.2028 | 10                                              |
| Pendidikan Biologi                                                                                                                                                                                                                                                                                          | Undergraduate programme in Biology Education | ASIIN                           | BAN-PT <sup>4</sup> : “B”<br>22.04.2021- 22.04.2026           | 10                                              |
| Kimia                                                                                                                                                                                                                                                                                                       | Undergraduate programme in Chemistry         | ASIIN                           | LAMSAMA: „excellent“<br>20.03.2023– 20.03.2028                | 09                                              |
| <b>Date of the contract:</b> 24.04.2025<br><br><b>Submission of the final version of the self-assessment report:</b> 18.11.2025<br><br><b>Date of the audit:</b> 13.01. – 15.01.2026                                                                                                                        |                                              |                                 |                                                               |                                                 |
| <b>Expert panel:</b><br><br>Prof. Dr Tilman Achstetter, University of Applied Sciences Bremen<br><br>Assoc. Prof. Dr. Shakinaz Desa, Universiti Pendidikan Sultan Idris<br><br>Dr. Thomas Steinbrecher, Bildungswerk Nordostchemie, Berlin<br><br>D’ April Sabriantje Mulus, M.Sc., Universitas Padjadjaran |                                              |                                 |                                                               |                                                 |
| <b>Representative of the ASIIN headquarter:</b>                                                                                                                                                                                                                                                             |                                              |                                 |                                                               |                                                 |

<sup>1</sup> ASIIN Seal for degree programmes;

<sup>2</sup> TC: Technical Committee for the following subject areas: TC 09 – Chemistry; TC 10 – Life Sciences

<sup>3</sup> LAMSAMA: Independent Accreditation Institute for Natural Sciences and Formal Sciences / Lembaga Akreditasi Mandiri Sains Alam dan Ilmu Formal

<sup>4</sup> National Accreditation Board of Higher Education / Badan Akreditasi Nasional Perguruan Tinggi (BAN-PT)

|                                                                                                                                                                                                                                                                                                                    |  |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|
| Rainer Arnold                                                                                                                                                                                                                                                                                                      |  |
| <b>Responsible decision-making committee:</b><br>ASIIN Accreditation Commission                                                                                                                                                                                                                                    |  |
| <b>Criteria used:</b><br><br>European Standards and Guidelines as of 15.05.2015<br><br>ASIIN General Criteria as of 28.03.2014<br><br>Subject-Specific Criteria of Technical Committee 09 – Chemistry as of 29.03.2019<br><br>Subject-Specific Criteria of Technical Committee 10 – Life Sciences as of 28.06.2019 |  |

## C Characteristics of the Degree Programmes

| a) Name              | Final degree (original/English translation)                          | b) Areas of Specialization | c) Corresponding level of the EQF <sup>5</sup> | d) Mode of Study | e) Double/Joint Degree | f) Duration | g) Credit points/unit | h) Intake rhythm & First time of offer |
|----------------------|----------------------------------------------------------------------|----------------------------|------------------------------------------------|------------------|------------------------|-------------|-----------------------|----------------------------------------|
| Ba Biology           | Sarjana Sains Biologi (S.Si.)/ Bachelor of Science in Biology        | -                          | 6                                              | Full time        | no                     | 8 Semester  | 144 SKS (240,48 ECTS) | August, 2002                           |
| Ba Biology Education | Sarjana Pendidikan Biologi (S.Pd.)/ Bachelor of Education in Biology | -                          | 6                                              | Full time        | no                     | 8 Semester  | 145 SKS (242,15 ECTS) | August, 2003                           |
| Ba Chemistry         | Sarjana Sains Kimia (S.Si.)/ Bachelor of Science in Chemistry        | -                          | 6                                              | Full time        | no                     | 8 Semester  | 144 SKS (240,48 ECTS) | August, 2002                           |

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<sup>5</sup> EQF = The European Qualifications Framework for lifelong learning

### Introduction

Universitas Tanjungpura (UNTAN) is one of the oldest and most important public universities in West Kalimantan. It was founded on 20 May 1959 as a private university named Universitas Daya Nasional and had two faculties: Fakultas Hukum (Law) and Fakultas Tata Niaga (Commerce).

On 16 May 1963, Universitas Daya Nasional was nationalised and became a state university under the name Universitas Negeri Pontianak (UNEP). By 1967, the name was changed again to Universitas Tanjungpura by Presidential Decree. The name Tanjungpura honours the historic Kerajaan Tanjungpura (Tanjungpura Kingdom) — a pre-colonial polity that once existed in the region and symbolises cultural heritage and continuity.

The university now comprises nine faculties (Law, Economics and Business, Agriculture, Engineering, Medicine, Social and Political Sciences, Forestry, Mathematics & Natural Sciences, and Teacher Education) and plays a significant role in education, research, and community service in West Kalimantan.

Universitas Tanjungpura has a large student body, with currently estimates of around 30,000 + active students enrolled across its programmes. The university employs approximately 900–1,000 academic staff/lecturers across the faculties.

In the area of biology research emphasises the biodiversity and ecology of tropical ecosystems, particularly in West Kalimantan's wetlands and forests. Key areas include studies in botany, zoology, microbiology, ecology, genetics and molecular biology, with efforts on identifying and conserving endemic flora and fauna and exploring microorganisms for product development and conservation applications. Research also supports practical uses such as biofertilizer production from peat soils and investigations of unique regional species and habitats.

In the area of chemistry, research spans a broad range of topics integrating chemical sciences with local environmental and natural resources. Major themes include biofuels, development of catalysts and green chemistry applications, isolation and characterisation of organic and inorganic compounds from local materials such as peat soil, clay, and marine sources, water treatment for high-organic content environments as well as isolation and study of endophytic microbes and secondary metabolites from plants and marine organisms.

### Summary

**The experts positively notice the following aspects:**

- Atmosphere of openness and cooperation among the students and the teaching staff.

- Students are satisfied with the degree programmes.
- Study plans are regularly updated and feedback from stakeholders is taken into account.
- University management and programme coordinators “are on the same page”.
- Comprehensive tutorial and advisory system for students.
- Well-equipped central laboratory with spacious rooms.
- Employers are satisfied with the graduates’ qualification profile.
- Good job perspectives.

**In the following areas, the experts see room for improvement:**

- The course learning outcomes in the module descriptions should be revised. The course learning outcomes should be aligned with a taxonomy and need to include all competencies (theoretical and practical) that students are expected to acquire in the respective course.
- Students’ academic mobility is rather low. Students should be encouraged to spend some time abroad during their studies and more English elements should be introduced in the courses.
- It would be useful to offer a Master’s programme in biology.
- A compulsory submission of a scientific paper for Bachelor’s students as a graduation requirement does not seem to be very useful.
- The awarded ECTS points need to comply with the students’ total workload and need to be verified for each course (especially for PLP, Internship, and the Bachelor’s thesis).
- The module descriptions need to be updated with respect to the literature references, wording of the intended learning outcomes, students’ workload, and contribution of the different exams to the final grade.
- The Diploma Supplement should be aligned with the European template.
- Instruments in the departmental laboratories should be updated and increased in numbers and the laboratories should be renovated.
- Safety regulations and measures have to be strictly followed in all laboratories.
- The feedback loops need to be closed and students need to be informed about the results of the satisfaction questionnaires.

## D Expert Report for the ASIIN Seal

### 1. The Degree Programme: Concept, content & implementation

|                                                                                                               |
|---------------------------------------------------------------------------------------------------------------|
| <b>Criterion 1.1 Objectives and learning outcomes of a degree programme (intended qualifications profile)</b> |
|---------------------------------------------------------------------------------------------------------------|

**Evidence:**

- Self-Assessment Report
- Study plans
- Module descriptions
- Homepage UNTAN: <https://www.untan.ac.id>
- Homepage Faculty of Teacher Training and Education; <https://fkip.untan.ac.id/>
- Homepage Faculty of Mathematics and Natural Sciences: <https://mipa.untan.ac.id/>
- Homepage Ba Biology: <https://biology.fmipa.untan.ac.id>
- Homepage Ba Biology Education: <https://pbiologi.untan.ac.id/en/>
- Homepage Ba Chemistry: <https://chemistry.fmipa.untan.ac.id>
- Discussions during the audit

**Preliminary assessment and analysis of the experts:**

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

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

The experts refer to the Subject-Specific Criteria (SSC) of the Technical Committee Life Sciences as a basis for judging whether the intended learning outcomes of the Bachelor's degree programme Biology and the Bachelor's degree programme Biology Education, as defined by UNTAN, correspond with the competences as outlined by the SSC.

Graduates of the Bachelor's degree programme Biology should understand the basic biological processes and should be capable of applying the scientific and technological methods of the biological sciences. In addition, graduates should acquire relevant scientific knowledge in the different biological areas such as botany, zoology, biochemistry, biostatistics, molecular biology, cell biology, ecology, plant & animal physiology, and related natural sciences (chemistry, physics). They learn to work in a team and to carry out practical work in a laboratory and in the field. In addition, graduates should be able to work scientifically and be familiar with technological innovations and the use and preservation of biological resources.

The Bachelor's degree programme Biology has a clear focus on tropical biodiversity, ecological preservation, and organismic biology with several specialization options by selecting elective modules and particularly in the course of the final research project. Supplementing the subject-related qualification objectives, Bachelor's students should have adequate competences in oral and written communication skills, be capable of working autonomously as well as in a team-oriented manner and be able to conduct research activities. Furthermore, they should have trained their analytical and logical abilities, be able to apply information and communication technology, and show a social and academic attitude. Finally, students should acquire language skills and should develop a strategy for life-long learning.

The programme's educational objectives and learning outcomes are expected to equip the graduates with life skills required to develop and adapt to the wide spectrum of possible occupations. Biology graduates have manifold job opportunities, which includes research assistants, teachers/lecturers, entrepreneurs, environmental consultants and they can find a suitable occupation in companies, academia, or public institutions.

Most of the Bachelor's graduates enter the job market directly, only few continue with a Master's degree. Approximately 90 % of the Bachelor's graduates work for private companies or public institutions, 5 % become entrepreneurs and found their own company, and 5 % pursue further academic education.

Graduates of the Bachelor's degree programme Biology Education should understand the basic biological processes and be capable of applying the scientific and pedagogical methods of the biological sciences. In addition, graduates should acquire relevant scientific

knowledge in the different biological areas such as botany, zoology, biotechnology, microbiology, molecular biology, cell biology, and related natural sciences (chemistry, physics). Furthermore, the students should be able to conduct independent laboratory and field-work, plan, implement, assess, and follow up the educational biology learning process and be able to design and perform experiments in biology learning to collect, analyse, and interpret data to solve biological issues, they have a sound knowledge of safety and environmental issues and the underlying legal framework, and be able to interpret, critically assess, present and communicate relevant information and new research results, and to discuss them with specialist colleagues. Finally, students should be qualified to conduct life-long learning and work effectively, both individually and in a team, to demonstrate scientific, critical, and innovative attitude in biology learnings, laboratory works, and environmental care.

The Bachelor's degree programme Biology Education is designed to produce competitive graduates with competences to work as biology educators/teachers, who are able to plan, implement, evaluate, and develop modern biology learning. As junior research assistants, graduates should be able to examine issues in biology and biology learning by implementing scientific methods and be able to design and carry out research projects in the area of biology education. As entrepreneurs, graduates should be qualified to manage a business unit and to develop local biological-based business ideas through innovation and creativity.

According to the tracer studies conducted by UNTAN, most graduates of the Bachelor's degree programme Biology Education work as teachers in secondary schools all over West Kalimantan and other areas in Indonesia. Some join Master's degree programmes, teach as lecturers, or become trainers at public educational centres. Students and alumni confirm that graduates mostly work as teachers in senior and junior high schools. However, students also acquire educational competences and competences related to entrepreneurship and research, as some of them are interested in joining Master's or PhD programmes.

The experts refer to the Subject-Specific Criteria (SSC) of the Technical Committee Chemistry, Pharmacy as a basis for judging whether the intended learning outcomes of the Bachelor's degree programme Chemistry, as defined by UNTAN, correspond with the competences as outlined by the SSC.

The goal of the Bachelor's degree programme Chemistry is to impart essential competencies in mathematics, the natural sciences and the core subjects of chemical sciences (inorganic, organic, physical, and analytical chemistry, biochemistry). In addition, the graduates should learn about the different substance classes, their properties, reaction possibilities and uses, and be able to independently plan and carry out practical work. They also should

be familiar with modern experimental methods of chemistry, the safe handling of chemicals, have a sound knowledge of safety and environmental issues and the underlying legal framework, and be able to interpret, critically assess, present and communicate relevant information and new research results, and to discuss them with specialist colleagues. Moreover, the graduates should be capable of using the acquired knowledge and skills to find solutions to practical chemical problems and for conducting scientific work. Finally, they should be familiar with chemical hazards and problems that are relevant for the community and be able to apply appropriate means to solve these problems, in order to improve the quality of people's lives.

Graduates of the chemistry programme have several job opportunities; they can work in the chemical or petrochemical industry as well as in research institutes or in the public administration. The majority of chemistry graduates work in sectors such as chemical and pharmaceutical industry, oil and gas companies, mining and polymer industries, environmental research and monitoring institutions, and public agencies.

Supplementing the subject-related qualification objectives, graduates of all three Bachelor's programmes should have adequate competences in oral and written communication skills, be capable of working autonomously as well as in a team-oriented manner and be able to conduct research activities. Furthermore, they should have trained their analytical and logical abilities, are able to apply information and communication technology in the field of science and show a social and academic attitude. Finally, students should acquire communicative and language skills and should develop a strategy for life-long learning.

The experts point out that the course learning outcomes in the module descriptions should be revised. They observe that most of the course learning outcomes begin with "students should be able to explain". It would be better to word them according to a taxonomy like Bloom's because it provides a clear, structured way to describe different levels of learning, from basic knowledge to higher-order thinking. The course learning outcomes should take the different cognitive levels of the courses into account and include skills such as remembering, understanding, applying, analysing, evaluating, and creating. Using a shared taxonomy makes outcomes more precise, measurable, and aligned with appropriate teaching activities and assessments. It also helps instructors and students clearly understand the expected depth and complexity of learning, supporting consistency and quality across courses and programmes. In addition, it is necessary to revise the course learning outcomes of the practical course. Several of the practical courses e.g. "MPK 1402 - Fundamentals of Organic Chemistry" only include theoretical competencies. However, the module descriptions also need to describe the practical competencies that students should acquire.

In summary, the experts are convinced that the intended qualification profiles of all three undergraduate programmes under review allow students to take up an occupation, which corresponds to their qualification. The degree programmes are designed in such a way that they meet the goals set for them. The experts conclude that the objectives and intended learning outcomes of the degree programmes adequately reflect the intended level of academic qualification and correspond sufficiently with the ASIIN Subject-Specific-Criteria (SSC) of the Technical Committee 09 – Chemistry, Pharmacy (Chemistry) and of the Technical Committee 10 – Life Sciences (Biology, Biology Education).

|                                                   |
|---------------------------------------------------|
| <b>Criterion 1.2 Name of the degree programme</b> |
|---------------------------------------------------|

**Evidence:**

- Self-Assessment Report

**Preliminary assessment and analysis of the experts:**

UNTAN awards a Bachelor of Education (B.Ed.) or Sarjana Pendidikan (S.Pd.) degree to the graduates of the Bachelor's degree programme Biology Education and a Bachelor of Science (B.Sc.) or Sarjana Sains (S.Si) to the graduates of the Bachelor's degree programme Biology and the Bachelor's degree programme Chemistry.

The experts confirm that the English translation and the original Indonesian names of the study programmes correspond with the intended aims and learning outcomes as well as the main course language (Bahasa Indonesia).

|                                 |
|---------------------------------|
| <b>Criterion 1.3 Curriculum</b> |
|---------------------------------|

**Evidence:**

- Self-Assessment Report
- Study plans
- Module descriptions
- Homepage UNTAN: <https://www.untan.ac.id>
- Homepage Faculty of Teacher Training and Education; <https://fkip.untan.ac.id/>
- Homepage Faculty of Mathematics and Natural Sciences : <https://mipa.untan.ac.id/>
- Homepage Ba Biology: <https://biology.fmipa.untan.ac.id>
- Homepage Ba Biology Education: <https://pbiologi.untan.ac.id/en/>

- Homepage Ba Chemistry: <https://chemistry.fmipa.untan.ac.id>
- Discussions during the audit

**Preliminary assessment and analysis of the experts:**

The Bachelor's degree programmes Biology (BPB) and Chemistry (BPC) are undergraduate degrees offered through the Faculty of Mathematics and Natural Sciences (FMIPA). The Bachelor's degree programmes Biology Education (BPBE) is offered by the Faculty of Teacher Training and Education (FKIP).

In order to graduate from the BPB and BPC programmes, students have to pass a minimum of 144 credits (Satuan Kredit Semester, SKS) within a period of eight semesters (four years). This is equivalent to 240.48 ECTS points). For the BPBE programme, students have to acquire at least 145 SKS (242.15 ECTS points).

The maximum length of studies for undergraduate programmes at UNTAN is 14 semesters (seven years). Each semester is equivalent to 16 weeks of learning activities. Besides these learning activities, there is one week for midterm exams and one week for final exams. The odd semester starts in August and ends in January of the following year, while the even semester lasts from February to July. At UNTAN, a short summer semester is not offered uniformly across all faculties. For example, FMIPA and FKIP, do not offer a short summer semester.

The modules within the curriculum are developed based on curriculum evaluations conducted every four or five years, involving revisions to module titles, content, references, as well as modifications to assessment methods and awarded credits. The curriculum structure of each degree programme is designed to meet the competency standards of undergraduate education in Indonesia and are aligned with the National Higher Education Standards set by the Indonesian Directorate General of Higher Education.

The curriculum consists of university requirements and compulsory and elective courses determined by UNTAN and the respective departments. University requirements are courses that need to be attended by all undergraduate students at UNTAN. There are four university requirements: Bahasa Indonesia, Religion, Pancasila, and Civic Education. These courses encompass 9 SKS (15.03 ECTS points) and are offered in the first two semesters of studies, in addition to courses conveying basic knowledge of natural sciences and mathematics.

In addition to the compulsory modules, the curricula of the BPB, BPBE, and BPC programmes include a diverse range of electives, in order to provide students with opportunities to broaden and deepen their knowledge and skills beyond the scope of the core curriculum. These modules are designed to offer flexibility, enabling students to explore subject

areas aligned with their individual interests, academic goals, and future career plans. According to the curriculum structure of each programme, the distribution of elective modules is as follows: in BPB, electives (29 SKS, 48.43 ECTS) are offered from semesters 3 to 7; in BPBE (20 SKS, 33.40 ECTS), they are available in semesters 5 and 6; and in BPC (22 SKS, 36.47 ECTS), they are offered from semesters 6 to 8. The list of available electives can be found in the appendix.

Foundational modules are offered in the early semesters, providing the necessary knowledge and skills for more advanced modules in later semesters. The curriculum structure across the three degree programmes is implemented through a series of modules that deliver learning both in and outside of the classroom. Each module is assigned a specific number of credit points.

In the BPB and BPC programmes, students undertake a single internship programme, usually in research institutions, laboratories, industries, or government agencies relevant to their field. These internships are designed to strengthen students' scientific competencies by applying theoretical knowledge in real-world contexts, developing practical and technical skills, and enhancing soft skills such as communication and problem-solving. Assessment is conducted through a combination of student reports, evaluations by field supervisors, and academic supervisor reviews, using rubrics aligned with the programme's learning outcomes. The assessment procedures are detailed in the official Internship Handbook.

The BPBE programme includes two internships: PLP 1 and PLP 2. PLP 2 is conducted in high schools and carried out concurrently with the Community Service Programme (KKM). These activities help students integrate pedagogical theory with classroom practice while developing essential soft skills like leadership, teamwork, and real-life problem-solving. Students are assessed through reports, teaching evaluations, and supervisor assessments, following the criteria outlined in the Guidelines of Teaching Practice and Community Service.

In all three study programmes, students are required to submit a report that must be validated by the appointed field supervisor. Each internship is supported by academic supervisors who provide guidance.

The BPB programme provides a broad foundation in biological sciences with both theoretical and practical components. The curriculum includes core biology subjects such as cell and molecular biology, anatomy, physiology, ecology, genetics and other life-science disciplines, supported by laboratory and fieldwork to develop scientific skills.

Students gain knowledge about biodiversity, organismal structure and function, and ecological systems, preparing them for careers in research, environmental management, biotechnology, conservation, or further graduate study. The programme structure follows a

semester-based credit system combining compulsory and elective courses, culminating in a final project or thesis, and emphasises hands-on lab experience and scientific inquiry typical of Indonesian biology degrees.

The course distribution for the BPB programme is depicted in the following table:

| Year                   | 1     |       | 2     |       | 3     |       | 4     |       |
|------------------------|-------|-------|-------|-------|-------|-------|-------|-------|
| Semester               | I     | II    | III   | IV    | V     | VI    | VII   | VIII  |
| <b>Total SKS</b>       | 19    | 19    | 22    | 24    | 24    | 24    | 6     | 6     |
| <b>Compulsory SKS</b>  | 19    | 19    | 20    | 20    | 19    | 7     | 4     | 6     |
| <b>Elective SKS</b>    | 0     | 0     | 2     | 4     | 5     | 17    | 2     | 0     |
| <b>Total ECTS</b>      | 31.73 | 31.73 | 36.74 | 40.08 | 40.08 | 40.08 | 10.02 | 10.02 |
| <b>Compulsory ECTS</b> | 31.73 | 31.73 | 33.40 | 33.40 | 31.73 | 11.69 | 6.68  | 10.02 |
| <b>Elective ECTS</b>   | 0     | 0     | 3.34  | 6.68  | 8.35  | 28.39 | 3.34  | 0     |

Table 1: Course distribution BPB, Source: UNTAN Self-Assessment Report

The BPBE programme at UNTAN is an undergraduate programme designed to prepare students to become professional biology teachers, mainly for secondary education. Its structure combines core biological sciences (such as botany, zoology, ecology, genetics, and microbiology) with education and pedagogy courses, including curriculum development, learning psychology, teaching methods, and educational evaluation. The program also emphasizes laboratory work, field studies, teaching practicum (PPL) in schools, and concludes with a final project, ensuring graduates are competent both in biological knowledge and in effective biology teaching.

To prepare students for practical teaching in secondary schools, there are the PLP (Pengenalan Lapangan Persekolahan) courses, which are mandatory for prospective education graduates with a total work load of 4 SKS. PLP is divided into two courses, namely PLP 1 with a work load of 1 SKS and PLP 2 with a work load of 3 SKS. PLP implementation is carried out in even semesters (period 1: January-May) or odd semesters (period 2: July-November), and the stages of PLP activities are arranged by the PLT Unit. The PLP assessment is carried out by tutor teachers and supervisors from UNTAN.

PLP 1 aims to ensure that students become closely acquainted with the school environment in academic, social, physical and administrative terms, so that they can build a foundation of educational identity through observing different forms of teaching activities at partner schools.

PLP 2 aims to enable students to apply basic knowledge and skills of teaching or education in a real situation so that they can learn about curriculum analysis and different form of assessment. In addition, students get to practise teaching and to carry out non-teaching activities.

The course distribution for the BPBE programme is depicted in the following table:

| Year            | 1     |       | 2     |       | 3     |       | 4     |      |
|-----------------|-------|-------|-------|-------|-------|-------|-------|------|
| Semester        | I     | II    | III   | IV    | V     | VI    | VII   | VIII |
| Total SKS       | 20    | 20    | 23    | 23    | 21    | 23    | 11    | 4    |
| Compulsory SKS  | 20    | 20    | 23    | 23    | 11    | 13    | 11    | 4    |
| Elective SKS    | 0     | 0     | 0     | 0     | 10    | 10    | 0     | 0    |
| Total ECTS      | 33.40 | 33.40 | 38.41 | 38.41 | 35.07 | 38.41 | 18.37 | 6.68 |
| Compulsory ECTS | 33.40 | 33.40 | 38.41 | 38.41 | 18.37 | 21.71 | 18.37 | 6.68 |
| Elective ECTS   |       |       |       |       | 16.70 | 16.70 | 0     | 0    |

Table 2: Course distribution BPBE, Source: UNTAN Self-Assessment Report

UNTAN's biology programme emphasises research on biological systems in tropical wetland and peatland environments, reflecting the unique ecosystems of West Kalimantan. This includes field studies and conservation of wetlands and mangrove ecosystems. This includes local flora and fauna, particularly endemic and region-specific species in Kalimantan forests and wetlands. Additionally, there is a focus on the exploration of microorganisms from local ecosystems and projects in ecology and conservation aim at understanding species interactions, ecosystem health, and ecological responses to environmental change, especially in tropical landscapes. This includes studies related to ecological processes in wetland and forest habitats. Within the BPBE programme, research areas include biology teaching methods, learning media development, and biology literacy, focusing on improving biology education practice and pedagogy.

The BPC programme at UNTAN focuses on building a strong foundation in chemical sciences. It combines core chemistry theory and laboratory practice across areas such as physical, organic, inorganic, analytical chemistry and biochemistry, and is structured around a semester credit system that includes compulsory and elective courses tailored to chemical knowledge and skills. Graduates gain both theoretical understanding and practical laboratory experience, preparing them for careers in research, industry, environmental science and related fields. The curriculum also integrates general academic requirements such as religion, language and civic courses as part of the higher education structure in Indonesia.

The course distribution for the BPC programme is depicted in the following table:

| Year                   | 1     |       | 2     |       | 3     |       | 4     |       |
|------------------------|-------|-------|-------|-------|-------|-------|-------|-------|
| Semester               | I     | II    | III   | IV    | V     | VI    | VII   | VIII  |
| <b>Total SKS</b>       | 22    | 22    | 22    | 21    | 22    | 13    | 14    | 8     |
| <b>Compulsory SKS</b>  | 22    | 22    | 22    | 21    | 22    | 5     | 6     | 2     |
| <b>Elective SKS</b>    | 0     | 0     | 0     | 0     | 0     | 8     | 8     | 6     |
| <b>Total ECTS</b>      | 36.74 | 36.74 | 36.74 | 35.07 | 36.74 | 21.71 | 23.38 | 13.36 |
| <b>Compulsory ECTS</b> | 36.74 | 36.74 | 36.74 | 35.07 | 36.74 | 8.35  | 10.02 | 3.34  |
| <b>Elective ECTS</b>   | 0     | 0     | 0     | 0     | 0     | 13.44 | 13.44 | 10.08 |

Table 3: Course distribution BCE, Source: UNTAN Self-Assessment Report

Research activities in the area of chemistry at UNTAN focus on the isolation and characterization of organic soil substances (especially from local peat soils), the extraction and analysis of secondary metabolites from tropical plants and marine organisms, including bioactivity testing of plant and endophytic microbial compounds. In addition, there is research on treatment of water containing high organic loads, especially pertinent to local ecosystems, and the characterization of rare earth and other metals, important for environmental and material applications.

Usually during the last year of studies, students must complete the community service (Kuliah Kerja Nyata, KKN). The experts discuss with the programme coordinators about the content and goal of this course. The programme coordinators explain that community service is compulsory for all Indonesian students. It has a minimum length of four weeks and often takes place in villages or rural areas where students stay and live together with the local people. The course is designed “to allow students to apply their knowledge based on their field in order to empower society.” Since the community service usually takes place in remote areas, the students cannot attend any classes during this time. The students work in interdisciplinary teams during the community service in order to advance the society and bring further development about. This course was introduced at all Indonesian Universities in 1971. The assessment of the community service consists of a work plan, programme implementation, and activity report. The experts understand that students should work for the benefit of the community and the Indonesian society during the community service and support this concept.

The members of the teaching staff explain on demand of the experts that they offer possible topics for the final projects according to their own research projects. All members of the teaching staff supervise theses. Students have to design a research proposal (this proposal is developed in the “proposal seminar”, which usually takes place in the sixth semester) with a time schedule for the project, which is discussed with the academic advisor. If they agree, students apply formally for being allowed to work on the suggested topic. Students can also develop their own concepts for their Bachelor’s thesis. As the research projects at FKIP focus on science education, the theses are also dealing with educational topics.

During the audit, the experts learn that UNTAN offers a Master’s degree programme in chemistry but not in biology. The experts point out that offering a Master’s programme in biology at UNTAN would be useful for several academic and strategic reasons, especially considering UNTAN’s location and focus. As UNTAN is located in one of the world’s most biodiverse regions, which includes tropical rainforests, peatlands and wetlands, mangroves, rivers, and coastal ecosystems. A Master’s programme in biology would allow advanced research in areas such as biodiversity conservation, ecosystem protection as well as sustainable land and natural-resource use and management of these unique ecosystems. Many biological challenges in Kalimantan are complex and long-term, which are better addressed at the graduate level than at undergraduate level. UNTAN already has active undergraduate research and laboratories in biology-related fields. A Master’s programme would allow to deepen research quality and output, support teachers research agendas and attract research funding and collaborations (national and international). Without a local Master’s programme, UNTAN biology graduates must move to Java or other islands to pursue advanced academic education or stop at undergraduate level. A Master’s programme in biology would increase access to graduate education for local students and create highly skilled local experts who understand local ecological and social contexts. Graduates could support government agencies, NGOs, national parks, and conservation projects operating in Kalimantan. Finally, opening a Master’s programme in biology would increase UNTAN’s academic profile and reputation as well as improve research output.

The experts inquire why bioinformatics is not offered as a course in the BPB or in BPBE. The programme coordinators explain that a course in bioinformatics will be introduced this semester as an elective in the BPB programme; in the BPBE programme, the course “Introduction to Bioinformatics” is offered as an elective since 2022. The experts appreciate this development but point out that it would be useful to make the bioinformatics course compulsory for all BPB and BPBE students, because modern biology is data-intensive, and graduates need basic skills in handling, analysing, and critically evaluating large biological datasets to understand current research. Modern genomics and molecular biology routinely

generate large sequencing and omics datasets, so students must understand core bioinformatics concepts and tools to interpret contemporary studies. Early, mandatory exposure emphasizes that bioinformatics is an essential part of the biological sciences, not an optional niche, helping students better understand how research is done in the 21st century. It also improves students' career prospects, as bioinformatics competencies are now expected in many life-science jobs and are linked to higher research self-efficacy and interest in biomedical careers.

#### *Periodic Review of the Curriculum*

Curriculum adjustments have been undertaken in recent years to ensure a more robust alignment between the curriculum and the students' intended competence profile. These adjustments were based on both internal evaluations and external considerations, reflecting the programme's commitment to continuous improvement. Curriculum evaluation is formally conducted every four years in response to changes in national education policy or stakeholder input. In addition to these periodic reviews, regular evaluations are carried out through programme meetings at the end of each semester, allowing for timely identification of areas needing revision.

Adjustments were also caused by feedback from various stakeholders, including alumni, employers, and industry representatives. This feedback indicated a growing demand for competencies in digital literacy, data analysis, and applied research. In response, the programme introduced new elective courses and updated existing course content to ensure relevance to current professional and academic demands.

Furthermore, findings from tracer studies revealed that although graduates generally met academic standards, there remained a need to strengthen skills in scientific communication, interdisciplinary collaboration, and soft skills to enhance employability. These findings led to refinements in learning outcomes and teaching approaches to better prepare students for the complexities of the workplace and postgraduate studies. The internal review processes, together with external accreditation efforts resulted in positive outcomes, including an increase in the proportion of students graduating on time, higher grade point averages, and improved graduate performance in terms of employment and further academic pursuits.

#### *International Mobility*

UNTAN provides some opportunities for students to conduct internships and exchange programmes abroad. Students who take part in student exchanges through cooperation programmes can gain recognition of the acquired credits after obtaining approval from their undergraduate programme.

UNTAN and the study programmes under review actively support students' academic mobility by providing guidance to ensure that learning outcomes achieved during the mobility period are recognized and integrated into the students' study plans. For example, BPBE students who participate at the MBKM programme are required to examine the curriculum structure of the host university. They then consult with the Head of the BPBE programme to discuss which modules offered at the host institution are eligible for recognition and how they align with the curriculum at their home institution. Based on this discussion, students complete a course recognition form to ensure that the selected modules are academically relevant and fall within the same disciplinary scope. Upon completion of the mobility period, the grades received at the host university are formally converted and matched with the corresponding modules at UNTAN thereby ensuring credit recognition.

To foster academic mobility, each study programme actively promotes international cooperations, either through initiatives facilitated by the International Affairs Office of UNTAN or by the respective faculty-level international offices, such as the Global Partnership Unit (Unit Kemitraan Global, UKGo) at FKIP. Within this framework, the BPB, BPBE, and BPC programmes have been engaged in developing and maintaining cooperation agreements with international partner institutions. These agreements are designed not only to support student exchange and joint academic activities but also to foster collaborative research and capacity building, thereby enhancing the global outlook of the programmes.

In addition, students of educational programmes can join the SEA Teacher (Southeast Asia-Teacher) project. This programme was initiated by the Southeast Asia Ministers of Education Organisation (SEAMEO) involving countries in Southeast Asia. Eleven SEAMEO member countries are collaborating on this project that is aimed to improve the quality of education in Southeast Asia, revitalize teacher education, and continue to build and improve the quality of teachers in their home country. The Faculty of Teacher Training and Education of UNTAN participates at the SEA Teacher programme. In the SEA Teacher programme, FKIP has international cooperations with universities in Malaysia, Thailand and the Philippines. The students usually stay for four weeks abroad.

Students' international academic mobility is supported by the Indonesian Government. For example, through Indonesian International Students Mobility Awards (IISMA), a scholarship programme from the Ministry of Education, Culture, Research and Technology starting from 2021. In addition, lecturers are encouraged to carry out joint research activities with international partners and to involve students in their projects.

The new policy of the Indonesian government actively supports any activities outside of the university by releasing a regulation on the Merdeka Belajar-Kampus Merdeka (MBKM),

which requires the university to promote students who want to spend part of their Bachelor's programme outside UNTAN (Minister of Education and Culture Regulation Number 3, Year 2020). UNTAN recognizes the courses taken by the students outside UNTAN, based on the comparability of the intended learning outcomes. The experts consider this regulation sufficient.

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

The number of students in the three undergraduate programmes, who spend some time abroad is still quite low despite students' high interest. Several students take part at the MBKM programme every year, but all of these stays were conducted in Indonesia in the context of teaching in educational institutions, projects in villages, or short term stays at other universities.

The students confirm during the discussion with the experts that some opportunities for international academic mobility exist and that the credits acquired abroad are recognised at UNTAN.

The experts emphasize that it is very useful for students to spend some time abroad already during their Bachelor's studies to improve their English proficiency, to get to know other educational systems, and to enhance their job opportunities.

To attract international students, FKIP and FMIPA should think about regularly conducting international summer schools. The experts are convinced that such an offer would appeal to many students, especially from Europe, and this might help to further promoting the internationalisation of UNTAN. A good example is the Faculty of Forestry at UNTAN, which organised an International Summer Course titled "Coastal Resilience and Carbon Sequestration: Exploring the Role of Mangroves and Peatlands Forest Contribution to Climate Mitigation". The programme ran from 22 – 31 July 2025, combining online theory sessions, project presentations, field trips to mangrove and peatland ecosystems, and cultural activities in Pontianak. It was conducted in English and aimed at international and domestic students interested in ecology and environmental science. Participants included students from various countries and academics from Indonesian and overseas institutions, reflecting its international scope. The experts recommend that more such international summer schools should be offered by UNTAN.

A good starting point for initiating more international co-operations are the personal international contacts of the faculty members and the guest lecturers. It is also possible for students and teachers to apply to international organisations like the German Academic Exchange Council (DAAD) or British Council for receiving funds for stays abroad.

Since UNTAN has the goal to become internationally more visible and wants to further internationalise its degree programmes, the experts discuss with the programme coordinators and students if any classes in the three undergraduate programmes are taught in English. The programme coordinators explain that all courses are delivered in Bahasa Indonesia (Indonesian language) but most of the teaching materials are provided in English. With respect to English proficiency, the experts emphasise that delivering part of the lectures in English is highly encouraged and teachers should be supported to be fluent in communication in the English language.

In order to foster internationalisation at UNTAN and for better promoting students' academic mobility, the experts suggest including more English elements in the courses, especially in the advanced course of the third and fourth year. Students' English proficiency is a major hinderance for participating in international programmes and encouraging them to actively speak English, e.g. by having presentations or group projects in English, would be very beneficial. In addition, FMIPA could offer something like an English journal club. An English journal club is typically organized as regular small-group meetings (weekly or bi-weekly) where students read a selected academic article in English before the session. One or two students lead each meeting by summarizing the paper and presenting key points, followed by a guided discussion conducted entirely in English. A faculty member or senior student moderates the session, helps clarify language and concepts, and encourages participation, while rotating presenters ensure all students actively practice reading, speaking, and critical discussion skills. Establishing a Journal Club is a highly effective way to promote students' English proficiency, especially in academic contexts, because it integrates language learning with real scholarly practice.

Another possibility to encourage students to go abroad is organising an "International Day", which is usually a campus-wide annual event. It is coordinated by the university's international office in collaboration with faculties and student organisations. It usually features cultural exhibitions, country booths, international food, student and partner presentations, language activities, and global mobility information sessions, of-ten involving international students, alumni, and partner institutions. The event is designed to encourage cross-cultural interaction, raise awareness of international opportunities, and strengthen the university's global outlook.

In summary, the experts appreciate the effort to foster international mobility and support UNTAN to further pursuing this path. However, the academic mobility is still low and there is room for improvement.

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|---------------------------------------------|
| <b>Criterion 1.4 Admission requirements</b> |
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**Evidence:**

- Self-Assessment Report
- Study plans
- Admission Regulation No. 48 of 2022 issued by the Minister of Education, Culture, Research, and Technology
- Homepage UNTAN: <https://www.untan.ac.id>
- Homepage Faculty of Teacher Training and Education; <https://fkip.untan.ac.id/>
- Homepage Faculty of Mathematics and Natural Sciences : <https://mipa.untan.ac.id/>
- Homepage Ba Biology: <https://biology.fmipa.untan.ac.id>
- Homepage Ba Biology Education: <https://pbiologi.untan.ac.id/en/>
- Homepage Ba Chemistry: <https://chemistry.fmipa.untan.ac.id>
- Discussions during the audit

**Preliminary assessment and analysis of the experts:**

According to the Self-Assessment Reports, admission procedures and policies for new students follow the national regulations in Indonesia, specifically Regulation No. 48 of 2022 issued by the Minister of Education, Culture, Research, and Technology. The process is based on regulations that are issued by the Rector every year, which determine the selection pathways, assessment mechanisms, available study places, and registration processes. The requirements, schedule, registration venue, and selection test are announced on UNTAN's webpage and thus accessible for all stakeholders.

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

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

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

3. Institution Independent Selection (Seleksi Jalur Mandiri, SJM) UNTAN conducts this scheme. It offers an additional opportunity for students who are unsuccessful in the SNBP or SNBT processes. The selection criteria are based on internal university policies and may involve additional assessments. The SJM scheme follows the Rector's Decree Number 1816/UN22/TM.00/2024, issued on 2 May 2024.

The SNBP and SNBT schemes are fully prepared by the Indonesian Committee for National Selection of Prospective Students Admission (Seleksi Nasional Penerimaan Mahasiswa Baru, SNPMB), while the institution fully regulates the SJM scheme. Each state university sets the minimum quota for the SNBP pathway at 20%, the SNBT pathway at 40%, and the SJM pathway at 40%.

All information about the requirements, how to register, the stages of the registration process, exam schedules, and announcement of selection results are managed by this agency.

Provisions regarding the selection mechanism for new student admissions can be accessed via the UNTAN homepage which can be accessed by all prospective students both domestically and abroad. Apart from information regarding entrance selection, the website also provides information about service standards and mechanisms for carrying out lecture activities as outlined in academic guidelines.

Since 2020, the number of applications and registered students has continually decreased in all three study programmes. However, the number of applications still exceeds the number of available study places, which is 120 students per year in BPB and BPC and 85 students in BPBE. The maximum intake is based on the number of teachers and the capacity of the available facilities.

The details are depicted in the following tables:

**Bachelor Programme of Biology**

| Year | Applicants | Available Seats | Admitted Students | Admission Rate (%) |
|------|------------|-----------------|-------------------|--------------------|
| 2020 | 305        | 120             | 102               | 85.00%             |
| 2021 | 325        | 120             | 103               | 85.83%             |
| 2022 | 326        | 115             | 98                | 85.22%             |
| 2023 | 156        | 80              | 60                | 75.00%             |
| 2024 | 147        | 80              | 53                | 66.25%             |

Table 4: New Students' Admission BPB, Source: UNTAN Self-Assessment Report

**Bachelor Programme of Biology Education**

| Year | Applicants | Available Seats | Admitted Students | Admission Rate (%) |
|------|------------|-----------------|-------------------|--------------------|
| 2020 | 326        | 87              | 71                | 81.61%             |
| 2021 | 379        | 80              | 69                | 86.25%             |
| 2022 | 353        | 85              | 72                | 84.71%             |
| 2023 | 274        | 85              | 71                | 83.53%             |
| 2024 | 297        | 85              | 82                | 96.47%             |

Table 5: New Students' Admission BPBE, Source: UNTAN Self-Assessment Report

**Bachelor Programme of Chemistry**

| Year | Applicants | Available Seats | Admitted Students | Admission Rate (%) |
|------|------------|-----------------|-------------------|--------------------|
| 2020 | 215        | 120             | 92                | 76.67%             |
| 2021 | 267        | 120             | 95                | 79.17%             |
| 2022 | 216        | 115             | 89                | 77.39%             |
| 2023 | 118        | 120             | 81                | 67.50%             |
| 2024 | 124        | 120             | 70                | 58.33%             |

Table 6: New Students' Admission BPC, Source: UNTAN Self-Assessment Report

Undergraduate students at UNTAN have to pay tuition fees, which vary according to the operational costs of learning in the respective study programme. The tuition fees for the three study programmes under review are regulated under the official decree issued by the Directorate General of Higher Education, Research, and Technology No. 0261/E.E1/PR.07.04/2023 and the Rector's Decree of Universitas Tanjungpura No. 0513/UN22/RHS/PR.01.00/2024. Fees are structured into eight categories, with the lowest category (Group 1) set at IDR 500,000 (25€) per semester across all three study programmes. The highest category (Group 8) amounts to IDR 8,000,000 (407€) for BPB and BPC, and IDR 6,500,000 (331€) for BPBE. The allocation of students into these categories is determined by the economic capacity of the student, their parents, or other financial sponsors, thereby ensuring a fair and needs-based tuition structure. To further support equal access, a wide range of scholarships is available. These include national-level schemes and scholarships from financial and private institutions such as Bank Indonesia, as well as various scholarships provided by local governments.

The experts would like to clarify whether students with colour-blindness can be admitted to the study programmes or not. To this end, they ask UNTAN to give a short explanation about this issue.

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

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|--------------------------------------------|
| <b>Criterion 1.5 Work load and credits</b> |
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**Evidence:**

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

**Preliminary assessment and analysis of the experts:**

Based on the National Standards for Higher Education of Indonesia (SNPT), all three programmes under review use a credit point system called Satuan Kredit Semester (SKS).

For regular classes, 1 SKS of academic load for the undergraduate programme is equivalent to 3 academic hours, which equals 160 minutes. This includes:

- 50 minutes of scheduled contact with the teaching staff in learning activities,
- 60 minutes of structured activities related to lectures, such as doing the assignments, writing papers, or studying literature,
- 60 minutes of independent activities outside the classroom to obtain a better understanding of the subject matters and to prepare academic assignments such as reading references.

For lab work, final project, fieldwork, community service and other similar activities, 1 SKS is equivalent to 170 minutes a week of student's activities.

Bachelor's students with high academic achievement can take more courses (up to 24 SKS) to speed up their studies; the academic advisor must approve this.

According to the Self-Assessment Report, UNTAN uses a fixed conversion factor of 1.67 between SKS and ECTS points. The reasoning behind this calculation is that one SKS equals 170 minutes (2.83 hours). As the semester lasts for 16 weeks  $2.83 \times 16 = 45.28$  hours per semester. As UNTAN calculates 27 hours of students' workload for one ECTS point, this total workload is then divided by 27 to get the conversion factor:  $45.28 / 27 = 1.67$ .

The experts point out that there can be no fixed conversion rate between SKS and ECTS points. Therefore, the ECTS points need to be calculated separately for each course. This is necessary, because the time students need for self-studies is different for each course. Especially the courses with the high share of self-studies (KKN, PLP, and Bachelor's thesis) show, that the students spend much more time on their final projects than is currently reflected in the awarded ECTS points. UNTAN should follow the ECTS Users' Guide to determine the students' total workload. As described in the ECTS Users' Guide, the estimation

of students' workload should include all learning activities. This is the time students typically need to complete all learning activities (such as lectures, seminars, projects, practical work, self-study and examinations). In other words, a seminar and a lecture may require the same number of contact hours, but one may require significantly greater workload than the other because of differing amounts of independent preparation by students.

Since workload is an estimation of the average time spent by students to achieve the expected learning outcomes, the actual time spent by an individual student may differ from this estimate. Individual students differ: some progress more quickly, while others progress more slowly. Therefore, the workload estimate should be based on the time an "average student" spends on self-studies and preparation for classes and exams. The initial estimation should then be verified via students' satisfaction questionnaires.

Since the workload of the students was only estimated by the programme coordinators and these estimations seem to be too low in comparison to the actual time needed by the students, the experts ask UNTAN to verify the students' total workload and to adjust the awarded ECTS points. This could e.g. be done by including a respective question in the satisfaction questionnaires (see criterion 5). In any case, UNTAN must make sure that the actual workload of the students and the awarded ECTS credits correspond with each other and make that information transparent in the module descriptions and the study plans. (see criterion 4.1)

With respect to the average time students need to graduate from the programmes, the experts notice that the average length of studies exceeds the expected eight semesters. However, the programme coordinators explain that in the last few years only a small proportion of students graduate within the intended 8 semesters. Most students complete their studies in 9 to 10 semesters, primarily due to delays in thesis completion, stemming from limited hands-on research skills, reliance on external laboratories for sample analysis, and inadequate laboratory infrastructure, time management challenges, or limited supervision capacity during peak periods. To improve on the situation, the degree programmes have enhanced academic support through structured thesis supervision, progress tracking, and capacity-building activities such as research methodology workshops and writing clinics. The average length of studies for the three undergraduate programmes is depicted in the following tables:

| <b>Cohort Year</b> | <b>Graduated in <math>\leq 8</math> semesters</b> | <b>Graduated in 9-10 semesters</b> | <b>Graduated <math>\geq 10</math> semesters</b> |
|--------------------|---------------------------------------------------|------------------------------------|-------------------------------------------------|
| 2018               | 0%                                                | 28.24%                             | 71.76%                                          |

|      |        |        |        |
|------|--------|--------|--------|
| 2019 | 4.4%   | 51.65% | 43.95% |
| 2020 | 7.78%  | 62.22% | 30%    |
| 2021 | 26.14% | N/A    | N/A    |

Table 7: Graduation time BPB, Source: UNTAN Self-Assessment Report

| Cohort Year | Graduated in ≤ 8 semesters | Graduated in 9-10 semesters | Graduated ≥ 10 semesters |
|-------------|----------------------------|-----------------------------|--------------------------|
| 2018        | 15%                        | 70%                         | 15%                      |
| 2019        | 18%                        | 68%                         | 14%                      |
| 2020        | 22%                        | 65%                         | 13%                      |
| 2021        | 45.9%                      | N/A                         | N/A                      |

Table 8: Graduation time BPBE, Source: UNTAN Self-Assessment Report

| Cohort Year | Graduated in ≤ 8 semesters | Graduated in 9-10 semesters | Graduated ≥ 10 semesters |
|-------------|----------------------------|-----------------------------|--------------------------|
| 2018        | 0%                         | 35.37%                      | 64.63%                   |
| 2019        | 3%                         | 44%                         | 53%                      |
| 2020        | 7%                         | 54%                         | 39%                      |
| 2021        | 13.3%                      | N/A                         | N/A                      |

Table 9: Graduation time BPC, Source: UNTAN Self-Assessment Report

In BPBE, further measures have been taken: (1) appointing academic advisors as thesis supervisors, with the aim of enabling continuous monitoring of students' academic progress from the beginning of their studies; and (2) relocating the module "Penelitian Pendidikan Biologi" (Research in Biology Education, BIO 307), which was previously offered in the sixth semester, to the fifth semester in the revised curriculum. These measures are ongoing to ensure more students can graduate within the expected timeframe without compromising academic standards.

The experts confirm that those responsible for the programme have recognised the problem of the long average duration of studies by Indonesian standards and have already introduced effective measures to solve the problem.

For example, to improve timely graduation, the study programme and faculty have implemented several measures to support thesis completion. These include full access to laboratories, structured supervision, increased lecturer involvement during peak periods, regular progress monitoring, and limited financial support for research materials. In addition, UNTAN has implemented some strategies to anticipate late graduation issues. These include the use of Satu UNTAN (an integrated academic information system, the annual audit for quality assurance of study programmes, and the annual assessment for academic staff performance). Satu UNTAN has been used since 2024. This system allows the head of study programmes to monitor students' milestones, including thesis progress, during their studies.

As a result, the current cohorts of graduates are once again recording shorter durations of study that are within the expected range. For this reason, the experts see no immediate need for action in this area.

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|--------------------------------------------------------|
| <b>Criterion 1.6 Didactic and Teaching Methodology</b> |
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**Evidence:**

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

**Preliminary assessment and analysis of the experts:**

Various teaching and learning methods such as lectures, class and group discussions, case studies, demonstrations, assignments, simulations, experiments, field studies, teaching practise, and problem-based learning are applied in all three undergraduate programmes under review. Structured activities include homework, assignments (reading or problem exercises) and practical activities. Group project assignments are given in some courses to develop students' skills in teamwork, communication, and leadership. The assignments and exercises should help students to develop their abilities with respect to critical thinking, written/oral communication, data acquisition, problem solving, and presentations.

Students are further encouraged to apply their knowledge in a series of student projects that are oriented towards teaching practice in the classroom and in laboratories. Classes and laboratories are designed in problem-based learning settings in order to introduce student-oriented teaching methods to involve all students in the learning processes and to develop their thinking and analytical skills. Problem based learning and student-centred

learning is used in several courses and students are assigned to group projects and have to present their findings in front of the class. In addition, teaching practice in form of school internships is also part of the curriculum. Moreover, students gain practical experience through the PLP (Internship) and KKN (Student Community Service) activities that integrate teaching practice with community service, so that students are expected to be able to identify, analyse and solve problems in the school and its environment.

The most common method of learning is class session, with several courses having integrated laboratory work. Lecturers generally prepare presentations to support the teaching process. In addition, several courses include teaching practice sessions or micro-teaching (i.e. students presenting teaching practice trials in front of their peers). With individual or group assignments, such as discussions, presentations, or written tasks, students are expected to improve their academic as well as their soft skills. Laboratory work covers laboratory preparation, pre- or post-tests, laboratory exercises, reports, discussions, and presentations. In addition, practical activities should enable students to be acquainted with academic research methods. All students at UNTAN have access to the digital academic information system Satu UNTAN. The students' profiles (student history, study plan, academic transcript and grade point average/GPA, lecturer evaluation, course list) are available via Satu UNTAN. In addition, course materials and supporting documents compiled by the lecturers are provided via Satu UNTAN.

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

The experts appreciate that UNTAN has already developed its own institutional guideline on the use of Artificial Intelligence (AI) in teaching and learning. This guideline was formulated to ensure that AI tools, particularly generative AI, are utilised responsibly and ethically in line with academic integrity principles. In addition, UNTAN also refers to the national guideline on generative AI issued by the Directorate of Learning and Student Affairs of the Ministry of Education, Culture, Research, and Technology, thereby aligning institutional practices with broader national standards.

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

The experts confirm that the course learning outcomes in the module descriptions have been revised and now include all competencies (theoretical and practical) that students are expected to acquire in the respective course.

The experts support the Biology Department in its plan to launch a Master's programme in biology. They hope that UNTAN can open a Master's programme in biology in the near future.

Given the importance of bioinformatics, the experts appreciate that the bioinformatics course will be made compulsory in the 2027 curriculum of the BPB and BPBE programmes.

The experts are glad that UNTAN will expand its international cooperations and they encourage the departments to better support students' academic mobility. This includes the organisation or participation of international summer schools.

The experts appreciate that the three study programmes will gradually introduce more English elements into selected advanced courses, including the use of English-language references, lecture materials, and assessment components. The initiation of an English Club by the Biology Student Association is also supported.

The experts thank UNTAN for clarifying that the university does not reject applicants with colour-blindness, and colour-blindness is not listed as an admission requirement for entry to UNTAN study programmes.

The experts confirm that the three study programmes have revised their approach by calculating ECTS points separately for each course, based on the total student workload. This workload calculation includes contact hours (lectures, tutorials, practical sessions), structured assignments, independent learning, examinations, and other learning activities required to achieve the intended learning outcomes of each course. In addition, a workload survey has been conducted. However, the experts point out that the BPBE programme needs to make transparent the students' workload in hours per semester for all courses. For example, in Undergraduate Thesis (KPB 431) and KKM (Community Field Works) (KIP 208) the mentioned students' workload seems much too low.

The experts consider criterion 1 to be mostly fulfilled.

## 2. Exams: System, concept and organisation

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|------------------------------------------------------------|
| <b>Criterion 2 Exams: System, concept and organisation</b> |
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**Evidence:**

- Self-Assessment Report
- Module descriptions
- UNTAN Academic Guidelines

**Preliminary assessment and analysis of the experts:**

As described in the Self-Assessment Report, course learning outcomes are evaluated through assessment forms, which are divided into four types: 1) Lectures, 2) Practical work, 3) Internship/Community Service/MBKM, and 4) Thesis. For BPBE, there is an additional assessment in Microteaching and School Environment Introduction (PLP 1).

Assessment of learning processes and outcomes can be done in the form of quizzes, structured assignments, practicum exams, mid-semester exams, end-of-semester exams, and classroom observations. In the practical work, students are required to make a report on the observations that are evaluated by a laboratory assistant. Students are required to attend at least 75 % of the lectures and have to participate in all practical activities.

Lectures are generally assessed through attendance, assignments, Midterm Exam (UTS), and Final Semester Exam (UAS). Written exams in midterm and final exams consist of multiple-choice questions, essays, and short answers. Usually, the weight of the different forms of assessments is class activities (10%), structured academic assignments (20%), midterm exam (30%), and final semester exam (40%).

Practical work is usually assessed by test, practical activities, and reports. If theory and practical components are combined, the final grade is a combination of both. The percentage of assessment is determined by the programme in accordance with the teaching method.

Community Service/Internship (KKM) is a required course in the 7th semester (4 SKS for BPBE, 2 SKS for BPB/BPC). For BPBE, KKM is integrated with Guidance Learning Implementation Practice (PLP II). Assessment is based on field activities, evaluated by the field supervisor and stakeholders. Students are required to submit a report and consult with the field supervisor after completion.

PLP, in accordance with Ministry of Education, Culture, Research, and Technology Regulation No. 55 of 2017, consists of two internships: Introduction to School Culture (PLP I) (1

SKS, semester 2) and PLP II (3 credits, semester 7). PLP I is assessed by guidance by attendance (10%), individual report (50%), and presentation (40%). Assessment of PLP II is based on attendance (20%), guided teaching performance (50%), and teaching examination (30%). Assessment is based on the Micro Teaching and PLP Guidelines.

All undergraduate students at UNTAN are required to complete a thesis in accordance with the programme requirements, as stated in the Academic Handbooks of FKIP and FMIPA). In the BPBE programme, the thesis consists of two stages: a proposal seminar and the thesis itself. In the BPC and BPB programmes, the process consists of three stages: a proposal seminar, a results seminar, and a thesis defence. The thesis is based on independent research under the guidance of two lecturers and defended before four examiners. Assessment includes writing and presentation skills (BPB, BPBE, and BPC). For BPBE, the thesis topic is focused on biology education research at the junior high school/senior high school level. Student research proposals are evaluated through a proposal seminar attended by two supervisors and one lecturer. The research results seminar is held after completing the research and making a research report. The final grade is based on the quality of the written thesis, literature review, research methods, originality of ideas, and performance in the seminars such as media quality, presentation skills, and discussion abilities.

The form of each exam is mentioned in the module descriptions that are available to the students via UNTAN's homepage and the digital platform Satu UNTAN. Usually, there are two written exams in each course (besides the assignments, homework, and presentations); the mid-term exam is conducted in 8th week of the semester and the final exam in 16th week.

Supplementary examinations or substitutes are permitted for students who have valid reasons (such as illness as evidenced by a doctor's letter or for students with disabilities or other limitations with compensation agreed upon individually) after obtaining approval from the respective teacher.

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

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

| Number grade | Quality Letter | Quality Score | Category     |
|--------------|----------------|---------------|--------------|
| 80,00-100    | A              | 4,0           | Excellent    |
| 75,00-79,99  | B+             | 3,5           | Excellent    |
| 70,00-74,99  | B              | 3,0           | Good         |
| 65,00-69,99  | C+             | 2,5           | Good enough  |
| 60,00-64,99  | C              | 2,0           | Fair         |
| 55,00-59,99  | D+             | 1,5           | Insufficient |
| 50,00-54,99  | D              | 1,0           | Less         |
| <50,00       | E              | 0,0           | Very Poor    |

Table 10: Numeric value of the grades, Source: SAR UNTAN

Re-sit exams are provided to students who are unable to attend for acceptable reasons, such as illness with a doctor's note, participation in approved curricular or extracurricular activities, or other special circumstances. For practical courses, students who cannot attend sessions for valid reasons may conduct the practical at a later time. For students with disabilities, examinations are conducted in accordance with the principles of fair accommodation as outlined in the Service Guide for Students with Disabilities in Higher Education issued by the Ministry of Education, Culture, Research, and Technology in 2017. Alternative assessment methods are tailored to the individual needs and conditions of each student.

The BPB, BPBE, and BPC programmes provide a re-sit exam mechanism for students who obtain marks below the passing standard (C) but are still eligible for improvement. Remedial examinations are conducted after the final semester examinations with equivalent material, so the students have the opportunity to improve grades without having to wait for the next semester. If students fail a course despite taking the remedial exam, or do not meet the requirements to take it, they are required to repeat the course in the following semester.

Information regarding the examinations is communicated by the lecturer at the beginning of the semester through the "Course Contract". This contract contains information about course requirements (prerequisites), learning objectives, teaching methods, a brief description of the course, course assignments, references, assessment process, and graduation standards. Midterm and final examinations are conducted periodically based on the Academic Calendar of UNTAN. This schedule is announced prior to the exams to allow students sufficient time to prepare and is available via each degree programme's website.

Relevant rules for organizing and conducting examination, assessment criteria, procedures in case of re-sits, disability compensation measures, proceedings in case of illness and other mitigating circumstances are transparently put into legal regulations. Students and lecturers confirm in discussions that both sides are aware of the regulations, and the experts have the impression that this system is operative with the aim to meet the requirements

of the students as far as possible. In discussions, students describe the organization of examinations as transparent and responsive to their needs.

During the audit, the experts learn that all undergraduate students at UNTAN need to submit a scientific paper to a journal as a graduation requirement. Usually, this paper is based on the results of the final project. However, the experts are convinced that requiring Bachelor students to submit a scientific paper for graduation is generally not useful because most undergraduates are still developing fundamental research and writing skills, and they typically lack the time, resources, and experience to produce publishable work. The preparation process also takes some time, which can cause unnecessary delays in graduation. Moreover, the goal of a Bachelor's programme is to teach research literacy and critical thinking, not to meet publication standards intended for professional researchers. Bachelor's students are still developing research skills and they cannot be expected to have them already mastered. An optional submission in case of excellent research results is of course a possibility for motivated students.

By studying the Self-Assessment Report and from discussions during the audit, the experts gain the impression that the methods used by the teaching staff at FKIP and FIMPA for assessing learning outcomes are mostly appropriate. The examination methods depend on the subject and the intended learning outcomes and range from mid-term and final examinations; laboratory works to subject-specific assignments and projects. The exams are usually written exams (e.g. quizzes, essay questions, calculation problems, or multiple-choice questions). There are only a few oral exams, for example for presenting the final project. As part of the on-site visit, the experts also inspect exemplary examinations as well as Bachelor's theses. Overall, they are satisfied with the quality of the examinations and theses.

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

The experts thank UNTAN for explaining that the graduation requirement of submitting a paper to a recognised journal was revised through Rector Regulation No. 1 of 2025 on the Implementation of Education at the university, in which Article 45 paragraph (7) states that the results of a student's final project may be published in accordance with applicable provisions, but such publication is not mandatory. Publication may be done voluntarily based on an agreement between the lecturer and student. This regulation should be made known to all students and should be made transparent in all relevant documents (e.g. student handbooks, examination regulation).

The experts consider criterion 2 to be fulfilled.

### 3. Resources

#### Criterion 3.1 Staff and Development

##### Evidence:

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

##### Preliminary assessment and analysis of the experts:

At UNTAN, the staff members have different academic positions. There are professors, associate professors, assistant professors, and junior lecturers. The academic position of each staff member is based on research activities, publications, academic education, supervision of students, community service, and other supporting activities. For example, a full professor needs to hold a PhD degree. In addition, the responsibilities and tasks of a staff member with respect to teaching, research, and supervision depend on the academic position.

The academic staff members involved in the BPB programme include 20 permanent faculty members. The active student population in BPB is 391 students (academic year 2023/24). The teacher-to-students ratio is 1:20. The BPB teachers include two full professors, four associate professors, ten assistant professors, and 4 junior lecturers. Eight of the teachers (40%) in BPB have a doctoral qualification and 12 (60%) hold a Master's degree.

As mentioned in the Self-Assessment Report, there are currently 125 academic staff members who are teaching courses in BPC programme. The current (academic year 2023/24) number of students is 495, so the teacher-to-student ratio is 1:20. The teaching staff in BPC includes four full professors, 13 associate professors, four assistant professors, and four junior lecturers. Of the 25 academic staff members, 16 (64%) have a doctoral degree and 9 (36%) hold a Master's degree.

BPBE has 17 permanent academic staff members with 11 (65%) holding doctoral qualifications and 6 (35%) holding Master's degrees. The faculty members include one full professor, 4 associate professors, 8 assistant professors, and 4 junior lecturers. With a total of 17 faculty members and 345 active students in the academic year 2023/2024, the teacher-to-student ratio is 1:20.

The detailed numbers for all three undergraduate programmes are depicted in the following tables:

| Academic Degree | BPC | BPB | BPBE |
|-----------------|-----|-----|------|
| Doctor          | 16  | 8   | 11   |
| Master          | 9   | 12  | 6    |

Table 11: Academic Qualification Teaching Staff, Source: SAR UNTAN

| Academic Position   | BPC | BPB | BPBE |
|---------------------|-----|-----|------|
| Professor           | 4   | 2   | 1    |
| Associate Professor | 13  | 4   | 4    |
| Assistant Professor | 4   | 10  | 8    |
| Junior Lecturer     | 4   | 4   | 4    |

Table 12: Academic position Teaching Staff, Source: SAR UNTAN

| Degree | Ratio of students and lecturers |
|--------|---------------------------------|
| BPC    | 1:20 (495 student)              |
| BPB    | 1:20 (391 student)              |
| BPBE   | 1:20 (345 student)              |

Table 13: Teacher to Students Ratio, Source: SAR UNTAN

Every laboratory course is supported by trained laboratory staff who ensure the smooth operation of lab sessions, safety, and maintenance. Each program includes practical training conducted in two laboratories. BPBE has an educational laboratory. BPC and BPB have research laboratories for final projects. There are two laboratory assistants available at BPC and BPB and one at BPBE. Laboratory staff prepare the equipment and materials for , while laboratory assistants (students assigned by the relevant course lecturer) provide supervision.

In addition to the permanent academic staff members, visiting professors from international or Indonesian universities are regularly invited based on their academic qualifications, industry experience, and ability to contribute to programme's outcomes. The purpose of inviting visiting lecturers is to increase insight and knowledge, expand networks, provide practical perspectives, motivate and inform, and refresh learning through presentations by relevant experts and practitioners in their fields. The number of visiting professors from 2020 to 2024 is shown in the following table:

| Study programme | Total |
|-----------------|-------|
| BPC             | 23    |
| BPB             | 34    |
| BPBE            | 19    |

Table 14: Number of visiting lecturers (2020-2024), Source: SAR UNTAN

Details of the academic qualifications of the teachers are described in the staff handbook, which is accessible via the programme's webpage. All fulltime members of the teaching staff are obliged to be involved in (1) teaching/advising, (2) research, and (3) community service. However, the workload can be distributed differently between the three areas from teacher to teacher. In addition, there are non-academic staff members consisting of librarians, technicians and administrative staff.

The experts discuss with UNTAN's management how new staff members are recruited. They learn that UNTAN depends on the approval of the Ministry of Education, Culture, Research, and Technology to hire new teachers. Open positions are then announced via the Ministry's homepage and all qualified academics can then apply. Candidates undergo a Field Competency Selection (SKB) consisting of a teaching practice test, and an academic potential test conducted by UNTAN. The National Selection Committee makes the final decision on the acceptance of the candidates.

During the audit, the experts inquire how high the teaching load is and if enough opportunities are offered to the academic staff members to conduct research activities. They learn that teachers at FKIP and FMIPA have a workload of 12 to 16 credits; with a minimum of 9 credits allocated to teaching and research. The national maximum workload is 16 credits. One credit is equivalent to 170 minutes of work per week with about one hour contact time. How much time staff members actually devote to research varies from teacher to teacher, because working hours are spent flexibly for teaching, research, and community service. There is no strict minimum requirement for community service and supporting activities, except that they must not be completely absent. For lecturers holding administrative roles, the teaching load may be reduced to a minimum of three credits.

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

### *Staff Development*

UNTAN encourages training of its academic and technical staff for improving the educational abilities and teaching methods. The academic and didactic development of teaching staff is coordinated by the faculty-level academic units in cooperation with the university's Centre for Learning Development and Quality Assurance (LPPPM).

The scope of the training includes writing and conducting research and publications, as well as training related to student activities at the local, national and international levels. The coordinator of each programme arranges the dispatch of lecturers for professional training

and certification. Examples include general occupational safety and health training, distance learning training, face-to-face learning training, laboratory occupational safety and health certification, and editor certification.

Needs for professional development are identified via annual performance evaluations, feedback from students (through course evaluations), and peer assessments. This input guides the planning of capacity-building programmes tailored to both content mastery and didactic innovations.

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

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

In summary, the experts confirm that UNTAN offers sufficient support mechanisms and opportunities for members of the teaching staff who wish for further developing their professional and teaching skills.

### *Student Support*

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

The role of the academic advisor is to help the students with the process of orientation during the first semesters, the introduction to academic life and the university's community, and to respond promptly to any questions. They also offer general academic advice, make suggestions regarding relevant careers and skills development and help if there are

problems with other teachers. During the semester, counselling activities are usually offered three times, namely at the beginning of the semester (before the courses start), mid-semester, and at the end of the semester. The students confirm during the discussion with the experts that they all have an academic advisor, whom they can approach if guidance is needed.

In general, students stress that the teachers are open-minded, communicate well with them, take their opinions and suggestions into account, and changes are implemented if necessary.

The fourth-year students who prepare their final project usually have two supervisors, who are selected based on the topic of the final project. One supervisor could be an external supervisor, if the student performs the final project outside UNTAN. The thesis supervisor is responsible for providing advice and guidance to students in determining research topics, writing proposals, supervising the implementation of research, writing reports, and assisting students in presenting their research results.

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

To help students finding suitable jobs after graduation, UNTAN has established an Academic Support Unit (UPA) for Career Development and Entrepreneurship, which announces job vacancies and opportunities to students, offers career guide and coaching, provides psychological support, and conducts alumni surveys.

Finally, there are Students Associations in each of three study programme, which serve an important role for students within the respective department. Its tasks include organizing academic and professional development activities for students, such as competitions, seminars, and study events that deepen understanding of the respective science and support learning beyond regular coursework. In addition, they facilitate student engagement and community outreach, including social programs that build leadership, teamwork, and public engagement skills, as well as activities that introduce science in accessible ways to the wider community. Moreover, they acting as a platform for student organisation and representation within the faculty and university, and support communication and information sharing by publishing newsletters and managing communication channels.

The experts notice the good and trustful relationship between the students and the teaching staff; there are enough resources available to provide individual assistance, advice and

support for all students. The support system helps the students to achieve the intended learning outcomes and to complete their studies successfully and without delay. The students are well informed about the services available to them.

|                                          |
|------------------------------------------|
| <b>Criterion 3.2 Funds and equipment</b> |
|------------------------------------------|

**Evidence:**

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

**Preliminary assessment and analysis of the experts:**

Basic funding of the undergraduate programmes and the facilities is provided by UNTAN and the faculties (FKIP and FMIPA). The financial sources are government funding (BOPTN, Bantuan Operasional Perguruan Tinggi Negeri - Operational Assistance for State Universities), tuition fees from students (UKT), collaborations, donations, grants, and income from UNTAN's business units. According to the information provided during the audit, 39 % of the university's budget is derived from the government, 51 % from tuition fees, cooperations, donations, and business units. The planning of fund utilisation is prepared one year before its implementation, allowing for an estimation of the required amount of funds for the current year. Additional funds for research activities can be provided by UNTAN or the Indonesian government (Bantuan Pendanaan Perguruan Tinggi Nasional, BPPTN), but the teachers have to apply for them.

The annual budget of FKIP and FMIPA is determined at university level. Every year, UNTAN's management will ask the faculties to prepare an activity plan and a budget for the next period. The activity and budget planning are presented and discussed during the management meetings at faculty level and subsequently forwarded to UNTAN's management. The budget managed by FMIPA and FKIP each is approximately 10-11 billion IDR (~550.000 €) per year, with around 80% allocated for educational operational expenses. Approximately 6% of the total budget is allocated for research and community service, around 2% for publications, and approximately 12% for investments.

The provided budget allows the departments to conduct the study programme as well as some specific activities, including student exchange programmes, student financial assistance for research, and participation in international conferences. The academic staff members emphasise that from their point of view, the programmes under review receive sufficient funding for teaching and learning activities.

The implementation of the three undergraduate programmes is supported by facilities, which include offices, lecture rooms, as well as laboratories, library, computer and internet rooms facilities, and administration and supporting facilities.

Each study programme has two laboratory buildings to support practical activities, research, and learning. Each laboratory is used for practical work 3-4 times a day, with a duration of 170 minutes per practical session. In addition to practical work, the laboratories are also used for student and lecturer research. Laboratories include practical rooms, storage rooms for equipment and materials, preparation rooms, sterilisation rooms, and specimen collection rooms. A microteaching laboratory is available for the BPBE programme for conducting teaching practice/microteaching for students.

According to the Self-Assessment Report there is one teaching laboratory and seven research laboratories used for the BPB programme: Biology Laboratory, Zoology Laboratory, Microbiology Laboratory, Tissue Culture Laboratory, Hydrobiology Laboratory, Ecology Laboratory, and Microtechnics Laboratory.

The BPBE programme has two laboratories that are used for practical work and research. FKIP has also a micro teaching laboratory, where a group of students can do micro teaching sessions while being observed by other students and teachers. This learning laboratory is well equipped and suitable for providing learning experiences to prospective teachers under the guidance of lecturers. However, to fully meet assessment and learning objectives, the use of cameras should be expanded. Cameras are required not only to record student teachers' teaching performances but also to capture peers' responses and interactions. This is essential to ensure comprehensive evidence collection and the development of meaningful and impactful learning artifacts.

The BPC programme uses two teaching and five research laboratories: Instrument Laboratory, Inorganic Laboratory, Organic Laboratory, Biotechnology (Biochemistry) Laboratory, Essential Oil Laboratory, and Pigment Laboratory.

To provide students with access to modern instruments, UNTAN has signed MoU's with private companies such as PT Pundi Lahan Khatulistiwa, PT Agrolestari Mandiri, PT Pasifik Agro Sentosa, and PT Biotrop, allow students to conduct internships there. Additionally, the cooperation agreements with government research centres including Badan Standardisasi Nasional, PDAM Tirta Khatulistiwa Kota Pontianak, Yayasan Hasnur Centre di Politeknik Hasnur, and Laboratorium Prodi Budidaya Tanaman.

In addition to the laboratories in the different departments, UNTAN has a central laboratory facility known as the Integrated Laboratory / Unit Pelaksana Teknis (UPT), supports teaching and research across the university. UPT hosts specialized laboratories, such as a Biology Laboratory equipped with tools including spectrophotometers, PCR machines,

safety cabinets, incubators, and other analytical equipment, useful for both academic and research purposes. Furthermore, it provides analytical and testing services not only to students and faculty but also to external users (e.g., research partners or community stakeholders). UPT also offers workshops, webinars, and training related to research methods and laboratory techniques. The experts appreciate that the integrated laboratory is equipped with modern and spacious facilities, and all instruments are operated under the supervision of designated responsible personnel. However, it was noted that some instrument logbooks were only filled out up to May 2025, which limits the ability to accurately track instrument utilization; therefore, improving the consistency and completeness of logbook documentation would be useful. The integrated laboratory accommodates shared laboratory equipment. Most of the equipment is relatively new, well maintained, and in proper working condition, and the personnel in charge demonstrate adequate technical knowledge. Nevertheless, several critical safety concerns were identified, particularly the absence of proper labelling and safety signage. In addition, some equipment appears to be underutilised. The laboratories are spacious and have the capacity to accommodate additional equipment. Overall, the environment is conducive to learning and research. Students receive safety briefings at the beginning of the semester and through a dedicated safety-related course.

During the audit, the expert group also visits the laboratories in the Faculty of Teacher Training and Education and the Faculty of Sciences and Mathematics to assess the quality of the facilities and the technical equipment. They notice that there are no severe bottlenecks due to missing equipment and confirm that the laboratories are equipped with the necessary basic equipment. However, most of the instruments and devices are outdated and should be replaced. Furthermore, it was observed that the inorganic chemistry laboratory does not have an oven, requiring some students to use equipment in other laboratories, which may affect efficiency; therefore, increasing the number of instruments to better accommodate students is required.

Overall, the biology laboratories at FKIP are equipped with a combination of older and newer instruments. While the biology laboratory is basic, it is generally sufficient for teaching and learning purposes. However, the current laboratory size is inadequate to support effective learning for groups of 20–25 students, and expansion should be considered. Although the BPBE programme does not require advanced research-grade instruments, the provision of appropriate software and digital tools is essential to support the development of instructional and learning media.

The biology laboratories at FMIPA are functional but require significant enhancement, particularly in relation to safety practices and infrastructure. Several instruments are outdated, and the laboratory environment shows signs of moisture-related issues, including mould

and fungal growth. Additionally, the aquatic ecology laboratory also functions as a storage space for insect collections, indicating constraints in laboratory space. While the laboratory has a reasonable amount of equipment, it is only sufficient for small research groups.

The experts point out that the high number of students contributes to congestion, delays in research activities, and extended project completion timelines. Achieving intended learning outcomes, particularly those involving psychomotor skill development, requires improved learning opportunities and more systematic assessment. Consequently, additional laboratory equipment, such as microscopes and glassware, is required. A further critical issue concerns equipment maintenance, which currently depends on a single personnel member. Regular professional training for laboratory staff is therefore essential to ensure operational sustainability, safety compliance, and overall efficiency.

In general, the experts see during the on-site visit that the laboratories are equipped with the necessary basic equipment, but that there are a number of outdated instruments (with the exception of the integrated laboratory). This impression is confirmed by both the students and the teachers, who, in conversation with the experts, assess some of the technical material equipment of the teaching laboratories as worthy of improvement. The experts point out that there are some bottlenecks due to a lacking infrastructure and the technical equipment in the laboratories needs to be updated and increased in numbers. Additionally, more modern instruments for conducting research activities should be available. The expert group understands that modern research equipment for sophisticated laboratory work, sufficient in terms of quality and quantity, is not readily available and that the funds are restricted. For this reason, the experts expect UNTAN to submit a schedule and financing plan on how to update and increase the basic instruments and the technical equipment in the departmental laboratories within the next five years. The first steps towards concrete implementation should be taken as soon as possible.

One critical point from the experts' point of view is the fact that not all of the visited laboratories follow international safety standards. The experts point out that the laboratories do not have clearly marked emergency exit signage, which is essential to ensure laboratory safety. In several laboratories, including the tissue culture, ecology, and microbiology laboratories, fire extinguishers are placed on the floor, which poses a safety risk; therefore, they should be properly mounted on the wall. In addition, regular inspection and timely replacement of fire extinguishers is necessary to ensure they remain functional and compliant with safety requirements.

Moreover, most laboratories do not have safety showers despite the use of open flames and hazardous materials during experiments, making the installation of safety showers nec-

essary to ensure adequate laboratory safety. In the biotechnology laboratory, exposed piping was found along the walkway, posing a potential tripping hazard if students are not aware of it. Regular occupational safety and hazard assessments should be conducted, as current observations suggest that these practices are not systematically implemented.

The experts stress that there are many hazardous substances and instruments used in the laboratories, which causes a significant risk of accidents and presents a danger to human health, and the natural environment. This demands care in order to protect human health, conserve the natural environment and to prevent laboratory accidents. As a consequence, UNTAN needs to comprehensively review existing safety measures and invest in improved safety equipment in accordance with established safety regulations.

The renovation should include the instalment of air-conditioning in all laboratories and lecture rooms. The experts stress that providing air-conditioning in laboratories and lecture rooms of a university in Indonesia is very useful for several interrelated reasons tied to climate, health, learning effectiveness, and equipment protection. Pontianak has a hot, humid tropical climate year-round, with temperatures often above 30 °C and high relative humidity. Without air-conditioning students and staff experience heat stress and discomfort. Concentration and alertness drop significantly. Air-conditioning helps maintain a comfortable, stable indoor environment, which is essential for effective teaching and learning. It is a known fact that high temperature and humidity in learning facilities reduces cognitive performance, memory, and attention. Students become fatigued more quickly. Thus, air-conditioned lecture rooms support better focus, participation, and academic performance, especially during long lectures. Moreover, many laboratories use sensitive instruments and chemicals and biological samples that require temperature and humidity control. Air-conditioning prevents equipment malfunction and corrosion caused by humidity, ensures accuracy and repeatability of experiments, and extends the lifespan of expensive laboratory assets. In labs, excessive heat makes personal protective equipment uncomfortable, leading to unsafe practices. Thus, air-conditioning in laboratories improves laboratory safety and compliance.

The students express their satisfaction with the library and the available literature there. Remote access via VPN is possible and UNTAN offers access to several scientific digital databases, so that teachers and students have sufficient access to current scientific papers, e-books, and papers.

During the discussion with the teachers and the students, the experts learn that additional funds are required for using the advanced equipment in the integrated laboratory. From the experts' point of view, providing additional funds for student research activities is

highly useful for a university because it strengthens academic quality, innovation, and institutional reputation, while directly supporting student development. Extra funding allows students to purchase proper materials and equipment as well as to conduct fieldwork or experiments at an appropriate scale and level. This ensures that talented students are not excluded due to financial constraints and it helps to build a stronger research profile. Finally, students who receive research support are more engaged with their studies and will show better results.

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

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

The experts appreciate that the BPBE programme is planning the enhancement of the micro teaching laboratory facilities by expanding the camera system. This includes the installation of additional cameras positioned to record not only the teaching performances but also peer interactions, student engagement, and feedback processes during micro teaching sessions.

The experts understand that the laboratories continue to function as facilities for learning and research and are improved regularly. To achieve this, the study programmes submit every year improvement proposals as part of quality enhancement efforts through the Activity and Budget Plan (RKA). However, the experts point out that the technical equipment in the laboratories needs to be updated and increased in numbers. Additionally, more modern instruments for conducting research activities should be available. To this end, the experts expect UNTAN to submit a concept and a timetable on how to update and increase the instruments and how to renovate the laboratories in the three departments within the accreditation period.

The experts are glad to hear that UNTAN is committed to conducting a comprehensive review of existing laboratory safety policies, procedures, and facilities across relevant laboratories. This review includes an evaluation of current safety equipment, laboratory standard operating procedures (SOPs), chemical handling and waste management practices, as well as emergency response mechanisms. The experts expect to be informed about the results of this review process and to receive verification of the improved safety standards in the departmental laboratories in the further course of the accreditation procedure.

The experts consider criterion to be mostly fulfilled.

## 4. Transparency and documentation

### Criterion 4.1 Module descriptions

#### Evidence:

- Self-Assessment Report
- Module descriptions
- Homepage UNTAN: <https://www.untan.ac.id>
- Homepage Faculty of Teacher Training and Education; <https://fkip.untan.ac.id/>
- Homepage Faculty of Mathematics and Natural Sciences : <https://mipa.untan.ac.id/>
- Homepage Ba Biology: <https://biology.fmipa.untan.ac.id>
- Homepage Ba Biology Education: <https://pbiologi.untan.ac.id/en/>
- Homepage Ba Chemistry: <https://chemistry.fmipa.untan.ac.id>
- Discussions during the audit

#### Preliminary assessment and analysis of the experts:

The students, as all other stakeholders, have access to the module descriptions via UNTAN's homepage.

After studying the module descriptions of the three Bachelor's degree programmes under review, the experts confirm that they include the information about the persons responsible for each module, the teaching methods, the awarded credits, the intended learning outcomes, the content, the applicability, the admission and examination requirements, and the forms of assessment.

However, the experts point out that it is necessary to mention the students' total workload (including time needed for self-studies) in hours per semester in the module descriptions. In addition, the module descriptions need to make transparent how the different exams contribute to the final grade and the course learning outcomes should be revised (see criterion 1.1). Finally, the experts observe that the literature references in the module descriptions are outdated and need to be updated.

For this reason, the experts expect UNTAN to update the module descriptions for all three programmes.

### Criterion 4.2 Diploma and Diploma Supplement

**Evidence:**

- Self-Assessment Report
- Sample Diploma Certificate
- Sample Diploma Supplement
- Sample Transcript of Records

**Preliminary assessment and analysis of the experts:**

The experts confirm that the students of the three undergraduate programmes under review receive a Diploma Certificate, a Diploma Supplement, and a Transcript of Records. However, the experts point out that the Diploma Supplement should follow the internationally recognised European template and should inform about the structure and content of the respective degree programme. Additionally, it should provide information about the individual performance as well as statistical data regarding the final grade and include information about the composition of the final grade according to the ECTS-Users' guide. This allows the reader to categorise the individual result. A programme specific Diploma Supplement needs to be issued automatically to all graduates.

The experts ask UNTAN to submit a sample Diploma Supplement, which is aligned with the European template, for each of the three undergraduate programmes.

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| <b>Criterion 4.3 Relevant rules</b> |
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**Evidence:**

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

**Preliminary assessment and analysis of the experts:**

The experts confirm that the rights and duties of both UNTAN and the students are clearly defined and binding. All rules and regulations are published on the university's website and the students receive the course material at the beginning of each semester.

In addition, all relevant information about the degree programme (e.g., module handbook, study plan, learning outcomes) is available on the English homepage of the programme.

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

The experts confirm that the module descriptions of all three study programmes have been updated and now include the required information on the students' workload and how the different exams contribute to the final grade. Additionally, the course learning outcomes have been revised and the literature references have been updated. However, the experts point out that the BPBE programme needs to make transparent the students' workload in hours per semester in all module descriptions. For example, in Undergraduate Thesis (KPB 431) and KKM (Community Field Works) (KIP 208) the mentioned students' workload seems much too low.

The experts thank UNTAN for submitting a sample Diploma Supplement for each of the three study programmes. They confirm that the sample Diploma Supplements are aligned with the European template. Just the BPBE programme should update the document and use the same header as the other two programmes.

The experts consider criterion 4 to be mostly fulfilled.

## 5. Quality management: quality assessment and development

### **Evidence:**

- Self-Assessment Report
- UNTAN Academic Guidelines
- Discussions during the audit

### **Preliminary assessment and analysis of the experts:**

The experts discuss the quality management system at UNTAN with the programme coordinators. The experts learn that there is an institutional system of quality management aiming at continuously improving the degree programme.

This system relies on internal (SPMI) as well as external (SPME) quality assurance. SPMI encompasses all activities focused on implementing measures for improving the teaching and learning quality at UNTAN. SPME focuses on both national and international accreditations. Every degree programme and every Higher Education Institution in Indonesia has to be accredited by the National Accreditation Board of Higher Education / Badan Akreditasi Nasional Perguruan Tinggi (BAN-PT) or by one of the Indonesian Independent Accreditation Agencies (LAMSAMA). The Bachelor's degree programme Chemistry has received the highest accreditation status (excellent) from LAMSAMA, while the other two

programmes have achieved the grade (B or very good) from BAN-PT (BPBE) and LAMSAMA (BPB).

Internally, quality of the teaching and learning processes is monitored and evaluated through the Internal Quality Audit (AMI) conducted by the university's Institute for Quality Assurance and Learning Development (Lembaga Penjaminan Mutu dan Pengembangan Pembelajaran – LPMPP) and coordinated centrally by the Quality Assurance Center (Pusat Penjamin Mutu – PPM) of UNTAN. On the faculty level, the implementation of internal quality assurance is coordinated by the Faculty Quality Assurance Unit (UPMF).

The AMI is conducted annually in accordance with UNTAN's official Standard Operating Procedure and uses certified auditors from outside the audited study programmes. AMI are aimed at ensuring that the implementation and management of the study programmes are in line with the university's vision and mission and the Programme Educational Objectives (PEO). During the AMI, every study programme will analyse data on the implementation of educational and research activities, which are documented in the form of reports, monitoring data, and evaluation results. Next, the AMI results will be reported to the TPMF chairman and communicated to the faculty leadership and LP3M. Furthermore, based on the AMI results, the faculty conducted workshops for all study programmes in order to discuss and implement the required measures for improving the study programme. At the faculty level, results are further reviewed in Management Review Meetings (RTM) attended by deans, vice deans, and heads of study programmes.

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

Internal assessment of the quality of the degree programme is mainly provided through student, alumni, and employer surveys. The students give their feedback on the courses by filling out the questionnaire online at the end of each semester. Students assess various aspects such as students' understanding, lecturer's responsiveness, course delivery, lecturer's proficiency, explanation of course objective, and references in each enrolled course.

Giving feedback on the classes is compulsory for the students; otherwise, they cannot access their account on the digital platform Satu UNTAN. The experts point out that there should be a regular and institutionalised survey on students' workload in every course. For example, this could be done by including a respective question in the course questionnaires that students have to fill out at the end of each semester (see Criterion 1.5).

Moreover, UNTAN regularly conducts alumni tracer studies and has an alumni association. By taking part at this survey, alumni can comment on their educational experiences at UNTAN, the waiting period for employment after graduation, their professional career and can give suggestions how to improve the programme. Furthermore, there is the Unit for Career Development and Entrepreneurship at UNTAN, which offers help to find suitable internships, announces job vacancies, and offers courses to develop soft skills. UNTAN organises a job fair every three months; in general, the graduates' job perspectives are good. In addition, the contacts students make during the internships sometimes lead to job offers.

In addition to surveys, students are also represented in decision-making forums at the program and faculty level, ensuring that their voices are formally considered in the formulation of policies and follow-up actions. For example, there is the activity called "Symbiosis" at BPBE, coordinated by the student association, is routinely held at the beginning of each academic year. It invites all active students to ask questions, provide suggestions, and share feedback regarding their study experiences in the BPBE with the teaching staff. Similar activities were also conducted at BPB and BPC, which function as open dialogue forums between students and lecturers, aimed at gathering input to improve program services and enhance students' on-time graduation rates

During the audit, the experts learn that students are not official members of the boards at programme level, but they can make suggestions to the Dean or the Head of Study Programme. Based on the meeting with the Programme Coordinators and the Representative from the Rector's Office, it is apparent that students convey their critiques and suggestions through their representatives.

The experts gain the impression that the departments take the students' feedback seriously and changes are made if necessary. In case of negative feedback, the Head of Department talks to the respective teacher, analyses the problem, and offers guidance. There are regular meetings with students where they can voice their issues and suggestions. Nevertheless, the experts see that the students are not comprehensively informed about the results of the satisfaction questionnaires. Informing students about the results of the surveys is necessary because sharing survey results shows students that their feedback is taken seriously and valued by UNTAN. This transparency fosters a sense of trust and respect, making students feel heard and appreciated as stakeholders in their educational experience. In addition, when students see that their opinions lead to visible outcomes or changes, they are more likely to participate in future surveys. Consequently, the experts expect UNTAN to inform students directly about the results of the questionnaires and about possible improvements in the respective course. The feedback loops need to be closed

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

In summary, the expert group confirms that the quality management system is suitable to identify weaknesses and to improve the degree programme. All stakeholders are involved in the process. However, there is still room for improvement, because not all feedback loops are closed.

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

The experts see that the different stakeholders are involved in the quality assurance processes and their feedback is used for further developing the study programmes. Nevertheless, they point out that it is necessary to inform the students about the results of the satisfaction questionnaires so that the feedback loops are closed.

The experts consider criterion 5 to be mostly fulfilled.

## E Additional Documents

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

- Explanation if students with colour-blindness can be admitted to the study programmes or not.

## F Comment of the Higher Education Institution (23.02.2026)

UNTAN provides the following statement:

*“The Bachelor’s Programmes in Biology, Biology Education, and Chemistry at Universitas Tanjungpura sincerely acknowledge the time, expertise, and constructive engagement of the peers and representatives of ASIIN Headquarters throughout the accreditation process. We acknowledge with appreciation the overall positive evaluation presented in the preliminary report. In this response document, we provide additional clarifications addressing specific points raised, as part of our commitment to continuous quality improvement and alignment with international academic standards.*

| Criteria | Finding                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | Responses                                                                                                                                                                                                                                                                                                                                                                                                                              |                                                                                                                                                                                                                                                                                                                                                                                                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
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|          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | Bachelor Programme in Biology (BPB)                                                                                                                                                                                                                                                                                                                                                                                                    | Bachelor Programme in Biology Education (BPBE)                                                                                                                                                                                                                                                                                                                                                          | Bachelor Programme in Chemistry (BPC)                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| 1        | The experts point out that <b>the course learning outcomes in the module descriptions should be revised</b> . They observe that most of the course learning outcomes begin with “students should be able to explain”. <b>It would be better to word them according to a taxonomy like Bloom’s</b> because it provides a clear, structured way to describe different levels of learning, from basic knowledge to higher-order thinking. The course learning outcomes should take the different cognitive levels of the courses into account and include skills such as remembering, | We support this suggestion. The module description has been updated to accurately reflect the student workload, teaching methods, assessment types, and relevant literature. Estimates of student workload, particularly for coursework and self-study, are based on data collected from a student survey. Additionally, the Course Learning Outcomes (CLOs) have been developed in accordance with the cognitive level of the course. | The development of CLOs in the BPBE will be revised at SATU UNTAN by emphasizing Higher Order Thinking Skills (HOTS) in each module description. Currently, a systematic review of all CLOs is being conducted to ensure that the formulated CLOs are clearly aligned with the Intended Learning Outcomes (ILO) assigned to each course, as well as with appropriate teaching, learning, and assessment | The comment has been addressed through a programme-wide revision of all course learning outcomes (CLOs). All module descriptions have been reformulated using the revised Bloom’s Taxonomy to reflect appropriate cognitive levels for a Bachelor programme (primarily Levels 1–5, with higher levels in advanced courses). While “explain” remains where appropriate, a broader range of measurable action verbs is now used to reflect differentiated competence levels. |

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|  | <p>understanding, applying, analysing, evaluating, and creating. Using a shared taxonomy makes outcomes more precise, measurable, and aligned with appropriate teaching activities and assessments. It also helps instructors and students clearly understand the expected depth and complexity of learning, supporting consistency and quality across courses and programmes. In addition, it is necessary to revise the course learning out-comes of the practical course. Several of the practical courses e.g. “MPK 1402 - Fundamentals of Organic Chemistry” only include theoretical competencies. However, the module descriptions also need to describe the practical competencies that students should acquire.</p> | <p>Furthermore, the CLO for practical courses in the Biology Program (BPB) is CLO 6, which is a specific skill in the form of the ability to operate biological instruments and methodologies with an emphasis on work safety in observing and measuring biological objects and the environment.</p> <p><a href="#">Revised BPB Module Handbook.pdf</a></p> | <p>strategies. Furthermore, particular attention is given to practical and laboratory-based courses. The CLOs of practical modules are being updated to explicitly include experimental, analytical, and pedagogical laboratory competencies, such as applying biological laboratory techniques, analysing and interpreting experimental data, and communicating scientific results in an educational context. These improvements reflect the programme’s commitment to continuous quality enhancement and to ensuring coherent, measurable, and outcome-oriented learning across all courses in the BPBE</p> <p><a href="#">module description merged.pdf</a></p> | <p>In addition, all laboratory-based courses have been revised to explicitly include practical (psychomotor) and professional (affective) competencies alongside theoretical understanding. This applies to MPK 1402 – Fundamentals of Organic Chemistry (Laboratory) and all other practical modules. The updated module descriptions clearly specify laboratory techniques, safety compliance, data analysis, interpretation, and scientific reporting skills.</p> <p>The revised CLOs are documented in the updated Module Description files and are currently being implemented in the ongoing academic cycle.</p> <p><i>The supporting evidence can be accessed via the following link:</i></p> <p><a href="#">Revised Module Descriptions - BPC.pdf</a></p> |
|  | <p>During the audit, the experts learn that UNTAN offers a Master’s degree programme in chemistry but not in biology. <b>The experts point out that offering a Master’s programme in biology at UNTAN</b> would be useful for several academic</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | <p>We support this suggestion. The Biology Study Programme has assembled a team to prepare for the launch of the Master of Biology program. This team is currently drafting the proposal document. In developing the proposal, they</p>                                                                                                                     | <p><i>This comment refers to another study programme and therefore does not apply to the BPBE.</i></p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | <p><i>This comment refers to another study programme and therefore does not apply to the Bachelor Programme in Chemistry.</i></p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |

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|  | <p>and strategic reasons, especially considering UNTAN's location and focus. As UNTAN is located in one of the world's most biodiverse regions, which includes tropical rainforests, peatlands and wetlands, man-groves, rivers, and coastal ecosystems. A Master's programme in biology would allow advanced research in areas such as biodiversity conservation, ecosystem protection as well as sustainable land and natural-resource use and management of these unique ecosystems.</p>                                                                                                                                                                                                                                                                                                                                             | <p>are receiving technical support from the Institute for Quality Assurance and Learning Development (LPMPP). Once the proposal is finalized, it will be submitted by the end of March 2026.</p> <p>Evidence: <a href="#">Draft Proposal for Master of Science in Biology en-GB.pdf</a></p>                                                                                                                                                                                                                                                                                                                                      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                                                                                                                   |
|  | <p>The experts inquire why bioinformatics is not offered as a course in the BPB or in BPBE. The programme coordinators explain that a course in bioinformatics will be introduced this semester as an elective in the BPB programme; in the BPBE programme, the course "Introduction to Bioinformatics" is offered as an elective since 2022. <b>The experts appreciate this development but point out that it would be useful to make the bioinformatics course compulsory for all BPB and BPBE students, because modern biology is data intensive, and graduates need basic skills in handling, analysing, and critically evaluating large biological datasets to understand current research.</b> Modern genomics and molecular biology routinely generate large sequencing and omics datasets, so students must understand core</p> | <p>We fully agree with this suggestion. Bioinformatics courses are essential in modern biology today. The field of bioinformatics is closely related to genetics, metabolite exploration, and systems. In the Biology Programme (BPB), this course covers the basics of bioinformatics, an introduction to biological databases (nucleotides, proteins, and metabolites), DNA, RNA, and gene sequence analysis using BLAST analysis, restriction map identification, the basics of primer design, identification of polymorphisms and analysis of genomic variation, phylogenetic analysis, the basics of molecular docking,</p> | <p>We fully agree with the experts' assessment that modern biological sciences are increasingly data-driven and that graduates must be equipped with fundamental competencies in handling, analysing, and critically interpreting large-scale biological datasets. As noted during the evaluation, the programme has already taken initial steps to strengthen bioinformatics education. In the BPBE programme, the elective course Introduction to Bioinformatics has been offered since 2022. These developments reflect the programme's recognition of the growing importance of bioinformatics in ge-</p> | <p><i>This comment refers to another study programme and therefore does not apply to the Bachelor Programme in Chemistry.</i></p> |

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|  | <p>bioinformatics concepts and tools to interpret contemporary studies. Early, mandatory exposure emphasizes that bioinformatics is an essential part of the biological sciences, not an optional niche, helping students better understand how research is done in the 21st century. It also improves students' career prospects, as bioinformatics competencies are now expected in many life science jobs and are linked to higher research self efficacy and interest in biomedical careers.</p> | <p>protein sequence analysis and 3D protein structure modeling, protein folding, and protein network analysis. The Bioinformatics course is currently offered to third-year students in the even semester of the 2025/2026 academic year as an elective course. However, given the importance of bioinformatics, the Bioinformatics course will be made compulsory in the 2027 curriculum revision in accordance with the recommendations provided.</p> <p>Evidence: <a href="#">Bioinformatics Module handbook Revised.pdf</a></p> | <p>nomics, molecular biology, and life sciences research more broadly. In response to the experts' recommendation, the faculty has carefully reviewed the curriculum structure of both programmes. As a result, the programme has agreed in principle to upgrade bioinformatics from an elective to a compulsory course for BPBE students. This change is planned to be implemented in the next curriculum revision cycle (2027). Making bioinformatics mandatory will ensure that all graduates acquire essential knowledge of core concepts, tools, and applications of bioinformatics, including the interpretation of sequencing and omics data, which are now integral to contemporary biological research. Early and compulsory exposure to bioinformatics will emphasize its role as a foundational component of biological sciences rather than a specialized niche. This approach is expected to enhance students' understanding of how modern biological research is conducted, strengthen their research self-efficacy, and better prepare them for postgraduate studies and careers in academia, industry, and</p> |  |
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|  |                                                                                                                                                                                                                                                                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | <p>the biomedical sector, where bioinformatics competencies are increasingly expected. In addition, the programme plans to further integrate bioinformatics elements into relevant courses (e.g. genetics, molecular biology, and biotechnology) through practical assignments and case studies. This integration will reinforce the application of bioinformatics skills across disciplines and support students in developing a coherent and applied understanding of data-intensive biology.</p> <p><a href="#">BIOINFORMATICS.pdf</a></p> |                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
|  | <p><b>The experts emphasize that it is very useful for students to spend some time abroad already during their Bachelor's studies to improve their English proficiency,</b> to get to know other educational systems, and to enhance their job opportunities.</p> | <p>The Biology Programme (BPB) is set to develop a new initiative aimed at increasing student mobility between the University of Brunei Darussalam and the University of Malaysia Sarawak. This program will be implemented in stages starting in 2026 and 2027. To achieve this goal, BPB is focusing on enhancing students' English language skills and forming international partnerships. Additional support facilities will be communicated to the International Affairs Office.</p> | <p>BPBE is set to develop a new initiative aimed at increasing student mobility between the IPG Rajang and the University of Malaysia Sarawak. This program will be implemented in stages starting in 2026 and 2027. To achieve this goal, BPBE is focusing on enhancing students' English language skills and forming international partnerships. Additional support facilities will be communicated to the International Affairs Office.</p>                                                                                                | <p>The programme recognises the importance of international exposure during Bachelor's studies. Students are actively encouraged and academically supported to participate in international mobility schemes such as Erasmus+, DAAD, British Council programmes, and IISMA. Mobility opportunities are regularly disseminated, and academic and administrative guidance is provided to facilitate application procedures and credit recognition.</p> |

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|  | To attract international students, FKIP and FMIPA should think about <b>regularly conducting international summer schools</b> . The experts are convinced that such an offer would appeal to many students, especially from Europe, and this might help to further promoting the internationalisation of UNTAN. | The Biology Programme (BPB) agrees that international summer school activities will increase student mobility. FMIPA is willing to open an international summer school programme to international students. The biodiversity of Kalimantan's tropical forests can attract foreign students to participate in student mobility at BPB Untan. This programme is expected to run on an ongoing basis. In 2026, the activity was initiated in collaboration with Universiti Teknologi Malaysia. | We fully agree that participation in international mobility programs during Bachelor's studies significantly contributes to improving students' English proficiency, broadening their understanding of diverse educational systems, and strengthening their future employability. In response to this recommendation, FKIP has planned several strategic measures. First, FKIP is strengthening international collaboration with partner universities abroad to expand opportunities for student exchange, short-term mobility programs, and academic internships for Bachelor's students. Second, to attract international students and enhance international visibility, FKIP is in the process of designing regular international summer school programs. These summer schools will focus on educational themes aligned with FKIP's academic | <p>The Chemistry Programme welcomes the experts' recommendation regarding the regular organisation of international summer schools to strengthen internationalisation and attract incoming students, including from Europe.</p> <p>The Programme has actively developed structured short-term international academic formats within the ASEAN region. An example is Kenyalang Journey Awaits 2025 (KEJORA'25), a bilateral academic programme involving students from UNTAN, Universiti Teknologi Malaysia (UTM), and Universiti Malaysia Sarawak (UNIMAS), integrating academic sessions, industry visits, and supervised field-based learning activities with intercultural components.</p> <p>Building on this experience, the Programme is organising the Tengkwang In-</p> |

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|  |  |  | <p>strengths and will be delivered in English, involving both local and international lecturers. As example, Joint research and PKM between students and lecturers from UNIMAS, IPG Rajang and UNTAN which will be held in the border area between Indonesia and Malaysia to be held in July 2026, designed as an interdisciplinary academic programme.</p> | <p>ternational Summer Course 2026, designed as an interdisciplinary academic format integrating sustainability-oriented themes and regional scientific perspectives. The Programme is progressively institutionalising this format as a regularly conducted annual international summer school within FMIPA, thereby ensuring sustainable international engagement and structured incoming mobility.</p> <p>In parallel, UNTAN has previously established formal cooperation frameworks with European institutions, including participation in the French-Indonesian Consortium in Engineering and Management (FICEM) and Erasmus+-based mobility cooperation with Université de Poitiers. During the active periods of these agreements, student mobility to European partner institutions was implemented in accordance with the respective MoU frameworks. Although these agreements were concluded in earlier periods, they have provided institutional experience in European academic collaboration and mobility governance.</p> <p>The Programme intends to build upon this</p> |
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|  | <p>In order to foster internationalisation at UNTAN and for better promoting students' academic mobility., <b>the experts suggest including more English elements in the courses, especially in the advanced course of the third and fourth year.</b> Students' English proficiency is a major hindrance for participating in international programmes and encouraging them to actively speak English, e.g. by having presentations or group projects in English, would be very beneficial.</p> | <p>The Biology Programme (BPB) recognises the importance of English in global communication today. Therefore, BPB has designed several activities that will be initiated this semester to improve students' English language skills. Some lecturers will deliver lectures and provide materials in English, though not entirely, especially for elective courses. In the Bioethics, Immunology, and Industrial Microbiology courses, some of the teaching materials, discussions, and presentations are delivered in English. We hope that this</p> | <p>In response, BPBE has initiated and planned several strategic measures to address this issue. English elements will be gradually integrated into selected advanced courses, including the use of English-language references, lecture materials, and assessment components. Furthermore, students will be encouraged to actively use English through academic presentations, group projects, and class discussions conducted partially or fully in English. To overcome students' English proficiency barriers, the programme will</p> | <p>To strengthen internationalisation and enhance students' academic mobility, the programme has progressively integrated more English components, particularly in third- and fourth-year courses. Advanced modules increasingly use English-language lecture materials, international textbooks, and peer-reviewed scientific articles to familiarise students with global scientific discourse.</p> <p>As a concrete step, beginning in the current semester, selected third- and fourth-year elective courses, such as <b>MPK 311</b> –</p> |

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|  |                                                                                                                                                                                                           | step will improve the confidence of lecturers and students in using English. In addition, the Biology Student Association will initiate an English Club.                                                                                                                                               | collaborate with the university language centre to provide additional academic English support, such as English for Academic Purposes (EAP) workshops and preparatory classes, especially targeting third- and fourth-year students. These activities aim to build learning confidence and communication skills necessary for international engagement. BPBE also committed to fostering an international learning environment by promoting guest lectures, joint classes with partner universities, and participation in international programmes where English is the primary medium of instruction. These initiatives are expected to significantly improve students' readiness for academic mobility and enhance UNTAN's internationalisation efforts. | <b>Plastics Chemistry</b> and <b>MPK 308 – Computational Chemistry</b> , have started to incorporate a substantial portion of lectures and discussions in English. Students are required to actively express their opinions, participate in group discussions and group projects, and present selected assignments in English.<br><br>This gradual implementation is intended to systematically improve students' academic English proficiency and confidence, thereby reducing barriers to participation in international programmes. These measures form part of the programme's continuous quality improvement strategy. |
|  | The experts appreciate the effort to foster international mobility and support UNTAN to further pursuing this path. However, <b>the academic mobility is still low and there is room for improvement.</b> | The Biology Programme (BPB) and UNTAN are committed to increasing international mobility. The Biology Programme (BPB) provides information on international scholarship opportunities and other international activities. Further steps regarding the development of international mobility programmes | UNTAN has identified academic mobility as a strategic priority within its internationalization agenda. Several concrete measures are being planned and progressively implemented to increase both incoming and outgoing mobility of students and academic staff. These measures include strengthening and                                                                                                                                                                                                                                                                                                                                                                                                                                                  | The programme recognises that academic mobility is currently still limited and that there is room for improvement. At present, the University does not yet provide dedicated institutional funding to fully support students' outgoing mobility abroad, which represents a structural limitation.                                                                                                                                                                                                                                                                                                                           |

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|  |  | are currently being discussed between the Faculty and UNTAN. | expanding international partnerships through formal agreements (MoUs and MoAs), increasing participation in joint academic activities such as student exchange programs, visiting lecturer schemes, joint research, and international short courses. Furthermore, UNTAN is enhancing institutional support mechanisms by providing clearer information, administrative facilitation, and financial support schemes for international mobility, including scholarships, travel grants, and credit recognition policies. Capacity-building programs for academic staff, particularly in English proficiency and international academic collaboration, are also being intensified to encourage greater participation. | <p>Therefore, students are encouraged to apply for external funding schemes (e.g., national scholarships and partner-university programmes). Academic and administrative guidance is provided to support students during the application process.</p> <p>The programme is also strengthening international cooperation agreements and expanding opportunities for short-term exchanges, joint research activities, international conferences, and virtual mobility as preparatory steps toward physical mobility.</p> <p>English proficiency remains one of the main challenges for students' participation in international programmes. To address this, Universitas Tanjungpura implements a structured support system, including a free diagnostic English test for new students (administered by UPA Bahasa), free enrichment activities through the American Corner, and certification-oriented training such as IELTS and PTE preparation through the British Culture and Learning Centre. Through these combined efforts, the University aims to gradually improve</p> |
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|  | The experts would like to clarify whether <b>students with colour-blindness can be admitted to the study programmes or not</b> . To this end, they ask UNTAN to give a short explanation about this issue. | UNTAN maintains that color blindness is not an exclusionary condition in admissions and is not formally designated as a prerequisite for entry into the Biology Study Program. All applicants are assessed under uniform institutional admission standards. The color blindness check conducted during re-registration functions only as an identification marker to map prospective students' needs so they can be appropriately facilitated with assistive tools. Any review related to color perception occurs only after enrollment at the study program level and is limited to ensuring that students can meet laboratory safety and intended learning outcomes, not to restrict access. This effort aims to fulfill the principle of fairness in academic access. The document | UNTAN would like to clarify that the university does not reject applicants with colour-blindness, and colour-blindness is not listed as an admission requirement for entry to UNTAN study programmes. In BPBE, students with colour-blindness are admitted in accordance with the general admission regulations applicable to all applicants. The university applies a case-by-case academic consideration only at the programme level, particularly in relation to the achievement of intended learning outcomes, laboratory safety, and professional competence standards, without using colour-blindness as a basis for rejection. UNTAN also provides support facilities for students with colour-blindness, including the availability of special colour-corrective glasses for use during laboratory activities. This support ensures that students | Colour blindness is not included as an admission requirement at Universitas Tanjungpura. Specifically, the Chemistry Study Programme does not impose restrictions on applicants with colour vision differences. All applicants are assessed under the same institutional admission standards. Any academic considerations are addressed solely to ensure laboratory safety and the achievement of intended learning outcomes and are not intended to restrict access.<br><br>The programme prioritizes adaptive academic support over exclusion. Students are accommodated through reasonable adjustments, including instructional guidance and assistive tools where necessary, to ensure safety, competency development, and fairness in assessment. |

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|  |                                                                                                                                                                                    | requirements for the entrance examination can be accessed at the following link <a href="https://scmb.untan.ac.id/">https://scmb.untan.ac.id/</a>                                                                                                                                                                                                                                                                                                                                                                                                                                       | with colour-blindness are able to participate effectively in practical learning while maintaining laboratory safety and academic standards. This policy reflects UNTAN's strong commitment to non-discriminatory admission practices, inclusive education, and quality assurance in higher education. The document requirements for the entrance examination can be accessed at the following link <a href="https://scmb.untan.ac.id/">https://scmb.untan.ac.id/</a>                                                                                                                                                    | The document requirements for the entrance examination can be accessed at the following link :<br><br><a href="https://scmb.untan.ac.id/">https://scmb.untan.ac.id/</a>                                                                                                                                                                                                                                                                                                                                                                                                       |
|  | The experts point out that <b>there can be no fixed conversion rate between SKS and ECTS points</b> . Therefore, the ECTS points need to be calculated separately for each course. | The workload survey was conducted using a structured system where students filled out questionnaires directly. Based on the survey data, student workload was recalculated to reflect the actual learning time across all courses, with a particular focus on the Internship and Undergraduate Thesis courses. These recalculated workload values were then included in the module descriptions. In accordance with UNTAN regulations, it is important to note that one ECTS credit corresponds to 27 hours of student workload.<br><br><a href="#">Revised BPB Module Handbook.pdf</a> | In response to this recommendation, BPBE has revised its approach by calculating ECTS credits separately for each course, based on the total student workload. This workload calculation includes contact hours (lectures, tutorials, practical sessions), structured assignments, independent learning, examinations, and other learning activities required to achieve the intended learning outcomes of each course. In addition, a workload survey has been conducted, completed by students, to obtain actual data on the time spent for each course. Student workload has been recalculated in a realistic manner | Previously, the programme applied UNTAN's institutional reference of 1 SKS = 1.67 ECTS for initial alignment purposes. Following the experts' recommendation, this approach has been discontinued and replaced by an individual course-based workload calculation to ensure that ECTS allocation accurately reflects actual student effort. A comprehensive student workload survey was conducted across all courses in the programme. The survey results provided empirical data on the actual time required to achieve the intended learning outcomes of each course. Based |

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|                                                       |               | <p>for all courses, especially for PLP 1 and PLP 2, Community Service Program (KKN), seminars, and thesis courses, based on the survey results. The ECTS allocation for each course now follows the principles of the European Credit Transfer and Accumulation System, where 1 ECTS corresponds to 27 hours of student workload. Detailed workload estimations, including survey-based adjustments, are documented at the course level and reflected in the updated course descriptions and syllabi.</p> <p><a href="#">revisi plp 1,2 dan seminar.pdf</a></p> | <p>on these data, the workload was recalculated individually for every course, and ECTS credits were reassigned accordingly, using the institutional standard of 1 ECTS = 27 hours of verified total student workload.</p> <p>The recalculation led to adjustments in several compulsory courses. For example, the Internship course was revised from 3.34 ECTS to 5 ECTS. Similarly, the Bachelor Thesis (Tugas Akhir), including supervised research and academic writing, was recalculated to reflect the verified workload required for its completion. The revised ECTS allocations are documented in the updated module descriptions and are being implemented in the current academic cycle.</p> <p><i>The documentation of the workload calculation and an example of the actual ECTS calculation are available at the following link:</i></p> <table><tr><td><u>ECTS</u></td><td><u>Survey</u></td></tr><tr><td colspan="2"><a href="#">Revised Module Descriptions – BPC.pdf</a></td></tr></table> | <u>ECTS</u> | <u>Survey</u> | <a href="#">Revised Module Descriptions – BPC.pdf</a> |  |
| <u>ECTS</u>                                           | <u>Survey</u> |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |             |               |                                                       |  |
| <a href="#">Revised Module Descriptions – BPC.pdf</a> |               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |             |               |                                                       |  |

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| 2 | <p>During the audit, the experts learn that all undergraduate students at UNTAN need to submit a scientific paper to a journal as a graduation requirement. Usually, this paper is based on the results of the final project. <b>However, the experts are convinced that requiring Bachelor students to submit a scientific paper for graduation is generally not useful</b> because most undergraduates are still developing fundamental research and writing skills, and they typically lack the time, resources, and experience to produce publishable work.</p> | <p>The previous regulation at Universitas Tanjungpura required students to publish part or all of their research results in an ISSN-registered scientific journal, in accordance with Circular Letter No. B/323/B.B1/SE/2019 issued by Direktorat Jenderal Pendidikan Tinggi concerning the publication of scientific work for bachelor's, master's, and doctoral programs. However, this regulation was revised through Rector Regulation No. 1 of 2025 on the Implementation of Education at the university, in which Article 45 paragraph (7) states that the results of a student's final project may be published in accordance with applicable provisions, but such publication is not mandatory. Publication may be done voluntarily based on an agreement between the lecturer and student, and is not mandatory. Evidence: Rector Regulation No. 1 of 2025 on the Implementation of Education at the UNTAN</p> <p><a href="#">Rector Regulation No. 1 of 2025 on the Implementation of Education at the UNTAN.pdf</a></p> | <p>The policy was initially introduced in response to national accreditation requirements, which emphasize measurable student outputs, including student publications in nationally indexed journals (minimum SINTA 4), as part of institutional quality assurance. The original intent was to foster an academic culture and introduce students to research-based writing and scholarly communication under close academic supervision, rather than to impose graduate-level research expectations on undergraduate students. At the same time, BPBE fully acknowledges that mandatory publication requirements may not always be optimally aligned with the developmental stage of most undergraduate students. In light of the experts' recommendations, BPBE agrees that the policy will be reviewed and refined so that student publications are no longer positioned as a compulsory graduation requirement, but rather as part of supervised activities within lecturers' research projects. This approach is expected to ensure academic feasibility, stronger mentoring, and better alignment with</p> | <p>The previous Academic Handbook of Universitas Tanjungpura (Academic Year 2022/2023), Section 7.11, p. 45, referring to the Circular Letter of the Director General of Higher Education No. B/323/B.B1/SE/2019 on the publication of student final project results, required undergraduate students to prepare a scientific paper derived from their final project as part of the graduation requirement. This policy reflected the national regulatory context at that time, which aimed to strengthen research dissemination and academic writing competencies among graduates. The relevant provision is highlighted in yellow in the submitted document.</p> <p><i>The document is in Bahasa Indonesia; an English summary is provided for clarification, as can be accessed in the following link :</i></p> <p><a href="#">Academic Handbook 2022 - 2023</a></p> <p>The current Rector Regulation of Universitas Tanjungpura No. 1 of 2025 on the Implementation of Education at UNTAN (Chapter VII, Section 7, Article 45, p. 24,</p> |
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|  |  |  | <p>undergraduate learning outcomes, while maintaining compliance with national quality assurance frameworks and the program's commitment to continuous improvement in line with international accreditation standards.</p> <p><a href="https://drive.google.com/file/d/1z3TcY7yUdseLQrE5IJiBrPqKFLG-scC6m/view?usp=sharing">https://drive.google.com/file/d/1z3TcY7yUdseLQrE5IJiBrPqKFLG-scC6m/view?usp=sharing</a></p> | <p>concerning the Final Project and the results of the Bachelor's (S1) Final Project) has clarified this provision.</p> <p><i>The relevant section is highlighted in yellow in the submitted document and can be accessed via the following link:</i></p> <p><u>Rector Regulation 2025</u></p> <p>For bachelor's programmes, the final project takes the form of an undergraduate thesis (skripsi). The regulation states that the results of the final project may be disseminated or published in accordance with applicable regulations. The revised wording clearly indicates that publication is optional and no longer a mandatory condition for graduation.</p> <p>The Bachelor's degree is awarded upon successful completion and defence of the final project (Bachelor's Thesis), independent of any publication outcome. Students who intend to publish the results of their final project are provided with academic facilitation and supervisory support. The programme therefore clearly distinguishes between graduation requirements and</p> |
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| 3 | <p>The BPBE programme has two laboratories that are used for practical work and research. FKIP has also a micro teaching laboratory, where a group of students can do micro teaching sessions while being observed by other students and teachers. This learning laboratory is well equipped and suitable for providing learning experiences to prospective teachers under the guidance of lecturers. However, to fully meet assessment and learning objectives, the use of cameras should be expanded. Cameras are required not only to record student teachers' teaching performances but also to capture peers' responses and inter-actions. This is essential to ensure comprehensive evidence collection and the development of meaningful and impactful learning artifacts.</p> | <p><i>This comment refers to another study programme and therefore does not apply to the Bachelor Programme in Biology.</i></p>                            | <p>BPBE programme, in coordination with the faculty management, has planned and initiated the enhancement of the micro teaching laboratory facilities by expanding the camera system. This includes the installation of additional cameras positioned to record not only the teaching performances but also peer interactions, student engagement, and feedback processes during micro teaching sessions. Furthermore, lecturers are encouraged to utilize these comprehensive recordings to guide structured reflection, peer assessment, and feedback sessions, thereby strengthening students' pedagogical competencies, self-evaluation skills, and professional readiness.</p> <p><a href="https://drive.google.com/file/d/1FxJL6xViHoikx2yYonFyces1-DTDHUOg/view?usp=drive_link">https://drive.google.com/file/d/1FxJL6xViHoikx2yYonFyces1-DTDHUOg/view?usp=drive_link</a></p> | <p><i>This comment refers to another study programme and therefore does not apply to the Bachelor Programme in Chemistry.</i></p>                                |
| 3 | <p>During the audit, the expert group also visits the laboratories in the Faculty of Teacher Training and Education and the Faculty of Sciences and Mathematics to assess the quality of the facilities</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | <p>The Biology Study Program acknowledges that the laboratory conditions have not yet met standards in several aspects. Nevertheless, the laboratories</p> | <p>Universitas Tanjungpura (UNTAN) states a firm and long-term commitment to systematically revitalize labor-</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | <p>To address this, equipment renewal has been incorporated into the Faculty's medium-term development plan. Replacement and upgrading are prioritised based</p> |

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|  | <p>and the technical equipment. They notice that there are no severe bottle-necks due to missing equipment and confirm that the laboratories are equipped with the necessary basic equipment.</p> <p><b>However, most of the instruments and devices are outdated and should be replaced.</b></p> | <p>continue to function as facilities for learning, research, and service provision. Each year, the Biology Study Program submits improvement proposals as part of quality enhancement efforts through the Activity and Budget Plan (RKA). In the current year, the study program has proposed 4 activities related to the renovation of facilities and procurement laboratory equipment.</p> | <p>atory facilities and laboratory equipment. This commitment includes the planned and phased replacement of outdated and obsolete instruments with modern equipment that meets current academic, scientific, and safety standards. The revitalization program is an integral part of UNTAN's institutional quality assurance and infrastructure development strategy. UNTAN ensures that the implementation of this program is continuously monitored and adequately funded to prevent any disruption to laboratory practical activities. As a result, all practical courses are guaranteed to run smoothly and effectively, enabling students to achieve the intended learning outcomes and required practical competencies. Through these concrete and measurable actions, UNTAN demonstrates its strong responsibility to maintain and continuously improve the quality of laboratory-based teaching and learning in full alignment with ASIIN standards.</p> <p><a href="https://drive.google.com/file/d/1FxJL6xViHoikx2yYonFyces1-DTDHUOg/view?usp=drive_link">https://drive.google.com/file/d/1FxJL6xViHoikx2yYonFyces1-DTDHUOg/view?usp=drive_link</a></p> | <p>on teaching relevance, research needs, safety considerations, and usage intensity. Funding is being allocated progressively through faculty budgeting schemes and external grant opportunities.</p> <p>In response to the experts' observation that most laboratory instruments are outdated and require replacement, Universitas Tanjungpura has approved the "Action Plan for Building Maintenance and Equipment Procurement to Meet the Requirements of Tanjungpura University Study Program", developed based on structured proposals submitted by the Study Programme and integrated into the University financing framework.</p> <p>The Action Plan establishes a secured multi-year upgrading strategy that includes phased replacement and modernisation of laboratory instruments and technical equipment. The progressive allocation framework ensures systematic renewal of ageing devices while maintaining operational continuity for teaching and research activities.</p> |
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|   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                                                                                                 | <p>Implementation begins in 2026 and prioritises essential laboratory equipment, followed by gradual modernisation of technical and research-supporting instruments.</p> <p><i>Detailed procurement schedules and allocations are provided in the attached Action Plan and accessible via the following link:</i></p> <p><a href="#"><u>UNTAN's Action Plan for Building Maintenance and Equipment Procurement</u></a></p> |
| 3 | <p><b>The biology laboratories at FMIPA are functional but require significant enhancement, particularly in relation to safety practices and infrastructure.</b> Several instruments are outdated, and the laboratory environment shows signs of moisture-related issues, including mould and fungal growth. Additionally, the aquatic ecology laboratory also functions as a storage space for insect collections, indicating constraints in laboratory space. While the laboratory has a reasonable amount of equipment, it is only sufficient for small re-search groups.</p> | <p>The Biology Programme agrees with this comment. We are aware of the shortcomings of the laboratory conditions, especially in terms of infrastructure and safety. The emergence of mould is caused by high humidity and insufficient air conditioning. To overcome this, BPB will renovate the laboratory and expanding the biological specimen collection space. This renovation has been proposed to UNTAN. The availability of equipment is not yet ideal, and some of it is outdated. However, in recent years, we have acquired new laboratory equipment such as a UV-Vis spectrophotometer,</p> | <p><i>This comment refers to another study programme (Biology) and therefore does not apply to the BPBE</i></p> | <p><i>This comment refers to another study programme (Biology) and therefore does not apply to the Bachelor Programme in Chemistry.</i></p>                                                                                                                                                                                                                                                                                |

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|  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | thermal cycler machine, gel documentation system, centrifuge, camera microscope, laminar airflow cabinet, and biosafety cabinet. We will add modern laboratory equipment every year, in line with advances in technology and student needs.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|  | <p>The experts point out that the high number of students contributes to congestion, delays in research activities, and extended project completion timelines. Achieving intended learning outcomes, particularly those involving psychomotor skill development, requires improved learning opportunities and more systematic assessment.</p> <p>Consequently, <b>additional laboratory equipment, such as microscopes and glassware, is required.</b></p> <p>A further critical issue concerns equipment maintenance, which currently depends on a single personnel member. <b>Regular professional training for laboratory staff is therefore essential</b> to ensure operational sustainability, safety compliance, and overall efficiency.</p> | <p>We agree that the availability of microscopes is limited, so it does not yet meet the ideal conditions for practical work. Some microscopes are in poor condition. Therefore, to address it, we have submitted a request to UNTAN for the procurement of laboratory equipment. Regarding the maintenance of laboratory equipment, we would like to confirm that routine maintenance has been performed on laboratory equipment by laboratory staff. Laboratory staff have received professional training in routine equipment maintenance, such as microscope maintenance. However, for some modern equipment, the maintenance and calibration process is carried out by a calibration service provider. Evidence: laboratory staff professional training certificates</p> | <p>The identified issues have been formally addressed through concrete institutional actions. Laboratory-based learning has been reorganized into smaller practical groups, supported by structured and systematic assessment of psychomotor skills aligned with the intended learning outcomes. The faculty has approved the procurement of additional laboratory equipment, including microscopes and glassware, to alleviate congestion and support effective student research activities. Furthermore, laboratory management is no longer dependent on a single personnel member. Additional laboratory staff have been assigned, and mandatory periodic professional training has been established to ensure equipment maintenance, safety compliance, and long-term operational sustainability.</p> | <p>The Programme acknowledges that high student numbers may cause laboratory congestion and affect psychomotor learning outcomes. Laboratory organisation is being improved and practical competencies are being assessed more systematically using standardised rubrics/checklists. To strengthen learning opportunities, UNTAN has approved the "Action Plan for Building Maintenance and Equipment Procurement to Meet the Requirements of Tanjungpura University Study Program", including phased procurement of essential laboratory equipment (e.g., microscopes and glassware).</p> <p><i>Details are provided in the attached Action Plan and via the following link:</i></p> <p><a href="#">UNTAN's Action Plan for Building Maintenance and Equipment Procurement</a></p> |

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|  |                                                                                                                                                                                                                                                                                                                                                                                                                                     | <u>Certificate Laboratory Technician</u>                                                                                 | <a href="https://drive.google.com/file/d/1d8Z-La9CR0XKjvg1DKzhQyUNI5LnH1yJ/view?usp=share_link">https://drive.google.com/file/d/1d8Z-La9CR0XKjvg1DKzhQyUNI5LnH1yJ/view?usp=share_link</a>                                                                                                                                                               | <p>The Chemistry laboratories are supported by two laboratory staff members. Both have participated in structured professional training programmes and have obtained relevant competency certificates to support their technical responsibilities and their role in assisting students during practical sessions. Regular participation in competency-related training is planned to ensure continuous professional development and operational sustainability.</p> <p><i>The certificates of the staffs' completed training can be accessed via the following links:</i></p> <p><u>Laboratory staff professional training</u></p> |
|  | Overall, the biology laboratories at FKIP are equipped with a combination of older and newer instruments. While the biology laboratory is basic, it is generally sufficient for teaching and learning purposes. However, <b>the current laboratory size is inadequate to support effective learning for groups of 20–25 students, and expansion should be considered.</b> Although the BPBE programme does not require advanced re- | <i>This comment refers to another study programme and therefore does not apply to the Bachelor Programme in Biology.</i> | Regarding laboratory capacity, we recognize that the current laboratory size is not optimal for accommodating effective learning activities for groups of 20–25 students. In response, the faculty has identified laboratory space expansion as a priority in its mid-term development plan. This includes optimizing existing space utilization in the | <i>This comment refers to another study programme and therefore does not apply to the Bachelor Programme in Chemistry.</i>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |

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|  | <p>search-grade instruments, the provision of appropriate software and digital tools is essential to support the development of instructional and learning media.</p> |  | <p>short term and proposing physical expansion and renovation of laboratory facilities in alignment with institutional planning and budget allocation. With respect to learning support infrastructure, although the BPBE programme does not require advanced research-grade instruments, FKIP has already initiated the provision of relevant software and digital tools to support innovative teaching and learning practices. At present, the faculty is equipped with educational software and digital learning tools, including Oculus devices for the development of virtual reality (VR)-based learning environments and other digital learning media. These facilities are utilized to support the development of instructional media, virtual simulations, and technology-enhanced learning resources for prospective biology teachers.</p> <p><a href="https://drive.google.com/file/d/1FxJL6xViHoikx2yYonFycs1-DTDHUOg/view?usp=drive_link">https://drive.google.com/file/d/1FxJL6xViHoikx2yYonFycs1-DTDHUOg/view?usp=drive_link</a></p> |  |
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|  | <p>The experts stress that there are many hazardous substances and instruments used in the laboratories, which causes a significant risk of accidents and presents a danger to human health, and the natural environment. This demands care in order to protect human health, conserve the natural environment and to prevent laboratory accidents. As a consequence, <b>UNTAN needs to comprehensively review existing safety measures and invest in improved safety equipment in accordance with established safety regulations.</b></p> | <p>The Biology Programme (BPB) is fully committed to upholding the highest standards of waste management. We ensure that all laboratory waste is meticulously collected and sorted prior to transportation by a licensed waste collection and processing company. Our laboratory has implemented rigorous regulations and standard operating procedures (SOPs) to guarantee strict adherence to Occupational Health and Safety (OHS) standards. This commitment not only protects our environment but also safeguards the health and safety of our entire community.</p> | <p>UNTAN committed to conducting a comprehensive review of existing laboratory safety policies, procedures, and facilities across relevant laboratories. This review includes an evaluation of current safety equipment, laboratory standard operating procedures (SOPs), chemical handling and waste management practices, as well as emergency response mechanisms. UNTAN also initiated and planned strategic investments to improve laboratory safety infrastructure in accordance with established national and international safety regulations. These measures include the procurement and upgrading of personal protective equipment (PPE), safety cabinets, fire protection systems, chemical storage facilities, and appropriate waste disposal systems. In addition, regular safety training, laboratory safety briefings, and risk awareness programs for students, lecturers, and laboratory staff are being strengthened to ensure consistent compliance with safety standards.</p> | <p>The programme recognises that laboratory activities involve hazardous chemicals, biological materials, and equipment that require strict safety management to protect human health and the environment.</p> <p>Regarding chemical waste management, the laboratories implement a segregation system in accordance with safety procedures. Chemical waste is separated by type and collected in designated containers. Only the necessary waste containers (jerrycans) are placed inside each laboratory room to minimise risk and exposure. The remaining waste is stored in a temporary storage facility under controlled conditions before being collected and processed by an authorised third-party company. A formal contract has been established with this licensed waste management provider to ensure compliance with environmental regulations.</p> <p>In addition, the University is conducting a comprehensive review of existing safety measures and gradually upgrading safety equipment, including improvements in ventilation systems, emergency facilities,</p> |
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|  | <p>In general, the experts see during the on-site visit that the laboratories are equipped with the necessary basic equipment, but that there are a number of outdated instruments (with the exception of the integrated laboratory). This impression is confirmed by both the students and the teachers, who, in conversation with the experts, assess some of the technical material equipment of the teaching laboratories as worthy of improvement. The experts point out that there are some bottlenecks due to a lacking infrastructure and the technical equipment in the laboratories needs to be updated and increased</p> | <p>The Biology Programme (BPB) agrees with the experts' recommendations. BPB recognises that the lack of facilities and laboratory buildings has a significant impact on academic and research activities. Based on ASIIN's recommendations, the Biology Programme has submitted nine proposals for renovation and procurement of laboratory equipment to UNTAN. The development plan will be carried out over a period of five years.</p> <p>1. Renovation of the Laboratory</p> | <p>UNTAN is fully committed to addressing these issues and ensuring that all departmental laboratories meet modern standards for both teaching and research. UNTAN has established a five-year phased development plan for upgrading and expanding basic laboratory instruments and technical equipment at the departmental level. The plan prioritizes essential teaching-related equipment in the initial phase, followed by the gradual procurement of modern research instruments for more</p> | <p>The modernisation of laboratory facilities is considered a strategic priority in alignment with international standards and the Programme's continuous quality improvement framework, and has already been initiated.</p> <p>In response to the experts' observation that most laboratory instruments are outdated and require replacement, Universitas Tanjungpura has approved the "Action Plan for Building Maintenance and Equip-</p>                                             |

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|  | <p>in numbers. Additionally, more modern instruments for conducting research activities should be available. <b>The expert group understands that modern research equipment for sophisticated laboratory work, sufficient in terms of quality and quantity, is not readily available and that the funds are restricted. For this reason, the experts expect UNTAN to submit a schedule and financing plan on how to update and increase the basic instruments and the technical equipment in the departmental laboratories within the next five years. The first steps towards concrete implementation should be taken as soon as possible.</b></p> | <p>2. Procurement of Occupational Safety and Health Equipment and Services<br/>3. Procurement of Laboratory Equipment<br/>Efforts to improve laboratory facilities are carried out in coordination with the Faculties and Universities listed in the Action Plan. Modernising laboratory facilities in accordance with international standards is a UNTAN priority.</p> <p><a href="#">ACTION PLAN ASIIN UNTAN 2026.pdf</a></p> | <p>sophisticated laboratory and research activities. To this end, UNTAN will develop and submit a comprehensive schedule and financing plan within the coming months, detailing how the basic instruments and technical equipment in all departmental laboratories will be updated and upgraded over the next five years. Implementation will begin immediately with priority given to critical laboratories and instruments, ensuring tangible improvements in the short term while systematically achieving long-term targets. UNTAN is committed to fully realizing this plan to provide students and faculty with laboratories that support high-quality education and advanced research.</p> <p><a href="https://drive.google.com/file/d/1FxJL6xViHoikx2yYonFyces1-DTDHUOg/view?usp=drive_link">https://drive.google.com/file/d/1FxJL6xViHoikx2yYonFyces1-DTDHUOg/view?usp=drive_link</a></p> | <p>ment Procurement to Meet the Requirements of Tanjungpura University Study Program”, developed based on structured proposals submitted by the Study Programme and formally integrated into the University financing framework.</p> <p>The Action Plan establishes a secured multi-year upgrading strategy that includes phased replacement and modernisation of laboratory instruments and technical equipment. The progressive allocation framework ensures systematic renewal of ageing devices while maintaining operational continuity for teaching and research activities.</p> <p>Implementation begins in 2026, prioritising essential laboratory equipment, followed by gradual modernisation of technical and research-supporting instruments.</p> <p><i>Detailed procurement schedules and allocations are provided in the attached Action Plan and accessible via the following link: <a href="#">UNTAN's Action Plan for Building Maintenance and Equipment Procurement</a></i></p> |
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|  | <p>One critical point from the experts' point of view is the fact that not all of the visited laboratories follow international safety standards. The experts point out that the laboratories do not have clearly marked emergency exit signage, which is essential to ensure laboratory safety. In several laboratories, including the tissue culture, ecology, and microbiology laboratories, fire extinguishers are placed on the floor, which poses a safety risk; therefore, they should be properly mounted on the wall. In addition, regular inspection and timely replacement of fire extinguishers is necessary to ensure they remain functional and compliant with safety requirements.</p> <p>Moreover, <b>most laboratories do not have safety showers despite the use of open flames and hazardous materials during experiments, making the installation of safety showers necessary to ensure adequate laboratory safety.</b> In the biotechnology laboratory, exposed piping was found along the walkway, posing a potential tripping hazard if students are not aware of it. Regular occupational safety and hazard assessments should be conducted, as current observations suggest that these practices are not systematically implemented.</p> | <p>Based on expert suggest, the placement of fire extinguishers in the Tissue Culture Laboratory, Microbiology Laboratory, and Ecology Laboratory has been improved in accordance with safety standards. Currently, safety showers are only available in the main building of the Biology and Chemistry Laboratory. In the renovation proposal, we have proposed the procurement of safety showers and other laboratory safety equipment.</p> | <p>The institution fully acknowledges these findings and is committed to ensuring that all laboratories comply with international safety standards through continuous improvement. Regarding emergency exit signage, it should be noted that at the Faculty of Teacher Training and Education (FKIP), emergency exits are already available and are complemented by clearly designated assembly (gathering) points in the event of an emergency. Therefore, as a short-term action, standardized emergency exit signage will be installed in all laboratories to ensure clear and consistent guidance during emergencies. Concerning the placement and maintenance of fire extinguishers, the institution agrees that fire extinguishers must be properly mounted to prevent potential safety risks. As a short-term corrective action, a routine inspection and maintenance schedule has been established to ensure the functionality and timely replacement of fire extinguishers. With respect to the absence of safety showers, the institution acknowledges this as a critical safety issue, particularly in laboratories</p> | <p>Corrective measures have been implemented in response to the observations made during the site visit. Emergency exit signage has been clearly installed in the relevant laboratories in accordance with safety standards. Fire extinguishers have been repositioned and properly mounted on the walls in designated locations. Regular inspection and scheduled replacement procedures are conducted to ensure continued functionality and compliance with safety requirements.</p> <p>Fire emergency response training, including procedures related to fire alarms, has been initiated for laboratory personnel and students to improve preparedness.</p> <p>Further improvements, including the installation of safety showers and the correction of exposed piping in the biotechnology laboratory, have been incorporated into the current laboratory upgrading plan. Routine occupational safety and hazard assessments are being strengthened to ensure systematic monitoring and compliance with established safety regulations</p> |
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|  |                                                                                                                                                                                                                                                        |                                                                                                                                                                                                  | <p>where open flames and hazardous materials are used. As a long-term improvement plan, the installation of safety showers has been formally included in the laboratory facility development program and will be implemented in phases, prioritizing laboratories with higher-risk activities.</p> <p><a href="https://drive.google.com/file/d/1FxJL6xViHoikx2yYonFycs1-DTDHUOg/view?usp=drive_link">https://drive.google.com/file/d/1FxJL6xViHoikx2yYonFycs1-DTDHUOg/view?usp=drive_link</a></p> | <p>(UNTAN's Action Plan)</p> <p>For laboratories involving biological materials such as bacteria, the facilities are clearly designated and labelled as Biosafety Level 2 (BSL-2) laboratories. These laboratories operate under specific biosafety procedures, including controlled access, mandatory personal protective equipment, and established handling and disposal protocols in accordance with applicable biosafety standards.</p> <p>Laboratory safety management continues to be improved as part of the programme's continuous quality assurance process.</p> <p><i>The link can be accessed here :</i></p> <p><a href="#">Chemistry Lab Response .pdf</a></p> <p><a href="#">UNTAN's Action Plan for Building Maintenance and Equipment Procurement</a></p> |
|  | <p>The renovation should include the <b>instalment of air-conditioning in all laboratories and lecture rooms</b>. The experts stress that providing air-conditioning in laboratories and lecture rooms of a university in Indonesia is very useful</p> | <p>The study program appreciates the experts' recommendation regarding the installation of air-conditioning in laboratories and lecture rooms. We fully acknowledge that Pontianak's hot and</p> | <p>We would like to express our gratitude to the ASIIN experts for their recommendation regarding the installation of air-conditioning in laboratories and lec-</p>                                                                                                                                                                                                                                                                                                                               | <p>The Faculty of Mathematics and Natural Sciences already provides several air-conditioned lecture rooms; however, we acknowledge that the current number is</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |

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| <p>for several interrelated reasons tied to climate, health, learning effectiveness, and equipment protection. Pontianak has a hot, humid tropical climate year-round, with temperatures often above 30 °C and high relative humidity. Without air-conditioning students and staff experience heat stress and discomfort. Concentration and alertness drop significantly. Air-conditioning helps maintain a comfortable, stable indoor environment, which is essential for effective teaching and learning. It is a known fact that high temperature and humidity in learning facilities reduces cognitive performance, memory, and attention. Students become fatigued more quickly. Thus, air-conditioned lecture rooms support better focus, participation, and academic performance, especially during long lectures.</p> <p>Moreover, many laboratories use sensitive instruments and chemicals and biological samples that require temperature and humidity control. <b>Air-conditioning prevents equipment malfunction and corrosion caused by humidity, ensures accuracy and repeatability of experiments, and extends the lifespan of expensive laboratory assets. In labs, excessive heat makes personal protective equipment uncomfortable, leading to unsafe practices.</b></p> | <p>humid climate significantly affects comfort, concentration, laboratory safety, and the performance of equipment and experimental materials. Therefore, climate control is indeed an important factor in ensuring effective teaching, learning, and research activities. Priority is being given to laboratories with temperature-sensitive equipment and materials to ensure experimental accuracy, equipment longevity, and laboratory safety compliance. Lecture rooms with high student occupancy are also being progressively upgraded to improve learning comfort and academic performance. In response to this, BPB submitted a proposal to add laboratory air conditioning and improve air circulation.</p> | <p>ture rooms. Currently, FKIP has provided 5 units of 2 PK air-conditioning installed in 2 in upper BPBE laboratories, 2 in classrooms, and 1 in lecturer office as an initial step to improve learning comfort, laboratory safety, and equipment protection. In the future, the university plans to carry out a phased renovation to add air-conditioning in priority laboratories and lecture rooms according to needs, capacity, and budget, with periodic evaluations to ensure effectiveness.</p> <p><a href="https://drive.google.com/drive/folders/1EQL9q3ISsGwed-nWbX1O44LYZg5ULbKZb?usp=sharing">https://drive.google.com/drive/folders/1EQL9q3ISsGwed-nWbX1O44LYZg5ULbKZb?usp=sharing</a></p> | <p>not yet fully sufficient given the large student population and the intensive use of teaching facilities.</p> <p>Considering Pontianak's hot and humid tropical climate, we fully recognise the importance of adequate air-conditioning in both lecture rooms and laboratories to support learning effectiveness, laboratory safety, and the protection of sensitive instruments and materials. Stable temperature and humidity conditions are essential to maintain student concentration and alertness, ensure experimental accuracy and repeatability, prevent equipment malfunction and corrosion, and extend the lifespan of laboratory assets. In laboratory settings, excessive heat may also reduce comfort when wearing personal protective equipment, potentially affecting safe laboratory practices and compliance.</p> <p>In line with this recommendation, the Chemistry Study Programme has submitted a proposal to increase the number of air-conditioned classrooms and to install air-conditioning and improved air circulation systems in laboratories. This initiative has been formally incorporated into the</p> |
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|  | Thus, air-conditioning in laboratories improves laboratory safety and compliance. |  |  | <p>approved “Action Plan for Building Maintenance and Equipment Procurement to Meet the Requirements of Tanjungpura University Study Program”. Specifically, the 2026 implementation phase includes the <b>Procurement and Installation of Air Circulation Systems</b>, supported by secured multi-year budget allocation. Implementation will be carried out progressively, prioritising the most critical lecture rooms and laboratories.</p> <p>This measure forms part of the Faculty’s structured infrastructure modernisation strategy and reflects the Programme’s commitment to continuously improving the learning and research environment in alignment with international standards and quality assurance principles.</p> <p>Detailed information is provided in the attached Action Plan and accessible via the following link:</p> <p><a href="#">UNTAN's Action Plan for Building Maintenance and Equipment Procurement</a></p> |
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| 4 | <p>However, the experts point out that <b>it is necessary to mention the students' total workload (including time needed for self-studies) in hours per semester in the module descriptions.</b> In addition, the module descriptions need to make transparent how the different exams contribute to the final grade and the course learning outcomes should be revised (see criterion 1.1). Finally, the experts observe that the literature references in the module descriptions are outdated and need to be updated. For this reason, the experts expect UNTAN to update the module descriptions for all three programmes.</p> | <p>Our study programme has addressed workload issues by revising module descriptions. The total number of hours required for students to complete each course has been recalculated. In addition, the weighting of different assessments has been clearly stated in the module description. Issues in outdated literature have been fixed in some module descriptions.</p> <p><a href="#">Student Workload Survey_BPB</a></p> | <p>In accordance with the feedback received, all module descriptions for the Biology Education Study Programmes at UNTAN have been revised to clearly indicate the total student workload per semester, including lecture, practical, and independent study hours. Furthermore, the descriptions now transparently specify the weight of each assessment component in determining the final grade, and the course learning outcomes have been thoroughly updated to ensure full alignment with the programme's intended learning outcomes, including the integration of higher-order thinking skills. In addition, the literature references have been reviewed and updated with current and relevant academic sources. These comprehensive revisions aim to enhance the transparency, academic rigor, and quality of the programmes, fully addressing the points raised by the experts.</p> <p><a href="https://drive.google.com/file/d/1J4EkFVpb8SgOBRRT0jz1XOUH0djjPQjp/view">https://drive.google.com/file/d/1J4EkFVpb8SgOBRRT0jz1XOUH0djjPQjp/view</a></p> | <p>The comment has been fully addressed. The module descriptions now clearly state the total student workload per semester (including contact hours and independent study) in hours. The weighting of each examination component toward the final grade has been made transparent. Course learning outcomes have been revised in line with Criterion 1.1 to ensure proper alignment and appropriate cognitive levels. In addition, outdated literature has been replaced with up-to-date textbooks and recent peer-reviewed publications. All changes are reflected in the updated module description files.</p> <p><i>The documentation of the workload calculation and an example of the actual ECTS calculation are available at the following link:</i></p> <p><a href="#">ECTS Survey</a></p> <p><a href="#">Revised Module Descriptions - BPC.pdf</a></p> |
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|  | <p>The experts ask UNTAN to submit <b>a sample Diploma Supplement, which is aligned with the European template</b>, for each of the three undergraduate programmes.</p> | <p>FMIPA has generated a sample Diploma Supplement in accordance with the European standard. Please find attached in the respective folder.</p> <p><a href="#">SKPI-DIPLOMA SUPPLEMENT Bar-tolomeus</a><br/> <a href="#">Dartim Rev Signed Stamped.pdf</a></p> | <p>As an initial step, BPBE has prepared a manual version of the Diploma Supplement as a preliminary proof of alignment with the European template. This manual version demonstrates the structure, content, and key information that will be included in the official Diploma Supplement. Currently, UNTAN is in the process of designing a Diploma Supplement that will be fully integrated with the Satu UNTAN application and adapted to the European Diploma Supplement template. This approach aims to ensure that the Diploma Supplement is not only aligned with international standards but also seamlessly integrated into our digital academic system, enhancing transparency, accessibility, and recognition of UNTAN degrees.</p> <p><a href="https://drive.google.com/file/d/1QwN-Kb-2b5lyhiHnzhv0ruYvyCEkwB-Drl/view?usp=drive_link">https://drive.google.com/file/d/1QwN-Kb-2b5lyhiHnzhv0ruYvyCEkwB-Drl/view?usp=drive_link</a></p> | <p>A sample Diploma Supplement for the Chemistry Study Programme is provided. The Diploma Supplement has been prepared in accordance with the European template and has been standardised at the Faculty of Mathematics and Natural Sciences level to ensure consistency and compliance with international standards.</p> <p><a href="#">Diploma Supplement - BPC.pdf</a></p> |
|  | <p>The experts confirm that the rights and duties of both UNTAN and the students are clearly defined and binding. All rules and regulations are published.</p>          | <p>BPB values the feedback from experts regarding rules and regulations, as well as the accessibility of information (such as the module handbook, study plan,</p>                                                                                             | <p>UNTAN hereby confirm that consistently ensures transparency and adherence to all academic regulations. All relevant course materials, including the</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | <p>The programme appreciates the experts' positive evaluation. We are pleased that the rights and duties of both the University</p>                                                                                                                                                                                                                                           |

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|   | <p>lished on the university's website and the students receive the course material at the beginning of each semester. In addition, all relevant information about the degree programme (e.g., module handbook, study plan, learning outcomes) is available on the English homepage of the programme.</p> | <p>and course materials) on BPB websites. Our study programme is dedicated to providing important information for our students.</p>                                                                                                                                                                                                                                                                                                                                    | <p>module handbook, study plan, and intended learning outcomes, are provided to students at the commencement of each semester and are systematically updated on the university website. Moreover, comprehensive information concerning the degree programme is made accessible through the English-language programme homepage, ensuring that current and prospective students have reliable and up-to-date reference materials. UNTAN remains committed to maintaining these practices to uphold academic integrity and clarity for all stakeholders.</p> | <p>and the students are considered clearly defined and transparent. The availability of regulations, module descriptions, study plans, and learning outcomes on the English homepage reflects our commitment to transparency and accessibility of information.</p>                                                                                                                                                                                                                                 |
| 5 | <p>In summary, the expert group confirms that the quality management system is suitable to identify weaknesses and to improve the degree programme. All stakeholders are involved in the process. However, <b>there is still room for improvement, because not all feedback loops are closed.</b></p>    | <p>We appreciate your feedback. We are committed to transparency, and a comprehensive summary of the student satisfaction survey results will be made available on the Faculty website by the Quality Assurance Unit in the upcoming semester. In addition, the Faculty Management and the Quality Assurance Unit will convene a management review meeting to discuss these findings, provide constructive feedback, and outline specific follow-up actions to en-</p> | <p>To address the feedback loop issue, we ensure that all feedback from students is compiled and communicated in the following semester via the Faculty Quality Assurance website. This process allows feedback to be systematically reviewed, acted upon, and made transparent to stakeholders, supporting continuous improvement of the programme.</p> <p><a href="https://drive.google.com/file/d/1vBjR">https://drive.google.com/file/d/1vBjR</a></p>                                                                                                  | <p>The quality management system is functioning well; however, we acknowledge that several feedback loops need to be strengthened to ensure full closure.</p> <p>The results of student satisfaction surveys have already been uploaded to the Faculty website to ensure transparency. Following the publication of these results, the Faculty Management and the Quality Assurance Unit conduct management review meetings to evaluate the findings and formulate concrete follow-up actions.</p> |

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|  |  | <p>hance our student experience. Satisfaction survey reports can be accessed on the MIPA faculty quality assurance website <a href="https://mipa.untan.ac.id/penjaminan-mutu">https://mipa.untan.ac.id/penjaminan-mutu</a></p> <p><a href="https://drive.google.com/drive/folders/1Py5yr5IL3VJmJ7Z2d4ojLjCd6s0pPuDL?usp=drive_link">https://drive.google.com/drive/folders/1Py5yr5IL3VJmJ7Z2d4ojLjCd6s0pPuDL?usp=drive_link</a></p> | <p><a href="#">PNQyENV_kx9h_7e5UfQAg6yDt-PIB/view?usp=drive_link</a></p> | <p>We are committed to further strengthening the documentation and monitoring of these follow-up measures to ensure that all feedback loops are clearly closed within the continuous quality improvement process.</p> <p>Satisfaction survey reports can be accessed on the MIPA faculty quality assurance website <a href="https://mipa.untan.ac.id/penjaminan-mutu">https://mipa.untan.ac.id/penjaminan-mutu</a> ; and the sample of the survey reports are as in the following link:<br/> <a href="https://drive.google.com/drive/folders/1iKHCEYSM3Uc-qldpd7YtwphSfotO5TA8?usp=sharing">https://drive.google.com/drive/folders/1iKHCEYSM3Uc-qldpd7YtwphSfotO5TA8?usp=sharing</a></p> |
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## G Summary: Expert recommendations (26.02.2026)

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

| Degree Programme     | ASIIN-seal                     | Subject-specific label | Maximum duration of accreditation |
|----------------------|--------------------------------|------------------------|-----------------------------------|
| Ba Biology           | With requirements for one year | -                      | 30.09.2031                        |
| Ba Biology Education | With requirements for one year | -                      | 30.09.2031                        |
| Ba Chemistry         | With requirements for one year | -                      | 30.09.2031                        |

### Requirements

#### For all degree programmes

- A 1. (ASIIN 3.2) Submit a concept and a timetable on how to update and increase the instruments and how to renovate the laboratories in the departments within the accreditation period.
- A 2. (ASIIN 3.2) Strictly follow international standards on safety regulations in all departmental laboratories.
- A 3. (ASIN 5) Close the feedback loops and inform the students about the results of the satisfaction questionnaires.

#### For the Bachelor Biology Education

- A 4. (ASIIN 4.1) Update the module descriptions with respect to the students' workload and the awarded ECTS points.

### Recommendations

#### For all degree programmes

- E 1. (ASIIN 1.3) It is recommended to increase students' academic mobility and to encourage students to spend some time abroad during their studies.
- E 2. (ASIIN 1.3) It is recommended to introduce more English elements in the courses.

## **H Comment of the Technical Committees (16.03.2026)**

### **Technical Committee 09 – Chemistry, Pharmacy (16.03.2026)**

*Assessment and analysis for the award of the ASIIN seal:*

The Technical Committee confirms that a total of four requirements are to be issued; however, the university has already addressed some issues in its response (Diploma Supplement, learning outcomes, review of the student workload). The remaining requirements relate to module descriptions, feedback on teaching evaluations and, above all, the improvement of laboratory facilities and compliance with safety standards. Two recommendations are proposed in this regard. Following a brief discussion, the Technical Committee supports the proposed requirements and recommendations.

The Technical Committee 09 – Chemistry, Pharmacy recommends the award of the seals as follows:

| <b>Degree Programme</b> | <b>ASIIN-seal</b>              | <b>Subject-specific label</b> | <b>Maximum duration of accreditation</b> |
|-------------------------|--------------------------------|-------------------------------|------------------------------------------|
| Ba Chemistry            | With requirements for one year | -                             | 30.09.2031                               |

### **Technical Committee 10 – Life Sciences (06.03.2026)**

*Assessment and analysis for the award of the ASIIN seal:*

The Technical Committee sees that a total of four requirements are to be issued; however, the university has already addressed some issues in its response (Diploma Supplement, learning outcomes, review of the student workload). The remaining requirements relate to module descriptions, feedback on teaching evaluations and, above all, the improvement of laboratory facilities and compliance with safety standards. Two recommendations are proposed in this regard. Following a brief discussion, the Technical Committee supports the proposed requirements and recommendations.

The Technical Committee 10 – Life Sciences recommends the award of the seals as follows:

| <b>Degree Programme</b> | <b>ASIIN-seal</b>              | <b>Subject-specific label</b> | <b>Maximum duration of accreditation</b> |
|-------------------------|--------------------------------|-------------------------------|------------------------------------------|
| Ba Biology              | With requirements for one year | -                             | 30.09.2031                               |
| Ba Biology Education    | With requirements for one year | -                             | 30.09.2031                               |

# I Decision of the Accreditation Commission (27.03.2026)

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

The Accreditation Commission discusses the procedure and decides to accredit the three study programmes with requirements for one year. The AC confirms the requirements and recommendations as proposed by the Technical Committees and the expert group.

The Accreditation Commission decides to award the following seals:

| Degree Programme     | ASIIN-seal                     | Subject-specific label | Maximum duration of accreditation |
|----------------------|--------------------------------|------------------------|-----------------------------------|
| Ba Biology           | With requirements for one year | -                      | 30.09.2031                        |
| Ba Biology Education | With requirements for one year | -                      | 30.09.2031                        |
| Ba Chemistry         | With requirements for one year | -                      | 30.09.2031                        |

## Requirements

### For all degree programmes

- A 5. (ASIIN 3.2) Submit a concept and a timetable on how to update and increase the instruments and how to renovate the laboratories in the departments within the accreditation period.
- A 6. (ASIIN 3.2) Strictly follow international standards on safety regulations in all departmental laboratories.
- A 7. (ASIN 5) Close the feedback loops and inform the students about the results of the satisfaction questionnaires.

### For the Bachelor Biology Education

- A 8. (ASIIN 4.1) Update the module descriptions with respect to the students' workload and the awarded ECTS points.

## Recommendations

### For all degree programmes

- E 3. (ASIIN 1.3) It is recommended to increase students' academic mobility and to

encourage students to spend some time abroad during their studies.

E 4. (ASIIN 1.3) It is recommended to introduce more English elements in the courses.

## Appendix: Programme Learning Outcomes and Curricula

According to the Self-Assessment Report, the following **Objectives and Learning Outcomes** shall be achieved by the Bachelor's degree programme Biology:

| Degree Programme | Objective                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | Learning Outcome                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
|------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| BPB              | <ol style="list-style-type: none"> <li>1. To build academic integrity and motivation, critical thinking skills, open-mindedness, independence, creativity, and scientific innovative abilities, especially in the field of wetland biology and tropical peatlands of Kalimantan, among lecturers, educational staff, and students (Obj#1-BPB)</li> <li>2. To contribute to the development of biological sciences, especially in the tropical wetlands (Obj#2-BPB)</li> <li>3. To produce graduates who have knowledge and skills in biological sciences, especially in the tropical wetlands (Obj#3-BPB)</li> <li>4. To implement knowledge and skills in the community at local, national, and regional levels (Obj#4-BPB)</li> <li>5. To develop cooperation with stakeholders, including government institutions, the private sector, research institutions, and non-governmental organizations at the national and regional levels, in order to improve the quality of education, research, and community research activities (Obj#5-BPB)</li> </ol> | <ol style="list-style-type: none"> <li>1. Having academic integrity based on religious values and Pancasila to contribute to the progress of the nation and state (LO#1-BPB)</li> <li>2. Mastering and applying biological science and other scientific fields that support the development of biological science (LO#2-BPB)</li> <li>3. Able to work in teams and communicate actively orally and in writing in the field of biological sciences (LO#3-BPB)</li> <li>4. Able to have critical thinking, creativity, and innovation, with a lifelong commitment to learning in the fields of biological sciences and entrepreneurship (LO#4-BPB)</li> <li>5. Able to plan, solve problems, and provide recommendations for sustainable management of tropical wetland resources (LO#5-BPB).</li> <li>6. Mastering biological instruments and methodologies and being able to apply them in the management of tropical wetland resources (LO#6-BPB)</li> </ol> |

## 0 Appendix: Programme Learning Outcomes and Curricula

The following curriculum is presented:

| No.                      | Module Code | Module                                 | Credit Points |                      |                    | ECTS  |                      |                    |
|--------------------------|-------------|----------------------------------------|---------------|----------------------|--------------------|-------|----------------------|--------------------|
|                          |             |                                        | Total         | Theoretical Sessions | Practical Sessions | Total | Theoretical Sessions | Practical Sessions |
| 1 <sup>st</sup> Semester |             |                                        |               |                      |                    |       |                      |                    |
| 1                        | MKWU 1      | Religion                               | 3             | 3                    | NA                 | 5.01  | 5.01                 | NA                 |
| 2                        | MKWU 2      | Pancasila                              | 2             | 2                    | NA                 | 3.34  | 3.34                 | NA                 |
| 3                        | MKWU 4      | Bahasa Indonesia                       | 2             | 2                    | NA                 | 3.34  | 3.34                 | NA                 |
| 4                        | MPB 1100    | Biology                                | 4             | 3                    | 1                  | 6.68  | 5.01                 | 1.67               |
| 5                        | MPU 101     | Chemistry                              | 3             | 2                    | 1                  | 5.01  | 3.34                 | 1.67               |
| 6                        | MPU 103     | Mathematics                            | 2             | 2                    | NA                 | 3.34  | 3.34                 | NA                 |
| 7                        | MPU 109     | Physics                                | 3             | 2                    | 1                  | 5.01  | 3.34                 | 1.67               |
| Total                    |             |                                        | 19            | 16                   | 3                  | 31.73 | 26.72                | 5.01               |
| 2 <sup>nd</sup> Semester |             |                                        |               |                      |                    |       |                      |                    |
| 1                        | MPU 105     | Introduction to Information Technology | 2             | 1                    | 1                  | 3.34  | 1.67                 | 1.67               |
| 2                        | MPB 1200    | English                                | 3             | 3                    | NA                 | 5.01  | 5.01                 | NA                 |
| 3                        | MPB 1201    | Organic Chemistry                      | 2             | 2                    | NA                 | 3.34  | 3.34                 | NA                 |
| 4                        | MPB 1204    | Plant Anatomy and Morphology           | 4             | 3                    | 1                  | 6.68  | 5.01                 | 1.67               |
| 5                        | MPB 1205    | Animal Anatomy                         | 3             | 2                    | 1                  | 5.01  | 3.34                 | 1.67               |
| 6                        | MPB 2107    | Microbial Systematics                  | 3             | 2                    | 1                  | 5.01  | 3.34                 | 1.67               |
| 7                        | MPB 2112    | Biostatistics I                        | 2             | 2                    | NA                 | 3.34  | 3.34                 | NA                 |
| Total                    |             |                                        | 19            | 15                   | 4                  | 31.73 | 25.05                | 6.68               |
| 3 <sup>rd</sup> Semester |             |                                        |               |                      |                    |       |                      |                    |
| 1                        | MPB 2106    | Biochemistry                           | 3             | 2                    | 1                  | 5.01  | 3.34                 | 1.67               |
| 2                        | MPB 2109    | Plant Embryogenesis                    | 2             | 2                    | NA                 | 3.34  | 3.34                 | NA                 |
| 3                        | MPB 2110    | Histology                              | 3             | 2                    | 1                  | 5.01  | 3.34                 | 1.67               |
| 4                        | MPB 2111    | Genetics                               | 4             | 3                    | 1                  | 6.68  | 5.01                 | 1.67               |
| 5                        | MPB 2213    | Advance Biostatistics                  | 2             | 2                    | NA                 | 3.34  | 3.34                 | NA                 |
| 6                        | MPB 2214    | Systematics of Cryptogamae             | 3             | 2                    | 1                  | 5.01  | 3.34                 | 1.67               |
| 7                        | MPB 2215    | Systematics of Invertebrate            | 3             | 2                    | 1                  | 5.01  | 3.34                 | 1.67               |
| 8                        | MPB 2108    | Wetland Biology                        | 2             | 2                    | NA                 | 3.34  | 3.34                 | NA                 |
| Total                    |             |                                        | 22            | 17                   | 5                  | 36.74 | 28.39                | 8.35               |
| 4 <sup>th</sup> Semester |             |                                        |               |                      |                    |       |                      |                    |
| 1                        | MPB 1203    | Cell and Molecular Biology             | 2             | 2                    | NA                 | 3.34  | 3.34                 | NA                 |
| 2                        | MPB 2216    | Animal Embryology                      | 3             | 2                    | 1                  | 5.01  | 3.34                 | 1.67               |
| 3                        | MPB 2217    | Microbial Physiology                   | 2             | 2                    | NA                 | 3.34  | 3.34                 | NA                 |
| 4                        | MPB 2218    | Microtechniques                        | 3             | 2                    | 1                  | 5.01  | 3.34                 | 1.67               |
| 5                        | MPB 3119    | Evolution                              | 2             | 2                    | NA                 | 3.34  | 3.34                 | NA                 |
| 6                        | MPB 3120    | Phanerogamae Systematics               | 3             | 2                    | 1                  | 5.01  | 3.34                 | 1.67               |
| 7                        | MPB 3121    | Vertebrate Systematics                 | 3             | 2                    | 1                  | 5.01  | 3.34                 | 1.67               |
| 8                        | MPB 3124    | Conservation Biology                   | 2             | 2                    | NA                 | 3.34  | 3.34                 | NA                 |
|                          |             | Elective module                        | 2             | 2                    | NA                 | 3.34  | 3.34                 | NA                 |
|                          |             | Elective module                        | 2             | 2                    | NA                 | 3.34  | 3.34                 | NA                 |
| Total                    |             |                                        | 24            | 20                   | 4                  | 40.08 | 33.40                | 6.68               |

| 5 <sup>th</sup> Semester      |          |                      |            |            |           |               |               |              |
|-------------------------------|----------|----------------------|------------|------------|-----------|---------------|---------------|--------------|
| 1                             | MPB 3122 | Plant Ecology        | 3          | 2          | 1         | 5.01          | 3.34          | 1.67         |
| 2                             | MPB 3123 | Animal Ecology       | 3          | 2          | 1         | 5.01          | 3.34          | 1.67         |
| 3                             | MPB 3225 | Plant Physiology     | 4          | 3          | 1         | 6.68          | 5.01          | 1.67         |
| 4                             | MPB 3226 | Animal Physiology    | 4          | 3          | 1         | 6.68          | 5.01          | 1.67         |
| 5                             | MPB 3227 | Biotechnology        | 2          | 1          | 1         | 3.34          | 1.67          | 1.67         |
| 6                             | MPB 3228 | Research Methodology | 3          | 3          | NA        | 5.01          | 5.01          | NA           |
| 7                             |          | Elective module      | 3          | 2          | 1         | 5.01          | 3.34          | 1.67         |
| 8                             |          | Elective module      | 2          | 2          | NA        | 3.34          | 3.34          | NA           |
| <b>Total</b>                  |          |                      | <b>24</b>  | <b>18</b>  | <b>6</b>  | <b>40.08</b>  | <b>30.06</b>  | <b>10.02</b> |
| 6 <sup>th</sup> Semester      |          |                      |            |            |           |               |               |              |
| 1                             | MPB 3229 | Internship           | 3          | NA         | 3         | 5.01          | NA            | 5.01         |
| 2                             | MPB 4031 | Entrepreneurship     | 2          | 1          | 1         | 3.34          | 1.67          | 1.67         |
| 3                             | MKWU 3   | Civic                | 2          | 2          | NA        | 3.34          | 3.34          | NA           |
| 4                             |          | Elective module      | 3          | 2          | 1         | 5.01          | 3.34          | 1.67         |
| 5                             |          | Elective module      | 3          | 2          | 1         | 5.01          | 3.34          | 1.67         |
| 6                             |          | Elective module      | 3          | 2          | 1         | 5.01          | 3.34          | 1.67         |
| 7                             |          | Elective module      | 3          | 2          | 1         | 5.01          | 3.34          | 1.67         |
| 8                             |          | Elective module      | 3          | 2          | 1         | 5.01          | 3.34          | 1.67         |
| 9                             |          | Elective module      | 2          | 2          | NA        | 3.34          | 3.34          | NA           |
| <b>Total</b>                  |          |                      | <b>24</b>  | <b>15</b>  | <b>9</b>  | <b>40.08</b>  | <b>25.05</b>  | <b>15.03</b> |
| 7 <sup>th</sup> Semester      |          |                      |            |            |           |               |               |              |
| 1                             | MPB 4030 | Seminar              | 2          | 2          | NA        | 3.34          | 3.34          | NA           |
| 2                             |          | Elective module      | 2          | 2          | NA        | 3.34          | 3.34          | NA           |
| 3                             |          | Elective module      | 2          | 2          | NA        | 3.34          | 3.34          | NA           |
| <b>Total</b>                  |          |                      | <b>6</b>   | <b>6</b>   | <b>0</b>  | <b>10.02</b>  | <b>10.02</b>  | <b>0</b>     |
| 8 <sup>th</sup> Semester      |          |                      |            |            |           |               |               |              |
| 1                             | MPB 4032 | Undergraduate Thesis | 6          | 6          | NA        | 10.02         | 10.02         | NA           |
| <b>Total</b>                  |          |                      | <b>6</b>   | <b>6</b>   | <b>0</b>  | <b>10.02</b>  | <b>10.02</b>  | <b>0</b>     |
| <b>Total of All Semesters</b> |          |                      | <b>144</b> | <b>113</b> | <b>31</b> | <b>240.48</b> | <b>188.71</b> | <b>51.77</b> |

#### Electives Botany:

| No | Module Code | Module Name                | Credit points |                     |                   | ECTS Total | Semester |
|----|-------------|----------------------------|---------------|---------------------|-------------------|------------|----------|
|    |             |                            | Total         | Theoretical Session | Practical Session |            |          |
| 1  | MPB 2233    | Etnobotany                 | 2             | 2                   | 0                 | 3.34       | 3        |
| 2  | MPB 2236    | Orchidology                | 3             | 2                   | 1                 | 5.01       | 6        |
| 3  | MPB 2238    | Plant Biochemistry         | 2             | 2                   | 0                 | 3.34       | 4        |
| 4  | MPB 2235    | The Botany of Mangrove     | 3             | 2                   | 1                 | 5.01       | 5        |
| 5  | MPB 2237    | Weed Science               | 3             | 2                   | 1                 | 5.01       | 5        |
| 6  | MPB 3139    | Phytopatology              | 3             | 2                   | 1                 | 5.01       | 6        |
| 7  | MPB 4140    | Plant Ecophysiology        | 2             | 2                   | 0                 | 3.34       | 6        |
| 8  | MPB 4141    | Tissue Culture Engineering | 3             | 2                   | 1                 | 5.01       | 6        |
| 9  | MPB 4142    | Phytohormone               | 2             | 2                   | 0                 | 3.34       | 6        |
| 10 | MPB 2234    | Plant Nutrition            | 2             | 2                   | 0                 | 3.34       | 6        |
| 11 | MPB 3277    | Seed Physiology            | 3             | 2                   | 1                 | 5.01       | 6        |

### Electives Zoology:

| No | Module Code | Module Name        | Credit points |                     |                   | ECTS Total | Semester |
|----|-------------|--------------------|---------------|---------------------|-------------------|------------|----------|
|    |             |                    | Total         | Theoretical Session | Practical Session |            |          |
| 1  | MPB 2179    | Bioethics          | 2             | 2                   | 0                 | 3.34       | 3        |
| 2  | MPB 3149    | Parasitology       | 3             | 2                   | 1                 | 5.01       | 4        |
| 3  | MPB 3150    | Entomology         | 3             | 2                   | 1                 | 5.01       | 4        |
| 4  | MPB 2280    | Protozoology       | 3             | 2                   | 1                 | 5.01       | 4        |
| 5  | MPB 2281    | Nematology         | 3             | 2                   | 1                 | 5.01       | 4        |
| 6  | MPB 3244    | Ichtiology         | 3             | 2                   | 1                 | 5.01       | 5        |
| 7  | MPB 3151    | Carcinology        | 3             | 2                   | 1                 | 5.01       | 5        |
| 8  | MPB 3152    | Biologi Annelida   | 3             | 2                   | 1                 | 5.01       | 5        |
| 9  | MPB 3245    | Herpetologi        | 3             | 2                   | 1                 | 5.01       | 5        |
| 10 | MPB 3246    | Ornithology        | 3             | 2                   | 1                 | 5.01       | 5        |
| 11 | MPB 3247    | Mammalogy          | 3             | 2                   | 1                 | 5.01       | 5        |
| 12 | MPB 3248    | Primates           | 2             | 2                   | 0                 | 3.34       | 5        |
| 13 | MPB 3182    | Applied Entomology | 3             | 2                   | 1                 | 5.01       | 5        |
| 14 | MPB 4153    | Endocrinology      | 2             | 2                   | 0                 | 3.34       | 6        |
| 15 | MPB 4154    | Immunology         | 2             | 2                   | 0                 | 3.34       | 6        |
| 16 | MPB 4155    | Ekofisiologi Hewan | 2             | 2                   | 0                 | 3.34       | 6        |
| 17 | MPB 4156    | Ethology           | 2             | 2                   | 0                 | 3.34       | 6        |

### Electives Microbiology:

| No | Module Code | Module Name                | Credit points |                     |                   | ECTS Total | Semester |
|----|-------------|----------------------------|---------------|---------------------|-------------------|------------|----------|
|    |             |                            | Total         | Theoretical Session | Practical Session |            |          |
| 1  | MPB 3257    | Mycology                   | 3             | 2                   | 1                 | 5.01       | 3        |
| 2  | MPB 2183    | Bacteriology               | 3             | 2                   | 1                 | 5.01       | 3        |
| 3  | MPB 2264    | Population Genetics        | 2             | 2                   | 0                 | 3.34       | 4        |
| 4  | MPB 2263    | Plant Genetics             | 2             | 2                   | 0                 | 3.34       | 4        |
| 5  | MPB 3258    | Environmental Microbiology | 3             | 2                   | 1                 | 5.01       | 5        |
| 6  | MPB 4159    | Industrial Microbiology    | 3             | 2                   | 1                 | 5.01       | 5        |
| 7  | MPB 4160    | Food Microbiology          | 3             | 2                   | 1                 | 5.01       | 5        |
| 8  | MPB 4161    | Medical Microbiology       | 2             | 2                   | 0                 | 3.34       | 5        |
| 9  | MPB 3162    | Enzymology                 | 2             | 2                   | 0                 | 3.34       | 5        |
| 10 | MPB 4165    | Genetics Engineering       | 2             | 2                   | 0                 | 3.34       | 5        |
| 11 | MPB 4166    | Microbial Genetics         | 2             | 2                   | 0                 | 3.34       | 5        |
| 12 | MPB 3184    | Soil Microbiology          | 3             | 2                   | 1                 | 5.01       | 5        |

Electives Ecology:

| No | Module Code | Module Name                               | Credit points |                     |                   | ECTS Total | Semester |
|----|-------------|-------------------------------------------|---------------|---------------------|-------------------|------------|----------|
|    |             |                                           | Total         | Theoretical Session | Practical Session |            |          |
| 1  | MPB 2267    | Waste Treatment Technology                | 2             | 2                   | 0                 | 3.34       | 3        |
| 2  | MPB 2185    | Geographic Information System for Biology | 3             | 2                   | 1                 | 5.01       | 3        |
| 3  | MPB2286     | Radiobiology                              | 2             | 2                   | 0                 | 3.34       | 3        |
| 4  | MPB 2268    | Marine Biology                            | 3             | 2                   | 1                 | 5.01       | 4        |
| 5  | MPB 2269    | Environment Impact Assessment (EIA)       | 2             | 2                   | 0                 | 3.34       | 4        |
| 6  | MPB 2270    | Environmental Pollution                   | 3             | 2                   | 1                 | 5.01       | 4        |
| 7  | MPB 2271    | Wetland Ecology and Tropical Peatland     | 3             | 2                   | 1                 | 5.01       | 4        |
| 8  | MPB 2287    | Forest Ecology                            | 2             | 2                   | 0                 | 3.34       | 4        |
| 9  | MPB 2288    | Climatology                               | 2             | 2                   | 0                 | 3.34       | 4        |
| 10 | MPB 3174    | Planktonology                             | 3             | 2                   | 1                 | 5.01       | 5        |
| 11 | MPB 3176    | Soil Biology                              | 3             | 2                   | 1                 | 5.01       | 5        |
| 12 | MPB 3272    | Limnology                                 | 3             | 2                   | 1                 | 5.01       | 6        |
| 13 | MPB 3273    | Biogeography                              | 2             | 2                   | 0                 | 3.34       | 6        |
| 14 | MPB 4175    | Environmental Toxicology                  | 3             | 2                   | 1                 | 5.01       | 6        |

According to the Self-Assessment Report, the following **Objectives and learning Outcomes** shall be achieved by the Bachelor's degree programme Biology Education:

| Degree Programme | Objective                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | Learning Outcome                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
|------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| BPBE             | <ol style="list-style-type: none"> <li>1. Producing education graduates who have qualifications and competencies as prospective biology educators who are noble, adaptive, creative, and innovative in the development of science and information technology (Obj#1-BPBE)</li> <li>2. Producing education graduates who are able to solve problems in the field of biology and biology education through research activities that contribute to the development of science and technology (Obj#2-BPBE)</li> <li>3. Producing education graduates who are able to carry out community service to solve biology and biology education problems through the application of environmentally sound science and technology (Obj#3-BPBE)</li> </ol> | <ol style="list-style-type: none"> <li>1. Able to explain the essential concepts of biology and its relationship with basic knowledge of science and mathematics (LO#1-BPBE)</li> <li>2. Able to demonstrate fundamental knowledge and understanding of biological sciences (LO#2-BPBE)</li> <li>3. Able to apply the principles of scientific method and publish their research results (LO#3-BPBE)</li> <li>4. Able to carry out laboratory work and field studies independently based on research ethics and work safety principles (LO#4-BPBE)</li> <li>5. Have basic knowledge related to environmental issues and their handling (LO#5-BPBE)</li> <li>6. Able to apply creative and effective pedagogical principles according to the level of development and learning needs of students (LO#6-BPBE)</li> <li>7. Mastering the use of information and communication technology in supporting creative and effective biology learning (LO#7-BPBE)</li> <li>8. Fearing God Almighty and upholding human values based on Pancasila (LO#8-BPBE)</li> <li>9. Able to think conceptually, analytically, systematically, and logically in solving problems (LO#9-BPBE)</li> <li>10. Able to communicate and collaborate in regional, national, and international scope (LO#10-BPBE)</li> </ol> |

The following curriculum is presented:

| No<br>.                  | Courses<br>Code | Courses                                                             | CPs       |             |               | ECTS  |             |               |
|--------------------------|-----------------|---------------------------------------------------------------------|-----------|-------------|---------------|-------|-------------|---------------|
|                          |                 |                                                                     | Load<br>s | Course<br>s | Practicu<br>m | Loads | Course<br>s | Practicu<br>m |
| 1 <sup>st</sup> Semester |                 |                                                                     |           |             |               |       |             |               |
| 1                        | BIO 400         | Introduction to Biologi I: Cells, Energy, and Physiology            | 3         | 2           | 1             | 5.01  | 3.34        | 1.67          |
| 2                        | BIO 401         | General Chemistry                                                   | 3         | 2           | 1             | 5.01  | 3.34        | 1.67          |
| 3                        | BIO 402         | Laboratory Management and Work Safety                               | 3         | 2           | 1             | 5.01  | 3.34        | 1.67          |
| 4                        | KIP 203         | Teachers Profession                                                 | 2         | 2           |               | 3.34  | 3.34        |               |
| 5                        | KIP 201         | Introduction to Education                                           | 2         | 2           |               | 3.34  | 3.34        |               |
| 6                        | MKWK 1          | Religion                                                            | 3         | 3           |               | 5.01  | 5.01        |               |
| 7                        | MKWK 2          | Pancasila                                                           | 2         | 2           |               | 3.34  | 3.34        |               |
| 8                        | MKWK 4          | Bahasa Indonesia                                                    | 2         | 2           |               | 3.34  | 3.34        |               |
| Total                    |                 |                                                                     | 20        | 17          | 3             | 33.40 | 28.39       | 5.01          |
| 2 <sup>nd</sup> Semester |                 |                                                                     |           |             |               |       |             |               |
| 9                        | BIO 404         | Introduction to Biology II: Ecology, Evolution, and History of Life | 3         | 2           | 1             | 5.01  | 3.34        | 1.67          |
| 10                       | BIO 405         | Biochemistry                                                        | 3         | 2           | 1             | 5.01  | 3.34        | 1.67          |
| 11                       | BIO 406         | Cell Biology                                                        | 2         | 2           |               | 3.34  | 3.34        |               |
|                          |                 |                                                                     |           |             |               |       |             |               |
| 12                       | BIO 407         | Biostatistics and Computation                                       | 3         | 2           | 1             | 5.01  | 3.34        | 1.67          |
| 13                       | KIP 202         | Student Development                                                 | 3         | 3           |               | 5.01  | 5.01        |               |
| 14                       | KIP 204         | Learn and Learning                                                  | 3         | 3           |               | 5.01  | 5.01        |               |
| 15                       | KIP 205         | PLP I: Introduction to School Culture                               | 1         |             | 1             | 1.67  |             | 1.67          |
| 16                       | MKWU 3          | Civic                                                               | 2         | 2           |               | 3.34  | 3.34        |               |
| Total                    |                 |                                                                     | 20        | 17          | 3             | 33.40 | 26.72       | 6.68          |
| 3 <sup>rd</sup> Semester |                 |                                                                     |           |             |               |       |             |               |
| 17                       | BIO 301         | Lesson Planning of Biology                                          | 3         | 3           |               | 5.01  | 5.01        |               |
| 18                       | BIO 302         | Middle School Curricula Analysis                                    | 3         | 3           |               | 5.01  | 5.01        |               |
| 19                       | BIO 303         | Biology Education Entrepreneurship                                  | 2         | 2           |               | 3.34  | 3.34        |               |
| 20                       | BIO 308         | ICT Literacy and Learning Media                                     | 3         | 3           |               | 5.01  | 5.01        |               |
| 21                       | BIO 409         | Plant Structure                                                     | 3         | 2           | 1             | 5.01  | 3.34        | 1.67          |
| 22                       | BIO 410         | Animal Structure                                                    | 3         | 2           | 1             | 5.01  | 3.34        | 1.67          |
| 23                       | BIO 411         | Microbiology                                                        | 3         | 2           | 1             | 5.01  | 3.34        | 1.67          |
| 24                       | BIO 412         | Genetics                                                            | 3         | 2           | 1             | 5.01  | 3.34        | 1.67          |
| Total                    |                 |                                                                     | 23        | 19          | 4             | 38.41 | 31.73       | 6.68          |
| 4 <sup>th</sup> Semester |                 |                                                                     |           |             |               |       |             |               |
| 25                       | BIO 304         | Basic Teaching Skills                                               | 3         | 3           |               | 5.01  | 5.01        |               |
| 26                       | BIO 305         | Lesson Strategy of Biology                                          | 3         | 3           |               | 5.01  | 5.01        |               |
|                          |                 |                                                                     |           |             |               |       |             |               |
| 27                       | BIO 306         | Learning Evaluation of Biology                                      | 3         | 3           |               | 5.01  | 5.01        |               |
| 28                       | BIO 413         | Animal Physiology                                                   | 3         | 2           | 1             | 5.01  | 3.34        | 1.67          |
| 29                       | BIO 414         | Plant Physiology                                                    | 3         | 2           | 1             | 5.01  | 3.34        | 1.67          |
| 30                       | BIO 415         | Mycology                                                            | 3         | 2           | 1             | 5.01  | 3.34        | 1.67          |
| 31                       | BIO 416         | Biosystematics                                                      | 3         | 2           | 1             | 5.01  | 3.34        | 1.67          |
| 32                       | BIO 417         | Biotechnology                                                       | 2         | 2           |               | 3.34  | 3.34        |               |
| Total                    |                 |                                                                     | 23        | 19          | 4             | 38.41 | 31.37       | 6.68          |

| 5 <sup>th</sup> Semester      |         |                                                 |            |           |          |               |              |             |
|-------------------------------|---------|-------------------------------------------------|------------|-----------|----------|---------------|--------------|-------------|
| 33                            | BIO 307 | Research in Biology Education                   | 3          | 3         |          | 5.01          | 5.01         |             |
| 34                            | BIO 418 | Plant Growth and Development                    | 3          | 2         | 1        | 5.01          | 3.34         | 1.67        |
| 35                            | BIO 419 | Embryology                                      | 3          | 2         | 1        | 5.01          | 3.34         | 1.67        |
| 36                            | BIO 420 | Bioconservation                                 | 2          | 2         |          | 3.34          | 3.34         |             |
| 37                            |         | Elective course                                 | 2          | 2         |          | 3.34          | 3.34         |             |
| 38                            |         | Elective course                                 | 2          | 2         |          | 3.34          | 3.34         |             |
| 39                            |         | Elective course                                 | 2          | 2         |          | 3.34          | 3.34         |             |
| 40                            |         | Elective course                                 | 2          | 2         |          | 3.34          | 3.34         |             |
| 41                            |         | Elective course                                 | 2          | 2         |          | 3.34          | 3.34         |             |
| <b>Total</b>                  |         |                                                 | <b>21</b>  | <b>19</b> | <b>2</b> | <b>35.07</b>  | <b>31.73</b> | <b>3.34</b> |
| 6 <sup>th</sup> Semester      |         |                                                 |            |           |          |               |              |             |
| 42                            | BIO 403 | Environmental Science                           | 3          | 2         | 1        | 5.01          | 3.34         | 1.67        |
| 43                            | BIO 421 | Plant Ecology                                   | 3          | 2         | 1        | 5.01          | 3.34         | 1.67        |
| 44                            | BIO 422 | Animal Ecology                                  | 3          | 2         | 1        | 5.01          | 3.34         | 1.67        |
| 45                            | BIO 423 | Evolution                                       | 2          | 2         |          | 3.34          | 3.34         |             |
| 46                            | KIP 206 | Microteaching                                   | 2          | 2         |          | 3.34          | 3.34         |             |
| 47                            |         | Elective course                                 | 2          | 2         |          | 3.34          | 3.34         |             |
| 48                            |         | Elective course                                 | 2          | 2         |          | 3.34          | 3.34         |             |
| 49                            |         | Elective course                                 | 2          | 2         |          | 3.34          | 3.34         |             |
| 50                            |         | Elective course                                 | 2          | 2         |          | 3.34          | 3.34         |             |
| 51                            |         | Elective course                                 | 2          | 2         |          | 3.34          | 3.34         |             |
| <b>Total</b>                  |         |                                                 | <b>23</b>  | <b>20</b> | <b>3</b> | <b>38.41</b>  | <b>33.40</b> | <b>5.01</b> |
| 7 <sup>th</sup> Semester      |         |                                                 |            |           |          |               |              |             |
| 52                            | BIO 309 | Multicultural and Border Education              | 2          | 2         |          | 3.34          | 3.34         |             |
| 53                            | BIO 424 | Seminar                                         | 2          |           |          | 3.34          |              |             |
| 54                            | KIP 207 | PLP II: Guided Learning Implementation Practice | 3          |           | 3        | 5.01          |              | 5.01        |
| 55                            | KIP 208 | KKM (Community Field Works)                     | 4          |           | 3        | 6.68          |              | 6.68        |
| <b>Total</b>                  |         |                                                 | <b>11</b>  |           |          | <b>18.37</b>  |              |             |
| 8 <sup>th</sup> Semester      |         |                                                 |            |           |          |               |              |             |
| 56                            | KPB 431 | Undergraduate Thesis                            | 4          |           |          | 6.68          |              |             |
| <b>Total</b>                  |         |                                                 | <b>4</b>   |           |          | <b>6.68</b>   |              |             |
| <b>Total of All Semesters</b> |         |                                                 | <b>145</b> |           |          | <b>242.15</b> |              |             |

According to the Self-Assessment Report, the following **Objectives and Learning Outcomes** shall be achieved by the Bachelor's degree programme Chemistry:

|     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|-----|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| BPC | <ol style="list-style-type: none"> <li>1. To produce chemistry graduates with strong character, academic integrity, and professional competence, equipped with the skills to apply chemical knowledge, solve problems, communicate globally, and adapt to evolving societal needs (Obj#1-BPC)</li> <li>2. To generate impactful research that addresses real-world challenges and achieves international recognition (Obj#2-BPC)</li> <li>3. To contribute to community welfare and environmental sustainability through the application of science and research (Obj#3-BPC)</li> <li>4. To establish strategic collaborations with educational institutions, industry, and the business sector to enhance programme</li> </ol> | <ol style="list-style-type: none"> <li>1. Able to demonstrate academic integrity and contribute to a civilization grounded in Pancasila principles and national patriotism (LO#1-BPC)</li> <li>2. Capable of conducting scientific investigations in chemistry and effectively communicating findings to the scientific community through oral and written presentations (LO#2-BPC)</li> <li>3. Master the fundamental chemical concepts, including separation, identification, characterization, transformation, and synthesis of simple chemical substances (LO#3-BPC)</li> <li>4. Acquire a working knowledge of typical chemical instrumentation, proficiently operate equipment, and analyze associated data (LO#4-BPC)</li> </ol> |
|     | <ol style="list-style-type: none"> <li>quality (Obj#4-BPC)</li> <li>5. To implement transparent and accountable academic governance (Obj#5-BPC)</li> </ol>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | <ol style="list-style-type: none"> <li>5. Able to perform experiments to identify, analyze, isolate, transform, and synthesize simple molecules and chemical substances, adhering to laboratory safety protocols and drawing sound conclusions based on experimental data aligned with scientific ethics (LO#5-BPC)</li> <li>6. Able to utilize software tools to analyze the properties and transformations of chemical molecules and process experimental data (LO#6-BPC)</li> </ol>                                                                                                                                                                                                                                                  |

## 0 Appendix: Programme Learning Outcomes and Curricula

The following curriculum is presented:

| No.                      | Module Code | Module                                                | Credit Points |                      |                    | ECTS  |                      |                    |
|--------------------------|-------------|-------------------------------------------------------|---------------|----------------------|--------------------|-------|----------------------|--------------------|
|                          |             |                                                       | Total         | Theoretical Sessions | Practical Sessions | Total | Theoretical Sessions | Practical Sessions |
| 1 <sup>st</sup> Semester |             |                                                       |               |                      |                    |       |                      |                    |
| 1                        | MKWU 102    | Bahasa Indonesia                                      | 2             | 2                    | NA                 | 3.34  | 3.34                 | NA                 |
| 2                        | UMG 101     | English                                               | 2             | 2                    | NA                 | 3.34  | 3.34                 | NA                 |
| 3                        | MKWU 101    | Citizenship                                           | 2             | 2                    | NA                 | 3.34  | 3.34                 | NA                 |
| 4                        | MPU 103     | Biology                                               | 3             | 3                    | NA                 | 3.34  | 3.34                 | NA                 |
| 5                        | MPK 1001    | General Chemistry I                                   | 3             | 3                    | NA                 | 5.01  | 5.01                 | NA                 |
| 6                        | MPK 1002    | General Chemistry Laboratory                          | 2             | NA                   | 2                  | 3.34  | NA                   | 3.34               |
| 7                        | MPK 1003    | Introduction to Information Technology I              | 2             | 2                    | NA                 | 3.34  | 3.34                 | NA                 |
| 8                        | MPU 101     | Mathematics                                           | 3             | 3                    | NA                 | 5.01  | 5.01                 | NA                 |
| 9                        | MPU 102     | General Physics                                       | 3             | 2                    | 1                  | 5.01  | 3.34                 | 1.67               |
| Total                    |             |                                                       | 22            | 19                   | 3                  | 36.74 | 31.73                | 5.01               |
| 2 <sup>nd</sup> Semester |             |                                                       |               |                      |                    |       |                      |                    |
| 10                       | MPK 1005    | Fundamentals of Chemical Separation Laboratory        | 1             | NA                   | 1                  | 1.67  | NA                   | 1.67               |
| 11                       | MPK 1201    | Structure of Inorganic Compounds                      | 3             | 3                    | NA                 | 5.01  | 5.01                 | NA                 |
| 12                       | MPK 1401    | Basic Organic Chemistry                               | 2             | 2                    | NA                 | 3.34  | 3.34                 | NA                 |
| 13                       | MPK 1402    | Fundamentals of Organic Chemistry Laboratory          | 2             | NA                   | 2                  | 3.34  | NA                   | 3.34               |
| 14                       | MKWU 103    | Pancasila                                             | 2             | 2                    | NA                 | 3.34  | 3.34                 | NA                 |
| 15                       | MKWU 104    | Religion Education                                    | 3             | 3                    | NA                 | 5.01  | 5.01                 | NA                 |
| 16                       | MPK 1007    | Introduction to Information Technology II             | 2             | 2                    | NA                 | 3.34  | 3.34                 | NA                 |
| 17                       | MPK 1004    | General Chemistry II                                  | 3             | 3                    | NA                 | 5.01  | 5.01                 | NA                 |
| 18                       | MPK 1006    | Advanced Mathematics                                  | 2             | 2                    | NA                 | 3.34  | 3.34                 | NA                 |
| 19                       | MPK 1301    | Fundamentals of Atomic Theory                         | 2             | 2                    | NA                 | 3.34  | 3.34                 | NA                 |
| Total                    |             |                                                       | 22            | 19                   | 3                  | 36.74 | 31.73                | 5.01               |
| 3 <sup>rd</sup> Semester |             |                                                       |               |                      |                    |       |                      |                    |
| 20                       | MPK 2302    | Quantum Chemistry                                     | 3             | 3                    | NA                 | 5.01  | 5.01                 | NA                 |
| 21                       | MPK 2205    | Symmetry and Group Theory                             | 1             | 1                    | NA                 | 1.67  | 1.67                 | NA                 |
| 22                       | MPK 2403    | Organic Compound Reactions I                          | 2             | 2                    | NA                 | 3.34  | 3.34                 | NA                 |
| 23                       | MPK 2501    | Biochemistry I                                        | 2             | 2                    | NA                 | 3.34  | 3.34                 | NA                 |
| 24                       | MPK 2101    | Introduction to Analytical Chemistry                  | 3             | 3                    | NA                 | 5.01  | 5.01                 | NA                 |
| 25                       | MPK 2303    | Chemical Thermodynamics                               | 2             | 2                    | NA                 | 3.34  | 3.34                 | NA                 |
| 26                       | MPK 2008    | Environmental Chemistry                               | 2             | 2                    | NA                 | 3.34  | 3.34                 | NA                 |
| 27                       | MPK 2102    | Qualitative Analysis of Cations and Anions Laboratory | 1             | NA                   | 1                  | 1.67  | NA                   | 1.67               |
| 28                       | MPK 2202    | Fundamentals of Inorganic Compound Reactions          | 2             | 2                    | NA                 | 3.34  | 3.34                 | NA                 |
| 29                       | MPK 2203    | Coordination Chemistry                                | 2             | 2                    | NA                 | 3.34  | 3.34                 | NA                 |
| 30                       | MPK 2204    | Inorganic Reaction Laboratory                         | 2             | NA                   | 2                  | 3.34  | NA                   | 3.34               |
| Total                    |             |                                                       | 22            | 19                   | 3                  | 36.74 | 31.73                | 5.01               |
| 4 <sup>th</sup> Semester |             |                                                       |               |                      |                    |       |                      |                    |
| 31                       | MPK 2206    | Chemistry of the Elements                             | 3             | 3                    | NA                 | 5.01  | 5.01                 | NA                 |
| 32                       | MPK 2103    | Conventional Analysis and Electrochemical Methods     | 3             | 3                    | NA                 | 5.01  | 5.01                 | NA                 |
| 33                       | MPK 2104    | Chemical Separation Methods                           | 2             | 2                    | NA                 | 3.34  | 3.34                 | NA                 |
| 34                       | MPK 2306    | Atomic Structure                                      | 2             | 2                    | NA                 | 3.34  | 3.34                 | NA                 |
| 35                       | MPK 2305    | Thermodynamics and Chemical Equilibrium Laboratory    | 1             | NA                   | 1                  | 1.67  | NA                   | 1.67               |
| 36                       | MPK 2304    | Chemical Equilibrium                                  | 2             | 2                    | NA                 | 3.34  | 3.34                 | NA                 |
| 37                       | MPK 2404    | Organic Compound Reactions II                         | 2             | 2                    | NA                 | 3.34  | 3.34                 | NA                 |
| 38                       | MPK 2502    | Biochemistry II                                       | 2             | 2                    | NA                 | 3.34  | 3.34                 | NA                 |
| 39                       | MPK 2207    | Inorganic Compound Synthesis Laboratory               | 2             | NA                   | 2                  | 3.34  | NA                   | 3.34               |
| 40                       | MPK 2405    | Organic Compound Reactions Laboratory                 | 2             | NA                   | 2                  | 3.34  | NA                   | 3.34               |
| Total                    |             |                                                       | 21            | 16                   | 5                  | 35.07 | 26.72                | 8.35               |

## 0 Appendix: Programme Learning Outcomes and Curricula

| No.                      | Module Code | Module                                                | Credit Points |                      |                    | ECTS   |                      |                    |
|--------------------------|-------------|-------------------------------------------------------|---------------|----------------------|--------------------|--------|----------------------|--------------------|
|                          |             |                                                       | Total         | Theoretical Sessions | Practical Sessions | Total  | Theoretical Sessions | Practical Sessions |
| 5 <sup>th</sup> Semester |             |                                                       |               |                      |                    |        |                      |                    |
| 41                       | MPK 3009    | Chemical Industry Processes                           | 2             | 2                    | NA                 | 3.34   | 3.34                 | NA                 |
| 42                       | MPK 3106    | Chemical Instrumentation Laboratory                   | 1             | NA                   | 1                  | 1.67   | NA                   | 1.67               |
| 43                       | MPK 3307    | Chemical Dynamics                                     | 3             | 3                    | NA                 | 5.01   | 5.01                 | NA                 |
| 44                       | MPK 3105    | Spectroscopic Methods                                 | 3             | 3                    | NA                 | 5.01   | 5.01                 | NA                 |
| 45                       | MPK 3208    | Synthesis and Characterisation of Inorganic Compounds | 2             | 2                    | NA                 | 3.34   | 3.34                 | NA                 |
| 46                       | MPK 3409    | Natural Products Chemistry                            | 2             | 2                    | NA                 | 3.34   | 3.34                 | NA                 |
| 47                       | MPK 3503    | Biochemistry Laboratory                               | 2             | NA                   | 2                  | 3.34   | NA                   | 3.34               |
| 48                       | MPK 3308    | Chemical Dynamics Laboratory                          | 1             | NA                   | 1                  | 1.67   | NA                   | 1.67               |
| 49                       | MPK 3406    | Physical Organic Chemistry                            | 3             | 3                    | NA                 | 5.01   | 5.01                 | NA                 |
| 50                       | MPK 3408    | Organic Structure Analysis                            | 3             | 3                    | NA                 | 5.01   | 5.01                 | NA                 |
| Total                    |             |                                                       | 22            | 18                   | 4                  | 36.74  | 30.06                | 6.68               |
| 6 <sup>th</sup> Semester |             |                                                       |               |                      |                    |        |                      |                    |
| 51                       | MPK 3012    | Thesis Proposal Seminar                               | 1             | 1                    | NA                 | 1.67   | 1.67                 | NA                 |
| 52                       | MPK 3010    | Statistics for Research                               | 2             | 2                    | NA                 | 3.34   | 3.34                 | NA                 |
| 53                       | MPK 3011    | Research Methodology                                  | 2             | 2                    | NA                 | 3.34   | 3.34                 | NA                 |
| 54                       |             | Elective module                                       | 2             | 2                    | NA                 | 3.34   | 3.34                 | NA                 |
| 55                       |             | Elective module                                       | 2             | 2                    | NA                 | 3.34   | 3.34                 | NA                 |
| 56                       |             | Elective module                                       | 2             | 2                    | NA                 | 3.34   | 3.34                 | NA                 |
| 57                       |             | Elective module                                       | 2             | 2                    | NA                 | 3.34   | 3.34                 | NA                 |
| Total                    |             |                                                       | 13            | 13                   | NA                 | 21.71  | 21.71                | NA                 |
| 7 <sup>th</sup> Semester |             |                                                       |               |                      |                    |        |                      |                    |
| 58                       | MPK 4013    | Internship/Community Service Program                  | 2             | 2                    | NA                 | 3.34   | 3.34                 | NA                 |
| 59                       | MPK 4014    | Thesis                                                | 4             | 4                    | NA                 | 6.68   | 6.68                 | NA                 |
| 60                       |             | Elective module                                       | 2             | 2                    | NA                 | 3.34   | 3.34                 | NA                 |
| 61                       |             | Elective module                                       | 2             | 2                    | NA                 | 3.34   | 3.34                 | NA                 |
| 62                       |             | Elective module                                       | 2             | 2                    | NA                 | 3.34   | 3.34                 | NA                 |
| 63                       |             | Elective module                                       | 2             | 2                    | NA                 | 3.34   | 3.34                 | NA                 |
| Total                    |             |                                                       | 14            | 14                   | 0                  | 23.38  | 23.38                | NA                 |
| 8 <sup>th</sup> Semester |             |                                                       |               |                      |                    |        |                      |                    |
| 64                       | MPK 4015    | Thesis Defence                                        | 2             | 2                    | NA                 | 3.34   | 3.34                 | NA                 |
| 65                       |             | Elective module                                       | 2             | 2                    | NA                 | 3.34   | 3.34                 | NA                 |
| 66                       |             | Elective module                                       | 2             | 2                    | NA                 | 3.34   | 3.34                 | NA                 |
| 67                       |             | Elective module                                       | 2             | 2                    | NA                 | 3.34   | 3.34                 | NA                 |
| Total                    |             |                                                       | 8             | 8                    | NA                 | 13.36  | 13.36                | NA                 |
| Total of All Semesters   |             |                                                       | 144           | 126                  | 18                 | 240.48 | 210.42               | 30.06              |