ASIIN Seal

Accreditation Report

Bachelor's Degree Programmes
Biology Education
Physics Education

Provided by
Universitas Mulawarman, Indonesia

Version: 08 December 2023

Table of Content

A About the Accreditation Process

Name of the degree programme (in original language)	(Official) English translation of the name	Labels applied for [1]	Previous accreditation (issuing agency, validity)	Involved Technical Committees (TC)[2]
Program Studi Sarjana Pendidikan Biologi	Undergraduate programme in Biology Education	ASIIN	BAN-PT: "A" 2018 - 2023	10
Program Studi Sarjana Pendidikan Fisika	Undergraduate programme in Physics Education	ASIIN	BAN-PT: "A" 2018 - 2023	13
Date of the contract:.19.03.2021 **Submission of the final version of the self-assessment report:** 16.07.2022 **Date of the audit:** 14.09. – 16.09.2022				
Peer panel: Dr. Angela Fösel, Friedrich-Alexander-University Erlangen-Nuernberg Prof. Dr. Kerstin Kremer, Justus-Liebig-University Giessen Prof. Dr. Thomas Trefzger, Julius-Maximilians-University Wuerzburg Medina Andini, SMA Khadijah Surabaya Dwika Sarnia Putri, Universitas Sebelas Maret, student				
Representative of the ASIIN headquarter: Rainer Arnold				
Responsible decision-making committee: Accreditation Commission for Degree Programmes				
Criteria used:				

[1] ASIIN Seal for degree programmes;
[2] TC: Technical Committee for the following subject areas: TC 10 – Life Sciences; TC 13 – Physics;

European Standards and Guidelines as of 15.05.2015 ASIIN General Criteria as of 28.03.2014 Subject-Specific Criteria of Technical Committee 10 – Life Sciences as of 28.06.2019 Subject-Specific Criteria of Technical Committee 13 – Physics as of 20.03.2020	

B Characteristics of the Degree Programmes

a) Name	Final degree (original)	b) Areas of Specialization	c) Corresponding level of the EQF[3]	d) Mode of Study	e) Double/Joint Degree	f) Duration	g) Credit points/unit	h) Intake rhythm & First time of offer
Undergraduate programme in Biology Education	Sarjana Pendidikan/ Bachelor of Education in Biology	-	6	Full time	no	8 Semester	144 CSU / 228.96 ECTS	1984, Once a year (August)
Undergraduate programme in Physics Education	Sarjana Pendidikan/ Bachelor of Education in Physics	-	6	Full time	no	8 Semester	144 CSU / 228.96 ECTS	1993, Once a year (August)

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

For the Bachelor's degree programme Biology Education, Universitas Mulawarman (UNMUL) has presented the following profile in the Self-Assessment Report:

"The objectives of the Biology Education Study Program are to generate graduates who:

a. Have pedagogical mastery, knowledge, and methodology in the field of biology and can have a career related to biology education professionally.

b. Have the ability and attitude in developing education, biological sciences, and scientific methods for lifelong learning both formal and informal.

c. Uphold human values in carrying out duties based on morals and ethics, be able to work together and have social sensitivity, be responsible, and have a leadership spirit."

"Vision:

Becoming a Study Program that excels in producing prospective teachers, research assistants, entrepreneurs, and trainers in the field of Biology Education, which is based on Tropical Rain Forest and its environment and has received international recognition in 2024.

Mission:

1. Conducting good quality education and teaching in the field of biology as well as contributing innovative products at the local, regional and international levels.

2. Developing innovative and implementative research (development and implementation) in the field of Biology Education with the outputs of national and international scientific publications and Intellectual Rights as contributions at the local, regional and international levels.

3. Conducting community service activities and producing works in the field Biology Education, which are meaningful, useful, and contributing to problem-solving.

4. Conducting students' activities to promote their independence, creativity and entrepreneurship in the field of Biology Education."

For the Bachelor's degree programme Physics Education, Universitas Mulawarman (UNMUL) has presented the following profile in the Self-Assessment Report:

"The objectives of the physics education are to generate graduates who:

a. Have the ability to apply knowledge and skills in learning practices that include planning, implementing, and evaluating.

b. Have problem solving and decision making skills using scientific methods in the field of physics education.

c. Have the ability to learn lifelong independently, through advance studies and professional training activities.

d. Have the ability to communicate both verbal and written and be able to work independently and in a team.

e. Have qualifications that are relevant to the workplace and have an entrepreneurial spirit

f. Have understanding, professional responsibilities, and carry out the profession in accordance with ethics."

"VISION

Being an international standard study program in the field of physics education, which is based on the natural resources particularly in the tropical rain forest and its environment.

MISSIONS

1. To acquire the ability to apply knowledge and skills in teaching and learning practices.
2. To obtain the skills problems solving and decisions making using scientific methods.
3. To obtain the ability of long life learning independently.
4. To gain the ability of communication both oral and writing as well as work independently and in a team.
5. To have qualifications that meet the needs of the job and have an entrepreneurial spirit.
6. To understand professional responsibility and ethics."

C Peer Report for the ASIIN Seal

1. The Degree Programme: Concept, content & implementation

Criterion 1.1 Objectives and learning outcomes of a degree programme (intended qualifications profile)

Evidence:

- Self-Assessment Reports
- Study plans of the degree programmes
- Module descriptions
- Homepage UNMUL: https://unmul.ac.id/
- Homepage FKIP: http://fkip.unmul.ac.id/
- Homepage Biology Education: https://biologi.fkip.unmul.ac.id/page/9?lang=en
- Homepage Physics Education: https://fisika.fkip.unmul.ac.id/?lang=en
- Discussions during the audit

Preliminary assessment and analysis of the peers:
The auditors base their assessment of the learning outcomes as provided on the websites and in the Self-Assessment Reports of both Bachelor's degree programmes under review.

For both undergraduate programmes, UNMUL has described and published Programme Learning Outcomes (PLO), which cover a number of specific competences students should acquire in their respective degree programme.

The auditors 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 Education, as defined by UNMUL, correspond with the competences as outlined by the SSC. They come to the following conclusions:

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. 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 UNMUL, most graduates work as Biology teachers in general high schools, Islamic high schools, or vocational schools all over East Kalimantan Province and other areas in Indonesia. Some work as tutors, or become trainers at public educational centers. As the peers learn during the audit, around 70 %of the graduates become biology or physics teachers; the rest will work as trainers in the area of biology or physics education; basically no graduates work as assistant researchers or entrepreneurs. As FKIP has the goal to educate assistant researchers and entrepreneurs, but none of the graduates are employed in these areas, FKIP should discuss how students could be better prepared for becoming assistant researchers or entrepreneurs. Although UNMUL has provided courses regarding this matter in accordance to graduate profile reqirements, the practical work provided within the courses strongly focus on practical work in highschool (due to the limited laboratory equiment). There should be advanced practical/laboratory work in order to expose the students towards modern research.

The peers refer to the Subject-Specific Criteria (SSC) of the Technical Committee Physics as a basis for judging whether the intended learning outcomes of the Bachelor's degree programme Physics Education, as defined by UNMUL, correspond with the competences as outlined by the SSC. They come to the following conclusions:

The intended learning outcomes of the Bachelor's degree programme Physics Education focus on conveying scientific and educational methods for observing, understanding, analysing, and solving physical phenomena and problems. This includes that graduates should acquire fundamental physics-relevant knowledge of mathematics, computer sciences, and natural sciences. They should understand the concepts, laws, and theories of physics and

their application in studying natural processes and phenomena. Furthermore, graduates need to know how to conduct and prepare experiments, including the application of scientific methods, for learning or research purposes. They should also apply the principles of learning safety in physics laboratories and be able to use instruments, teaching aids, calculators, and computer software to improve physics learning in the classroom, laboratory, and field.

In addition, graduates should be capable to apply and evaluate modern methods and instruments of physics learning and teaching by using information and communication technology.

The Bachelor's degree programme Physics Education aims at producing professionals who at the beginning of their careers become physics educators. However, graduates have also the ability to be laboratory managers, employees of educational institutions, entrepreneurs, or research assistants. According to the tracer studies conducted by UNMUL, most graduates work as physics teachers in junior high school and senior high school in Indonesia, lecturers in universities, trainers, tutors in informal education institutions, or pursue their Master's degree. Furthermore, some graduates also work in private companies, as civil servants, or become entrepreneurs.

Supplementing the subject-related qualification objectives, students of both 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 education, and show a social and academic attitude. Finally, students should acquire communicative and language skills and should develop a strategy for life-long learning.

It is important to point out that the intended learning outcomes of both undergraduate programmes under review are aligned with the Main Scientific Pattern (PIP) of UNMUL, namely "Tropical Rainforests and Its Environment". The study of tropical rain forests is a local advantage of UNMUL that distinguishes the university from other universities in Indonesia, in the Asian region, or worldwide.

During the audit, the peers discuss with students, teachers, and alumni where the graduates can find suitable jobs. They learn that graduates mostly work as teachers in senior and junior high schools. However, students should not only acquire educational competences but also competences related to entrepreneurship and research, as some of them are interested in joining Master's or PhD programmes.

In summary, the auditors are convinced that the intended qualification profiles of both 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 peers 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 10 – Life Sciences (Biology Education) and the SSC of the Technical Committee 13 – Physics (Physics Education).

Criterion 1.2 Name of the degree programme

Evidence:

- Self-Assessment Reports

Preliminary assessment and analysis of the peers:
UNMUL awards a Bachelor of Education (B.Ed.) or Sarjana Pendidikan (S.Pd.) degree to the graduates of both undergraduate programmes.

The names of the degree programmes properly reflect the respective focus and content of the undergraduate programmes, which is on education in the respective scientific area.

The auditors confirm that the English translation and the original Indonesian names of both Bachelor's degree programmes correspond with the intended aims and learning outcomes as well as the main course language (Indonesian).

Criterion 1.3 Curriculum

Evidence:

- Study plans of the degree programmes
- Module descriptions
- UNMUL Academic Guidelines
- Homepage UNMUL: https://unmul.ac.id/
- Homepage FKIP: http://fkip.unmul.ac.id/
- Homepage Biology Education: https://biologi.fkip.unmul.ac.id/page/9?lang=en
- Homepage Physics Education: https://fisika.fkip.unmul.ac.id/?lang=en
- Discussions during the audit

Preliminary assessment and analysis of the peers:

Both undergraduate programmes are offered by the Faculty of Teacher Training and Education (FKIP) of Universitas Mulawarman (UNMUL).

The Biology Education and Physics Education Study Program consists of compulsory subjects and elective courses. The credit load of subjects that must be taken by students to obtain a bachelor of education degree is a minimum of 144 credits (ECTS 228.96) and a maximum of 160 credits (ECTS 254.4).

Compulsory courses are subjects' courses that students must take as a condition for graduating and obtaining a bachelor's degree. Elective courses are courses that students choose based on their needs.

All undergraduate programmes at UNMUL are designed to be completed in eight semesters or four academic years with a maximum of 14 semesters or seven academic years. Each semester is equivalent to 14 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 last from February to July.

The curriculum of both undergraduate programmes under review consists of university requirements and compulsory and elective courses determined by FKIP and the respective departments. University requirements are courses that need to be attended by all undergraduate students at UNMUL. There are six university requirements with 14 CSU: Pancasila, Religion, Bahasa Indonesia, Civil Education, Basic Humanities, and Community Service. These courses are almost all offered in the first two semesters of studies, in addition to courses conveying basic knowledge of natural sciences, mathematics, and education. There are also six Faculty Compulsory courses, which focus on education: Introduction to Educational Sciences, Learner Development, Learning and Instruction, Educational Profession, Internship I (Field orientation 1), and Internship II (Field orientation 2).

Courses on the different subject-specific educational sciences are offered from third to eighth semester. Elective courses can be taken from the third year of study. Students usually choose elective courses that relate to their thesis and/or their individual interests. During the eight semesters, students must also complete the undergraduate thesis (6 CSU).

The curriculum of the Bachelor's degree programme Biology Education consists of 9.1 % University requirements, 10.4 % FKIP compulsory courses and 80.5 % specific study programme courses, which cover the different areas of Biology. The altogether 60 courses can be divided into three areas:

a. University Compulsory Courses = 14 Credits (22.26 ECTS)

b. Faculty Compulsory Courses = 16 Credits (25.44 ECTS)

c. Study Programme Courses = 124 Credits (197.16 ECTS)

The study programme courses include electives, with a minimum of 10 credits (15.9 ECTS).

The Bachelor's degree programme Physics Education encompasses 71 courses, which can be divide into four areas:

a. University compulsory subject group (14 credits) = 6 courses

b. Faculty compulsory subject group (13 credits) = 6 courses

c. Study program compulsory subject group (113 credits) = 49 courses

d. Elective subject group (4 - 20 credits) = 10 courses

Students are expected to complete a minimum of 144 credits, with 140 credits of compulsory courses and a minimum of four credits of elective courses.

With respect to the share of electives in each degree programme, the peers notice that the Biology Education curriculum includes five electives with two credits each, while the Physics Education curriculum only includes two electives, also with two credits each. This is quite low in comparison to other Bachelor's programmes. Since it is important that students can follow their own interest during their studies, it would be useful to include more than two electives in the compulsory curriculum. In addition, the study plans of both programmes should make transparent, what electives are included in the curriculum and provide a list of all offered electives.

For gaining practical work experience in schools, both undergraduate programmes include an internship programme. All FKIP students need to complete three internships. Internship I is conducted for four weeks when students take the Teaching Profession course, Internship II is carried out when students take the Learning Evaluation courses, whereas Internship III, which was formerly known as School Field Experience Practice (PLP), is an independent course where students are involved in teaching at selected schools.

During the internship programme, students learn pedagogical strategies from their mentor teacher at the school. By the end of the programme, students are required to write a fieldwork report. The final grade for the internship programme is based on the students' performance at the school and the fieldwork/internship they submit.

PLP activities at UNMUL are integrated with the Community Service (KKN), which is a compulsory subject that aims to apply the knowledge gained by students on campus to solve problems in the real world. The Integrated Thematic KKN-PLP lasts for two months (315 learning hours) with a workload of seven credits (ECTS 11.13). KKN-PLP usually takes place

during the last year of studies, and 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 peers understand that students should work for the benefit of the community and the Indonesian society during the community service and support this concept.

Since UNMUL has the goal to become internationally more visible and wants to further internationalising its degree programmes, the peers discuss with the programme coordinators and students if any classes at FKIP are taught in English. The programme coordinators explain that some modules in Biology Education like evolution and physiology are partly taught in English (students that feel not confident enough to use English can speak in Bahasa). English textbooks are used in almost all courses and some assignments and presentations are done in English. In Physics Education, only the English language courses (Basic English, English for Physics) are taught in English. Similar to Biology Education, English textbooks are used in almost all courses and some assignments and presentations are done in English. The peers appreciate that some courses are partly taught in English; however, they are convinced that it would be very useful to introduce more English elements in the courses and to encourage the students to actively speaking English. This would further improve the students' English proficiency and better prepare them for international programmes. In the discussion with the peers, students, and alumni support this point of view and stress that increasing the share of courses that are, at least partly, taught in English, will give the students better chances and more opportunities to join international programmes and to spend some time abroad during their studies.

The members of the teaching staff explain on demand of the peers that students find suitable topics during the research methodology course, in which they do literature research and read selected papers. In this course, students have to design a research proposal 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. It is also possible to conduct the Bachelor's thesis outside UNMUL.

In general, the peers confirm that both degree programmes are well designed and impart a broad range of competencies so that graduates can find suitable jobs as teachers, educators, researchers, and entrepreneurs. The peers gain the impression that the graduates of all degree programmes under review are well prepared for entering the labour market and can find adequate jobs in Indonesia.

Criterion 1.4 Admission requirements

Evidence:

- Self-Assessment Report
- UNMUL Academic Guidelines
- Homepage UNMUL: https://unmul.ac.id/
- Homepage FKIP: http://fkip.unmul.ac.id/
- Homepage Biology Education: https://biologi.fkip.unmul.ac.id/page/9?lang=en
- Homepage Physics Education: https://fisika.fkip.unmul.ac.id/?lang=en
- Discussions during the audit

Preliminary assessment and analysis of the peers:
According to the Self-Assessment Reports, admission procedures and policies for new students follow the national regulations in Indonesia. The requirements, schedule, registration venue, and selection test are announced on UNMUL's webpage and thus accessible for all stakeholders.

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

1. National Entrance Selection of State Universities (Seleksi Nasional Masuk Perguruan Tinggi Negeri, SNMPTN), a national admission system, which is based on the academic performance during the high school.

2. Joint Entrance Selection of State Universities (Seleksi Bersama Masuk Perguruan Tinggi Negeri, SBMPTN). This national selection test 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).

3. Independent Selection for State University Admission (SMMPTN), students are selected based on a test specifically held by UNMUL for prospective students that haven not been accepted through SNMPTN or SBMPTN.

4. Special and Merit-Based Admission Selection, through this programme, gifted and talented students (e.g. by winning national competitions in sports or arts) can be admitted.

5. Transfer Programme for students that have begun their studies at another university and now want to transfer o UNMUL.

The entrance requirements are prepared by the universities and then forwarded to the National Testing Agency for State Universities to be accessible to all SNMPTN and SBMPTN applicants. Through SNMPTN 25 % of the new students are admitted, through SBMPTN 35 %, and through SMMPTN 40 %

The number of available study places is around 50 for the Bachelor's degree programme Physics Education and between 90 to 100 students per year for the Bachelor's degree programme Biology Education. The quota is based on the number of teachers and the capacity of the available facilities.

The details are depicted in the following table:

Academic Year	Study Program	Number of New Student Candidates		Number of Enrolled Students
		Applicant	Accepted	
2017/2018	Biology	256	92	78
	Physics	219	58	50
2018/2019	Biology	224	102	90
	Physics	222	55	46
2019/2020	Biology	196	91	79
	Physics	168	60	53
2020/2021	Biology	150	106	83
	Physics	111	55	50
2021/2022	Biology	146	94	91
	Physics	91	57	52
Total	Biology	972	485	421
	Physics	373	285	251

Undergraduate students at UNMUL have to pay tuition fees (UKT). The fees depend on the parents' economic status and the specific degree programme. Currently there are five different categories of tuition fees: IDR 500.000,- (32 €), IDR 1.000.000,- (64 €), IDR 2.000.000,- (128 €), IDR 3.000.000,- (192 €), and IDR 4.000.000,- (256 €) per semester. Students can also apply for scholarships from the government of Indonesia and private foundations.

The details of the application process at UNMUL and further information on admissions criteria and deadlines can be found in the National Regulation No. 2, 2015 and the UNMUL Academic Guidelines, which are also published on the university's webpage.

From their discussion with the students, the peers gain the impression that the admission system is very effective and only very motivated and high-performing candidates are admitted. The peers consider the highly selected and motivated students to be one of the strong points of both undergraduate programmes under review.

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

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

The peers thank UNMUL for providing additional information on the graduates' careers and the results of the tracer studies. With respect to the Biology Education programme, the peers confirm that it is useful to introduce students to modern areas of biology and strengthen their competencies in areas such as bacteriology, biotechnology, and bioinformatics.

The peers see that there are graduates who are successful in becoming entrepreneurs; nevertheless, there is room for improvement to better support students in becoming entrepreneurs and junior researchers.

The peers appreciate that the UNMUL will increase the number of electives in the Physics Education programme from 4 to 10 SKS. However, it would be useful making English for Physics a mandatory for all students.

The peers consider criterion 1 to be fulfilled.

2. The degree programme: structures, methods and implementation

Criterion 2.1 Structure and modules

Evidence:

- Self-Assessment Reports
- Study plans of the degree programmes
- Module descriptions
- Homepage Biology Education: https://biologi.fkip.unmul.ac.id/page/9?lang=en
- Homepage Physics Education: https://fisika.fkip.unmul.ac.id/?lang=en
- Discussions during the audit

Preliminary assessment and analysis of the peers:
The curricula of both Bachelor's degree programmes under review are designed for eight semesters. Nevertheless, it is also possible for excellent students to complete the degree in only seven semesters. Students cannot cover more than 24 CSU per semester. All students have to complete the undergraduate programme within seven years. The students' individual study plans are different from each other, but have to be approved by their academic advisors.

A systematic university-wide review of the curriculum is conducted every five years but minor changes may be implemented every year after endorsement by FKIP.

The curriculum in the first two semesters is very similar for both undergraduate programmes. Courses in the first two semesters convey basic knowledge of natural sciences, mathematics, education and languages (Indonesian and English). In addition, students need to attend obligatory courses, such as religion, pancasila and civic education, which are university requirements and need to be attended by all students at UNMUL. From the third semester on, more subject-specific classes, with a focus on the respective science area (biology, physics), and several educational courses are offered. In the third year of studies, advanced concepts in pedagogics and the respective science are taught. During the seventh and eighth semester, students must complete the Community Service and the Bachelor's thesis.

The Bachelor's degree programme Biology Education requires students to complete 144 CSU (228.96 ECTS), which includes compulsory courses (134 CSU) and a minimum of 10 CSU of elective courses.

In the Bachelor's degree programme Physics Education, students are required to complete 144 credit units (CSU), which equivalent to 228.96 ECTS, including 140 CSU of compulsory courses and 4 CSU of elective courses.

In addition to the two regular semesters, the "Semester Antara " is offered during the summer time. The opportunity to attend courses in the "Semester Antara" is given to students who want to improve their C, D, and E grades. The highest grade to be received by students enrolled in the "Semester Antara" is B.

The peers point out that it would be useful, if FKIP would also offer Master's degree programmes in Biology and Physics Education. This will provide the graduates for more opportunities, attract new students, and especially further promote the research activities.

There are some students, who take part in overseas teaching practice activities. To this end, students should also be introduced to the international curriculum used by high schools during class to prepare them for teaching in schools with an international curriculum.

After analysing the module descriptions and the study plans, the peers confirm that all degree programmes under review are divided into modules and that each module is a sum of coherent teaching and learning units. All practical lab work and internships are well integrated into the curriculum and the supervision by FKIP guarantees for their respective quality in terms of relevance, content, and structure.

In summary, the peers gain the impression that the choice of modules and the structure of the curriculum ensures that the intended learning outcomes of the respective degree programme can be achieved.

International Mobility

UNMUL 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.

Students' international academic mobility is supported by UNMUL. For example, through International Indonesian Student Mobility Awards (IISMA), a scholarship programme from the Ministry of Education and Culture starting from 2021, the SEA-Teacher Programme, which promotes the exchange of educational students among East Asian countries, and International Credit Transfer (ICT). In addition, lecturers are encouraged to carry out joint research activities with international partners and to involve students in their projects.

A 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 spent part of their Bachelor's programme outside UNMUL (Minister of Education and Culture Regulation Number 3, Year 2020). MBKM provides opportunities for students to take a maximum of 40 CSU within two semesters outside the study programme in the form of student exchange, independent projects, research activities, teaching assistant, humanitarian activities, entrepreneurship, industrial internship, or rural projects.

All undergraduate students have the opportunity to take part at mobility programmes. However, due to the scholarship restrictions, especially for the SEA-TEACHER Project, the possibilities for students to join the international programmes are limited. According to the statistical data presented in the Self-Assessment Report, four physics students participated in international student mobility programmes from 2019 to 2021. They took classes at universities in Thailand and Malaysia. The numbers are equally low for biology students. Here one student studied abroad at Daugavpils University in Latvia (with a scholarship from

IISMA) and 11 biology students took two classes at Manipal International University, Malaysia in 2021.

To promote academic mobility, UNMUL has an International Office, where students can get information about academic mobility. It also offers a website, which provides information such as the requirements that students need to know before applying for one of the exchange programmes. A positive aspect of the educational undergraduate programmes is the internship that can be conducted at an international school in Indonesia or a school abroad. Students confirm that FKIP provides opportunities to join national and international schools and some international co-operations with other Asian countries such as Malaysia, Thailand, Philippines, and Japan exist. In addition, the credits acquired abroad are recognised at UNMUL. However, they also point out that they wish for more places and better endowed scholarships for long- and short-term stays abroad. However, the students' academic mobility is very limited despite students' high interest. Only few Bachelor's students are studying abroad for a limited period. The number of available places in the exchange programmes is limited and there are restrictions due to a lack of sufficient financial support. National scholarships are available, but they are highly competitive, so only a few students receive them. At the same time, there are no incoming international students.

To increase the number of successful applications for IISMA (six students in 2021) the Faculty of Business and Economics offers a preparatory class for students that want to go abroad. This is certainly a very good idea, but this class should be offered for students from all faculties.

The auditors 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 this end, it would also be very useful to offer more subject-specific courses that are at least partly taught in English. In addition, the peers emphasise that not only the students but also the teachers should improve their English proficiency in order to be able to teach more in English.

Furthermore, FKIP should initiate more international exchange programmes, offer more places at international schools, and provide more scholarships for students. FKIP should extend the collaboration with international schools, both in Indonesia and in other ASEAN countries. To attract international students, FKIP should think about conducting international summer schools on topics related to tropical rain forest. The peers are convinced that such on offer would appeal to many students, especially from Europe, and this might help to further promoting the internationalisation of UNMUL.

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) for receiving funds for stays abroad. In addition, FKIP should invite more academics from renowned international universities as guest lecturers.

On the other hand, the peers appreciate that UNMUL organises the International Conference on Tropical Studies (ICTROPS), which focuses on research results covering the fields of technology, science, economics, sociology, and politics with respect to tropical areas. ICTROPS is an international conference, which is organised annually by UNMUL in collaboration with the Islamic Development Bank (IsDB) and the Ministry of Education and Culture of the Republic of Indonesia. In the last two years, the conference was conducted online, due to the COVID-pandemic. The peers suggest to combine this conference with education, outreach, and communication to achieve internationalisation in the field of science education and communication in accordance with this topic.

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

Criterion 2.2 Work load and credits

Evidence:

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

Preliminary assessment and analysis of the peers:
Based on the National Standards for Higher Education of Indonesia (SNPT), both undergraduate programmes under review use a credit point system called CSU.

For regular classes, one CSU of academic load for the undergraduate programme is equivalent to 3 academic hours, which equals 170 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 class room to obtain a better understanding of the subject matters and to prepare academic assignments such as reading references.

For lab work, final project, fieldwork, and other similar activities, one CSU is equivalent to three to five hours a week of student's activities. The details and the students' total workload are described in the respective module description.

Students with high academic achievement can take more courses (up to 24 CSU) to speed up their studies; the academic advisor must approve this.

The peers point out that there can be no fixed conversion rate between CSU and ECTS points, but the ECTS points need to be calculated separately for each course. This can be easily done by dividing the students' total workload, which should be described in detail in the respective module description, by the number of hours that is required for one ECTS. In addition, UNMUL needs to determine, how many hours of students' total workload are needed for awarding one ECTS point. If UNMUL calculates 28 hours per ECTS point, this regulation needs to be made transparent, so that external stakeholders are informed about the actual workload of the single courses and the whole degree programmes.

Since the workload of the students was only estimated by the programme coordinators, the peers expect UNMUL to re-evaluate the calculation of ECTS points by asking the students about their actual workload, especially the time they need for self-studies, for each course. This could e.g. be done by including a respective question in the course questionnaires. By correctly displaying students' workload in ECTS credits, UNMUL would facilitate academic mobility and better support their graduates if they apply for international programmes. The information about the correct number of ECTS point for each course should be included in the module descriptions and the study plan of both degree programmes.

As described in the Self-Assessment Report, the average study period for Biology Education students is between four years and eight months (2019) and four years and five months (2021). The average GPA is between 3.43 (2019) and 3.49 (2021). The numbers are similar for Physics Education students. Here, the average study period is between four years and eight months (2019) and four years and five months (2021), while the average GPA is somewhat lower than in Biology education and is between 3.20 (2020) and 3.32 (2021)

In contrast to other undergraduate programmes in Indonesia, several students drop out of both programmes under review. The drop-out numbers were highest in 2018 when 15 Biology Education students and 28 Physics Education students and in 2020 when 15 Biology Education students and 13 Physics Education students dropped out their respective programmes.

The programmes coordinators emphasise, that students withdraw from the programme at their own request due to several reasons, not because they fail to complete their studies within the maximum period set by the programme. Students leave the programme because their transfer to another university of degree programme, they accept a job offer, or they face financial or personal problems.

In summary, the peers confirm that both undergraduate programmes have a high but manageable workload.

Criterion 2.3 Teaching methodology

Evidence:

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

Preliminary assessment and analysis of the peers:

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 both 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-KKN (School Internship-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.

In summary, the peer group considers the teaching methods and instruments to be suitable to support the students in achieving the intended learning outcomes. In addition, they confirm that the study concept of both undergraduate programmes comprise 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).

Criterion 2.4 Support and assistance

Evidence:

- Self-Assessment Reports
- UNMUL Academic Guidelines
- Discussions during the audit

Preliminary assessment and analysis of the peers:
UNMUL offers a comprehensive advisory system for all undergraduate students. At the start of the first semester, every student is assigned to an academic advisor. He/she is a 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 peers that they all have an academic advisor who they can approach if guidance is needed.

The respective programme coordinator arranges the courses on the Academic Information System (SIAKAD), which is accessible via the university's website and which enables students to manage their semester credits as well as lecturers to process grades through this system. In addition to the face-to-face learning, online learning is also carried out with the support of the Mulawarman Online Learning System (MOLS).

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 have one or more 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 UNMUL. The role of the final project supervisor is to guide students in accomplishing their final project, e.g. to finish their research and complete the final project report.

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

The peers point out that FKIP and UNMUL should accommodate the interests and talents of students in the study programme. To this end, it would be useful to facilitate a forum so that students can study independently to practice their soft skills. For example, the procurement of study clubs (e.g. related to biology, entrepreneurship or fields outside the study programme) would be helpful.

The peers 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.

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

The peers support UNMUL's plan to further supporting teachers' and students' academic mobility, e.g. by participating at the Educational Sciences International Conference (ESIC), by organising an international summer school, by strengthening the English proficiency of lecturers and students, and by establishing a new cooperation with Providence University, Thailand. The peers hope that these efforts will be successful. In addition, they recommended offering more subject-specific courses that are at least partly taught in English,

opening the preparatory class for students from all Faculties, and inviting more international guest lecturers.

The peers thank UNMUL for explaining, that there is already a Master's degree programme in Biology Education, which was established in October 2014.

The peers support the plans of FKIP and UNMUL to establish a Master's programme in Physics Education programme. In addition, each study programme should have one international class that is taught in English.

The peers consider criterion 2 to be mostly fulfilled.

3. Exams: System, concept and organisation

Criterion 3 Exams: System, concept and organisation

Evidence:

- Self-Assessment Reports
- Module descriptions
- UNMUL Academic Guidelines
- UNMUL Academic calendar

Preliminary assessment and analysis of the peers:

According to the Self-Assessment Reports, the students' academic performance is evaluated based on their attendance and participation in class, their laboratory works and reports, assignments, homework, presentations, mid-term exam, and the final exam at the end of each semester. The form of each exam is mentioned in the module descriptions that are available to the students via UNMUL's homepage and the digital platform SIAKAD. Usually, there are two written exams in each course (besides the assignments, homework, and presentations); the mid-term exam is conducted in the 8th week of the semester and the final exam in the 16th week.

As described in the module descriptions, students' performance is usually assessed by assignments, laboratory work, participation (affective), mid-term exam, and final exam. Participation includes attendance (minimum of 80 %), asking and answering question, active in a discussion or in an experiment (observation), and performance. The peers point out that there should be a clear guidance on how participation (affective) is assessed. The grading system is different for the teaching internships, the community service, and the final

project. The details, which assessment forms are used in these courses and how they contribute to the final grade, are described in the respective module descriptions.

The most common type of evaluation used are written examinations; however, quizzes, laboratory work, assignments (small projects, reports, etc.), presentations, seminars, and discussions may contribute to the final grade. Written examinations, either closed-book or open-book, typically include short answers, essays, problem-solving or case-based questions, and calculation problems. Some lecturers also give multiple choice or true-false questions in examinations or quizzes. The grade from laboratory work usually consists of laboratory skills, discussions, reports, and oral exams. Students are informed about mid-term and final exams via the Academic Calendar. Students can access their results via UNMUL's digital platform SIAKAD.

Student competencies during the school internship are guided and assessed by lecturers, tutor teachers, and school principals from partner schools. The assessment is conducted based on students' competencies in using learning tools, teaching materials, learning media, and assessment instruments. In addition, students are also required to be able to identify learning problems in the classroom and propose solutions. Reports on problem identification and solutions are presented in front of supervisors and tutor teachers. The assessment of the community service consists of a work plan, programme implementation, and activity report.

Every undergraduate student is required to do a final project (Bachelor's thesis). This project is conducted independently under the guidance of one or more supervisors and usually consists of literature study, practical research, and data analysis. Both the student and his /her supervisors might decide the topic and content of the project. In many cases, the lecturers offer particular topics connected to their research. The final project includes the proposal exam, which aims to determine whether the problem proposed by the student is appropriate, and the findings seminar, which is held after the student has carried out the research activities and has written a thesis report. This seminar is designed to provide suggestions for improving the written thesis. Finally, there is the thesis exam, during which the students have to present their results and defend them in an oral presentation. The thesis exam is attended by the thesis supervisor as well as two examiners.

The maximum score that a student can get in a course is 100 and the minimum score to pass the course is > 40. If a student fails, she or he usually has to repeat the entire module in the following semester; it is usually not possible to retake just parts of the course or to just retake the final exam. However, mid-term exams can be repeated (remedy) but if a student fails the final exam, she or he has to retake the whole course in the next semester. As an alternative to retaking the course in the next semester, students can also join the

"Semester Antara" during the summer time. In this short semester, students can repeat some of their courses, if they want to improve their C, D, or E grades from the courses where they have already taken the final exam. The highest grade students enrolled in the Semester Antara can achieve is B.

The absence of students in the midterms and finals due to illness or otherwise is remediable by taking the exam later. Students, who cannot attend practical courses for acceptable reasons (e.g. illness), can repeat the practicum later; the lecturers are responsible for the arrangement. Students with special needs are provided with support to enable them to participate in the academic activities and exams. Within two weeks after the announcement of the final grades, students can ask for explanations and can appeal their grades.

The students appreciate that there are several short exams instead of one big exam and confirm that the exam load is appropriate and they are well informed about the examination schedule, the examination form, and the rules for grading.

With respect to the exams, the peers are convinced that it would be useful to put more emphasis on questions related to transfer skills and critical thinking. The mid-term and final exams should not only verify that the students have learned the content by heart but that they understand the context and the reasoning behind it and are able to apply the acquired knowledge to new areas. In general, the examinations focus on learning by heart and too little on the ability to solve problems by self-determined application of what has been learnt. This easily can be improved but it requires more effort and open minded thinking from the teachers to design such exams and handle/accept even "unusual" solutions given by the students. The students should be motivated to think freely and to be brave to present own results which cannot be found directly in a textbook. The peers point out that this is especially relevant for mid-term and final exams. Students should be trained in critical and analytical thinking and not only learn facts by heart; this should be reflected in the written exams. In addition, the share of exam questions dealing with transfer skills should be increased in the course of the degree programmes and should be highest in the latest semesters.

The peers also inspect a sample of examination papers and final theses and are overall satisfied with the general quality of the samples.

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

The peers thank UNMUL for submitting the affective assessment guide, which includes detailed information on how participation (affective) is assessed.

The peers point out that it would be useful to include more analytical questions in the exams by presenting complex problems and data so that students practice their analytical skills.

The peers consider criterion 3 to be fulfilled.

4. Resources

Criterion 4.1 Staff

Evidence:

- Self-Assessment Reports
- Staff Handbooks
- Study plans
- Module descriptions
- Discussions during the audit

Preliminary assessment and analysis of the peers:
At UNMUL, the staff members have different academic positions. There are professors, associate professors, assistant professors and instructors. The academic position of each staff member is based on research activities, publications, academic education, supervision of students, 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.

According to the Self-Assessment Report, the teaching staff in the Bachelor's degree programme Biology Education consists of two professor, eight associate professors, and four assistant professors. Of the 14 teachers, 10 hold a PhD degree and four a Master's degree. The number of students in Biology Education degree programme is currently 372, so the ratio between teachers and students is 1 : 26.

The Bachelor's degree programme Physics Education has teachers with following academic positions: one professor, six associate professors, and five assistant professors. Of the 12 teachers, nine hold a PhD degree and three a Master's degree. There are currently 234 students in the Physics Education degree programme, this results in a teacher to student is ratio of 1 : 20.

Details of the academic qualifications of the teachers are described in the staff handbooks, which are accessible via the respective department'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.

During the audit, the peers inquire how high the teaching load is and if are there enough opportunities for the academic staff members to conduct research activities. They learn that teachers at FKIP have a workload of 12 to 14 credits; the national maximum is 16 credits, whereas one credit is equivalent to 170 minutes of work per week. The teachers confirm during the audit that they have enough time for all their activities including research. How much time staff members actually devote to research is different from teacher to teacher, because working hours are spent flexibly for teaching, research, and community service.

In summary, the peers 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 programmes.

Criterion 4.2 Staff development

Evidence:

- Self-Assessment Reports
- Staff Handbooks
- Discussions during the audit

Preliminary assessment and analysis of the peers:

UNMUL encourages training of its academic and technical staff for improving the educational abilities and teaching methods. As described in the Self-Assessment Report, faculty members attend courses in Information and Communications Technology (ICT), laboratory safety and instrumentation, writing publications, and e-learning. Furthermore, Applied Approach (PEKERTI-AA) 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 UNMUL are obligated to attend the lecturer certification programme held by the Directorate General of Higher Education (Direktorat Jenderal Pendidikan Tinggi, DIKTI). An official teaching cer-

tificate 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.

In addition, there are several institutions that facilitate staff development, namely the Institute for Research and Community Service, the Institute for Educational Development and Quality Assurance, and the International Office. The Institute for Research and Community Service supports teachers with writing research applications, with publishing papers and with respect to intellectual property rights. The Institute for Educational Development and Quality Assurance provides quality assurance and educational training as well as the Applied Approach programme. The International Office assists staff members who want to train abroad.

Young staff members with a Master's degree are encouraged to pursue doctoral studies (usually abroad). For example, the Bachelor's degree programme Physics Education has sent staff members to Université de Nantes, France and Yamaguchi University, Japan. Several staff members have participated in short-term training for a month with the Japan International Cooperation Agency (JICA) programme in Tokyo, Japan, and one teacher joined a programme at Universität Bayreuth, Germany.

During the audit, the peers inquire if the teaching staff has the opportunity to spend time abroad and to participate in international projects. They learn that UNMUL and FKIP provide funds for joining international conferences. Moreover, teachers have the opportunity to receive funding from the Ministry of Research, Technology and Higher Education. The funding covers conference and publication fees, and expenses for accommodation and traveling. Additional funds are available via the Islamic Development Programme, which finances the further academic development of teachers, who can spent time abroad (e.g. in Japan or Europe) to conduct research activities or to acquire a PhD degree. The teachers are satisfied with the existing opportunities and the available financial support.

The peers discuss with the members of the teaching staff the opportunities to develop their personal skills and learn that the teachers are satisfied with the internal qualification programme at UNMUL, their opportunities to further improving their teaching and research abilities and to spend some time abroad to attend conferences, workshops or seminars. However, the peers point out that it would be useful to further improving the teachers' English proficiency and ti encourage them to use more English elements in their classes (see Criterion 2.1).

In summary, the auditors confirm that UNMUL offers sufficient support mechanisms and opportunities for members of the teaching staff who wish to further develop their professional and teaching skills.

Criterion 4.3 Funds and equipment

Evidence:

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

Preliminary assessment and analysis of the peers:
Basic funding of the undergraduate programmes and the facilities is provided by UNMUL and FKIP. The main financial sources are government funding and tuition fees from students. Additional funds for research activities can be provided by UNMUL or the Indonesian government (Bantuan Pendanaan Perguruan Tinggi Nasional, BPPTN), but the teachers have to apply for them.

The provided budget allows the departments to conduct the study programmes 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, both undergraduate programmes under review receive sufficient funding for teaching and learning activities. The students confirm this positive impression and state their satisfaction with the available resources.

The Bachelor's degree programmes Biology Education and Physics Education have been assigned rooms in the Faculty building to support its lecture activities. Lecture rooms are equipped with air conditioning and learning media such as television, overhead projectors, and whiteboards in order to facilitate the learning processes. Lecture activities are also carried out in the Biology Education and Physics Education Laboratories, where students gain practical experience in the field of Biology through carrying out experiments. Students and teachers of biology and physics education have access to different laboratories: a basic physics laboratory, a basic biology laboratory, the Science Learning Center, a micro-teaching laboratory, and an integrated laboratory for teachers' research activities. The integrated laboratory has an area of 4000 m2 and covers five floors.

Practicum activities are not only conducted in the laboratory, but some are also done outside the campus. For example, observing the study material for the diversity of organisms in the Bangkirai Hill Forest in Balikpapan, East Kalimantan and in the Samarinda Botanical Gardens. The degree programme also collaborates with other educational institutions

around East Kalimantan so that students can take advantage of the practicum facilities there.

Students and teachers have access to four different libraries: study programme library, FKIP library, UNMUL central library, and the regional public library. Each library provides access to the collection of books, journals, and other publications online as well as offline.

During the audit, the peers visit the laboratories at the Faculty of Teacher Training and Education. They notice that there are no bottlenecks due to missing equipment or a lacking infrastructure. The technical equipment for teaching the students on a Bachelor's level is available. Moreover, the peers learn during the audit that students can use and operate the instruments in the laboratories by themselves after being trained and instructed by lab technicians. There are enough instruments and kits available so that the experiments are conducted in groups of two or three students.

In addition, the teachers point out during the discussion with the peers that some instruments are outdated and need to be replaced and more technical staff for maintaining the instruments would be needed. Moreover, some sophisticated instruments should be available. So far, teachers have to send their samples to other universities or research institutes for analysis, but this takes sometimes very long before they receive the results.

The peer group understands that modern research equipment for sophisticated laboratory work is not readily available at FKIP and that the funds are restricted. This is compensated by the fact that teachers and students can also use the facilities at other faculties, especially in the Faculty of Mathematics and Sciences. Collaborations can strengthen the teaching quality with a joined focus between research and education (e.g. in the field of tropical studies). In addition to the laboratories in the different faculties, there is the brand new ILAB, which can be used by senior students and staff members from all faculties. Currently, UNMUL is purchasing the instruments and technical equipment for the laboratories there.

As the university's management points out during the discussion with the peers, the main bottleneck are the facilities, which have only limited laboratory space. To overcome this deficit, UNMUL is constructing several new laboratory building in different faculties and the ILAB. The Islamic Development Bank (IsDB) provides the financial resources for construction and equipment of the new buildings.

As the peers learn, moving the Indonesian capital to East Kalimantan will also increase the population and the number of students applying at UNMUL, so UNMUL is requesting more funds from the Indonesian government to improve and enlarge the facilities to accommodate more students. The peers strongly support this request and emphasise that the demand for school teachers will rise even more and consequently FKIP should accept more

students and increase the number of graduates. In order to be able to implement this, it is necessary to establish own laboratories for the different subjects in Physics and Biology (e.g. separate labs for microbiology, molecular biology, optics, or electronics). In addition, FKIP should draw up a development plan together with the Science Faculty and cooperate them in using the available laboratories.

During the audit, the students express their satisfaction with the facilities and the library. Remote access via VPN is possible and UNMUL offers access to several scientific digital databases such as ScienceDirect, so that teachers and students access current scientific papers, e-books, and papers.

In summary, the peer 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 peers after the comment of the Higher Education Institution regarding criterion 4:

The peers appreciate that UNMUL is participating at the annual Educational Sciences International Conferences (ESIC) and that faculty members are supported to improve their English proficiency by attending English language courses, which are offered by the English Education Department.

To increase the cooperation with the Science Faculty and to share the laboratories and the equipment is certainly useful and it might also be a good idea to offer joint seminars for interested students of both faculties.

The peers consider criterion 4 to be mostly fulfilled.

5. Transparency and documentation

Criterion 5.1 Module descriptions

Evidence:

- Self-Assessment Reports
- Module descriptions
- Homepage Biology Education: https://biologi.fkip.unmul.ac.id/page/9?lang=en
- Homepage Physics Education: https://fisika.fkip.unmul.ac.id/?lang=en

Preliminary assessment and analysis of the peers:
The students, as all other stakeholders, have access to the module descriptions via the programme's homepage.

After studying the module descriptions, the peers confirm that they include most of the necessary information about the persons responsible for each module, the teaching methods, the intended learning outcomes, the content, the applicability, the admission and examination requirements, and the forms of assessment.

However, they point out that the students total workload is not mentioned in the module descriptions of the Physics Education programme. Moreover, in both programmes, the ECTS points are not calculated correctly and do not correspond with the students' workload (see criterion 2.2). For this reason, it is necessary to update the module descriptions.

Criterion 5.2 Diploma and Diploma Supplement

Evidence:

- Self-Assessment Reports
- Sample Transcript of Records for each degree programme
- Sample Diploma Supplement for each degree programme

Preliminary assessment and analysis of the peers:
The peers confirm that the students of both programmes under review are awarded a Diploma and a Diploma Supplement after graduation. The Diploma consists of a Diploma Certificate and a Transcript of Records. The Diploma Supplement contains almost all required information about the degree programme. The Transcript of Records lists all the courses that the graduate has completed, the achieved credits, grades, and cumulative GPA.

However, there is no relative grade mentioned in the Diploma Supplement, which is necessary to rate the student's academic success in relation to the other graduates. As detailed in the ECTS Users' Guide "To ensure transparent and coherent information on the performance of the individual student, each HEI should provide – in addition to their national/institutional grading scale and an explanation of the scale – a statistical distribution table of the passing grades awarded in the programme or field of study attended by the student."

Criterion 5.3 Relevant rules

Evidence:

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

Preliminary assessment and analysis of the peers:
The auditors confirm that the rights and duties of both UNMUL 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 programmes (e.g. module handbook, study plan, profile) is available on the English homepage of the programmes. However, UNMUL needs to define, how many hours of students' workload are required for one ECTS point (see criterion 2.2).

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

The peers confirm that the module descriptions for the Physics Education programme have been updated and now include information about the awarded ECTS points. However, it is also necessary to mentions the students' total workload in hours per semester. The module descriptions of the Biology Education programme have also been updated; they now include all necessary information.

Together with its statement, UNMUL submits an updated version of the graduation certificates. They now include information on the statistical distribution of the passing grades (GPA distribution). The peers are now satisfied with the provided documents, they include all required information.

The peers consider criterion 5 to be mostly fulfilled.

6. Quality management: quality assessment and development

Evidence:

- Self-Assessment Reports
- Academic Guidelines
- Discussions during the audit

Preliminary assessment and analysis of the peers:
The peers discuss the quality management system at UNMUL with the programme coordinators. The peers learn that there is an institutional system of quality management aiming at continuously improving the degree programmes.

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 UNMUL. It is implemented by the Institute for Quality Assurance and Development (LP3M) at the university level and the Faculty Quality Assurance Group (GJMF) at the faculty level. 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 Agency (BAN-PT). Both degree programmes under review have received the highest accreditation status (A) from BAN-PT.

The Faculty Quality Assurance Group aims to maintain and improve the quality of teaching and learning procedures in a sustainable manner in order to meet the needs of stakeholders and the achievement of the intended learning outcomes.

Students are represented on the university board. At programme level, there is the Biology Education Student Association and the Physics Education Student Association, which are responsible for organising extracurricular activities and events. In addition, there is the Faculty Student Council, which has the authority to plan, implement, monitor, and evaluate student activities at faculty level and the University Student Council, which is responsible for similar activities at university level.

Internal assessment of the quality of the degree programmes 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 SIAKAD.

Moreover, at the end of each semester the Management Review Meeting takes place. In addition to the members of the Quality Assurance Group, teachers from the different study programmes at FKIP take part. The goal of the meeting is to discuss issues in the teaching and learning process and to find measures for enhancing the academic standards.

However, the peers learn during the audit that students are not members of the Quality Assurance Group and are only invited sometimes to the Management Review Meetings. The peers are convinced that it would be very useful to have students' representatives as

official members of the Quality Assurance Group on faculty level and to include them in the Management Review Meetings. This way, students will be actively involved in the decision-making processes for further developing the degree programmes.

The results of the course questionnaires are discussed during the Management Review Meeting and can be accessed via UNMUL's website so that stakeholders and students are informed. In each new semester, the study programmes also conduct a meeting between teachers and students to discuss the quality of the academic education and possible problems. However, it is necessary that the teachers discuss directly with the students about the results of the course questionnaires and what could be improved in the respective course. The feedback cycles need to be closed.

FKIP regularly conducts an alumni tracer study. By taking part at this survey, alumni can comment on their educational experiences at UNMUL, the waiting period for employment after graduation, their professional career and can give suggestions how to improve the programme. Furthermore, there is the Career Centre at UNMUL, which offers help to find suitable internships, announces job vacancies, and offers courses to develop soft skills.

According to the latest tracer study, 46.2 % of the graduates of the Bachelor's degree programme Physics Education are employed by governmental institutions, 25 % by private companies, 17.3 % by non-governmental organisations, 3.8 % have their own company and 7.7 % did not specify their area of employment.

The data is quite different for the Bachelor's degree programme Biology Education. Here, only 17.9 % of the graduates are employed by governmental institutions, 11.2 % by private companies, 12.4 % by non-governmental organisations, 14.6 % have their own company while most of the graduate (43.8 %) work in "other" areas.

As the employers (mostly high school principals) stress during the discussion with the peers, there is a high demand for biology and physics teachers in the high schools in East Kalimantan, because a large number of teachers will retire in the coming years and they need to be replaced. To this end, they would appreciate if FKIP could accept more students and increase the number of graduates.

The peers discuss with the representatives of UNMUL's partners from schools and training institutions if there are regular meetings with the partners on faculty level, where they discuss the needs and requirements of the employers and possible changes to the degree programmes. They learn that some employers and alumni are invited to give their feedback on the content of the degree programmes in the course of the tracer studies. The peers appreciate that UNMUL stays in contact with its alumni and the high schools. However, no academic advisory board exists. As the peers consider the input of the employers to be very

important for the further development of the degree programmes, they recommend establishing an academic advisory board at FKIP in order to discuss regularly with about the needs of the job market and new developments in the area of science education.

The advisory board should consist of a group of professionals, employers, and experts of the relevant fields from outside the university (e.g. high schools, training centers, and governmental institutions). Including students, professionals, and employers in the different boards will help further developing the degree programmes.

Moreover, the peers point out that it would be useful to give a feedback on the results of the tracer studies to all employers who have taken part. Finally, the peers suggest that FKIP organises a job fair and invite high schools to present themselves and offer jobs to graduates and senior students.

In summary, the peer group confirms that the quality management system is suitable to identify weaknesses and to improve the degree programmes, but there is still room for improvement.

Final assessment of the peers after the comment of the Higher Education Institution regarding criterion 6:

The peers see that the students' feedback is taken seriously and the results of the course questionnaires are taken into account when further developing the respective degree programme. However, the peers point out that the results should be discussed directly between the teacher and the students so that the feedback cycles are closed.

The peers consider criterion 6 to be mostly fulfilled.

D Additional Documents

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

- none

E Comment of the Higher Education Institution (07.11.2022)

UNMUL provides several updated documents.

For the Physics Education programme:

No	Title
1	Module Description Course .....
2	Document of Academic Guidance for Physics Education Study Program – Student Handbook .....
3	Study Plan .....
4	Student Mobility History Documents from 2019 – 2021 .....
5	Examination (Example) .....
6	Supplement to the Certificate .....

For the Biology Education programme:

Standard 1.1.
Appendix 1. Graduate Profile
Appendix 2. Career development
Appendix 3. Bacteriology and Biotechnology laboratory schedule
Appendix 4. Lesson Plan and Lecture Documentation
Standard 1.3
Appendix 5. The list of Elective Courses
Appendix 6. Teaching Material taught using English
Standard 2.1
Appendix 7. SK Pendirian S2

Appendix 8. SK BAN-PT S2
Appendix 9. Study of Curriculum and Textbook's Lesson Plan
Appendix 10. Special education practice in Poland certificate
Appendix 11. Webinar of health education and promotion of the Permata Sakti Program certificate
Appendix 12. The Mendeley training certification for "Mendeley for Thesis : Indonesian style" from Elsevier
Appendix 13. The Educational Sciences International Conference in 2019 and 2020 certificate
Appendix 14. The International Conference on Tropical Studies and Its Applications in 2021 and 2022 certificate and Documentation
Appendix 15. Members of the International Association
Appendix 16. International Mobility of Biology Education Staff
Appendix 17. Mulawarman University ECTS Decree Letter
Appendix 18. HIMAPBIO Activity
Standard 3
Appendix 19. Affective Assessment rubric
Standard 4
Appendix 20. Agreement Letter FTTE and Science Faculty Mulawarman University
Standard 5
Appendix 21. Supplement to the Certificate
Standard 6

Appendix 22. Study Program Quality Assurance Report
Appendix 23. Documentation of Dissemination of Study Program Quality Assurance Report
Exam Paper Test
Workload Quesioner Result

UNMUL provides the following statement:

“Mulawarman University would like to express the highest appreciation to ASIIN, especially the peers that visited our University. We consider all of the comments and the possibility of valuable improvements for our institution carefully. UNMUL provides the following statement:

1. THE DEGREE PROGRAMME: CONCEPT, CONTENT & IMPLEMENTATION

For Criteria 1, our University, faculty, and both study programmes would like to express our gratitude to the Peers recognise that our qualification profiles of both programmes under review allow students to take up an occupation that corresponds to their qualification. 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 10 – Life Sciences (Biology Education) and the SSC of the Technical Committee 13 – Physics (Physics Education). Both of our degree programmes are well designed and impart a broad range of competencies so that graduates can find suitable jobs, be well prepared to enter the labour market, and find adequate jobs in Indonesia.

Criterion 1.1 Objectives and learning outcomes of a degree programme (intended qualifications profile)

Biology Education

Based on the Tracer results, it is known that the biology education study program graduates are teachers and entrepreneurs. This is because the tracer study only shows graduates of the last two years. As additional information that there are our graduates who are entrepreneurs in the field of biology (Appendix 1). Efforts are made to strengthen the achievement of the entrepreneurial profile, the study program also provides career development that include entrepreneurship content (Appendix 2). Regarding the profile of research assistants, the study program seeks to improve students' knowledge and skills in the field of

modern research in Bacteriology and Biotechnology courses by holding a practicum that are carried out in the MIPA Biology laboratory with the attached device and schedule (Appendix 3). In addition, related to modern biological research, in this semester students are introduced to bioinformatics-based in silico research in protist subjects in collaboration with related researchers (Appendix 4). In the future, we will also review the profile of the study program that is tailored to market needs and stakeholder suggestions.

Criterion 1.3. Curriculum

Physics Education

We do appreciate the Peers' concern about the number of elective courses in Physics Education as the support for our student's interests. According to Indonesian regulations, the number of credits for bachelor's degree is 144 credits. Initially, our curriculum consisted of 140 credits of compulsory courses and 4 credits of elective courses. Through the discussion with all of the lecturers, we will adjust the proportion to 134 credits of compulsory courses and 10 credits of elective courses. We will discuss further the option of new elective courses in the curriculum report. We adjust our study plan document with the clarity for the compulsory and elective courses (https://fisika.fkip.unmul.ac.id/page/23?lang=en). For the addition of courses that taught in English, we identified some courses that were strongly possible such as Basic Physics 2 (2 credits), Integrated Science (2 credits), Vibration and Wave (2 credits), Laboratory Management (3 credits), Thermodynamics (3 credits), Optics (3 credits), Astronomy (2 credits), and Earth and Space (3 credits).

Biology Education

The Biology Education Study Program has a total of 20 SKS (31,8 ECTS) elective courses with a total of 10 courses and a total of 10 SKS (15,9 ECTS) elective courses that must be taken as many as 5 courses. The list of elective courses can be seen on the Appendix 5.

Regarding courses taught using English, the Biology Education Study Program is committed to further intensifying the use of English in learning (examples of some materials taught using English can be seen at the Appendix 6.

2. THE DEGREE PROGRAMME: STRUCTURES, METHODS AND IMPLEMENTATION

We would like to thank the peers for their appreciation of our effort to foster international mobility and support FKIP to pursue this path further. However, academic mobility is still low, and there is still room for improvement. The peers confirm that both undergraduate programmes have a high but manageable workload. In summary, the peer group considers the teaching methods and instruments to be suitable to support the students in achieving

the intended learning outcomes. In addition, they confirm that the study concept of both undergraduate programmes comprises a variety of teaching and learning forms as well as practical parts adapted to the respective subject culture and study format. It actively involves students in the design of teaching and learning processes (student-centred teaching and learning).

The peers notice the good and trustful relationship between the students and the teaching staff; enough resources are 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. The faculty is committed to continue and enhance:

1. International conferences regularly, once a year, specifically in the field of Education, namely the Educational Sciences International Conference (ESIC). This year is the 5th ESIC, with the theme “Strengthening Education to Build a Stronger Civilization,” which can be accessed on the website https://esic.fkip.unmul.ac.id/. Many Physics and Biology Education students became presenters and participated in ESIC.
2. Joint Teaching is holding a class with two lecturers, one from an overseas university or well-known University in Indonesia and the other from a physics or biology education study program with an introduction to English.
3. Credit transfer, where students of Physics Education and Biology Education study programs will participate in several credit transfer programs. One is with Providence University, Thailand, which will start in January 2023, assisted by International Office.
4. To introduce FKIP to international schools abroad, FKIP will hold a Summer School in collaboration with International Office. Summer School will cooperate with International Service, to be held in 2023, by inviting international students from Indonesia.
5. To add classes with an English introduction.
6. To hold a special program to strengthen the English language of lecturers and students in collaboration with Cambridge. Domestic cooperation will be carried out with particular institutions in the Pare area, East Java Province, a village whose residents speak English.
7. Prepare a TOEFL/TESL score improvement program for potential students so that they can enter competitive programs abroad.

Criterion 2.1. Structure and module

Physics Education

The milestone for the Physics Education program showed our further planning to open a master's degree (https://fisika.fkip.unmul.ac.id/page/89?&lang=en). The ongoing process of opening the magister programme is facing some challenges to Indonesia's national government regulation, such as the additional requirement of lectures. We appreciate the suggestion of Peers for us to open the magister programme.

Biology Education

We really appreciate the suggestion from ASIIN Peers regarding the establishment of the Biology Education Master Program, thankfully the Master of Biology Education FKIP UNMUL has been established since October 7, 2014 (Appendix 7) with an accreditation status of B from BAN-PT (Appendix 8).

We are very grateful for the suggestions from peers to introduce students to the international curriculum, of course this is for our good in the future. Actually in 2018 there were 2 Biology Education students carrying out International PPL through the SEAMEO-SEATEACHER Program located in the Philippines, but this was stopped due to the pandemic. Henceforth, the Faculty is committed to collaborating with international schools both at home and abroad gradually. In response to this, the biology education study program includes the topic of the international high school curriculum in the Curriculum Review course which will begin in the next semester (even 2022/2023). The subject matter of the Study of Curriculum and Textbook course is listed in the Lesson Plan listed on the link (Appendix 9).

International Mobility

Physics Education

For the issue of student mobility, we are thankful for the recognition of our effort to foster international student mobility. In line with the suggestion, we will strengthen the programme to support student mobility by accepting international students to our study programme and supporting our students to have international experiences through internal and external scholarship. The list of international collaborations at the university level will follow by the faculty that could encourage this activity (https://www.unmul.ac.id/page/laporam-kerjasama-universitas-mulawarman-1620367479.html). For the summer school program on Tropical Studies, thank you for recognizing that this issue is crucial to supporting our University's center of excellence. The University initiates our summer school, and our study programme actively supports this activity (https://fisika.fkip.unmul.ac.id/berita/27?lang=id&lang=en). We will continue to support this activity to be held annually. As additional support to our students, our study programme also encourages our

students to participate in international conferences such as Ictrops and ESIC, exchange programmes (https://fisika.fkip.unmul.ac.id/page/42?lang=en) and publication in national and international journal (https://fisika.fkip.unmul.ac.id/page/47?) .

Biology Education

We express our gratitude for the suggestion of ASIIN Peers to improve international mobility, this adds to our motivation to be better in the future. Regarding the suggestion that FKIP can facilitate the practice of teaching students at international schools, in 2018, 2 Biology Education students participated in the SEAMEO-SEATEACHER Program located in the Philippines. Henceforth, the Faculty is committed to collaborating with international schools both at home and abroad gradually. As we previously reported, our students have participated in several programs such as the Indonesian International Student Mobility Awards (IISMA) (Daugavpils University), the International Credit Transfer Program (Manipal Internasional University), Our Ocean Youth Leadership Summit (OOYLS) Oslo Norway. Our Ocean Youth Leadership Summit (OOYLS) Oslo Norway. However, there are additional reports regarding student participation in international activities, such as 1 student participating in a guest lecture on “special education practice in Poland” (Appendix 10), 1 student participating in a webinar of health education and promotion of the Permata Sakti Program (Appendix 11) and 86 students took part in the Mendeley training certification for “Mendeley for Thesis : Indonesian style” from Elsevier (Appendix 12), 3 students took part in the International Conference “The Educational Sciences International Conference” in 2019 and 2 students in 2020 (Appendix 13). This year, 2 groups of students will be presenters at the International Conference on Tropical Studies and Its Applications in November 2022 (Appendix 14). Currently, some of our students are participating in the selection of the Scientific Explorations in Chemistry, Food, and Cosmetics immersion Program. However, FKIP and UNMUL international service institutions are committed to always increasing the quantity and quality related to international mobility for students.

Regarding the International Mobility of Lecturers, FKIP strongly supports international mobility for Biology Education Study Program staff. In this case, FKIP Unmul also strongly encourages international mobility, which is realized by holding an International Educational Sciences Conference regularly once a year. In 2015 there was 1 lecturer who participated in Lesson Study in Japan through the JICA program. Biology education study program lecturers are also members of the International Association (Appendix 15). We apologize, because we have not included data on staff participation in International Conferences and publications in International Journals, so on this occasion we add them that showed on Appendix 16.

Criterion 2.2 Workload and credits

We appreciate your suggestion about the conversion rate between CSU and ECTS points. We have followed up on this suggestion by including the conversion of CSU to ECTS calculations as regulated in the UNMUL decree letter as addition the former regulation (Appendix 17). Based on this decree, the module description of each course in both study programs has been revised.

The suggestion to clarify the workload was followed-up by revising documents such as module descriptions for each course (https://fisika.fkip.unmul.ac.id/page/22?&lang=en) and also the students' questionnaire for receiving feedback related to the suitability of the workload. The questionnaire was participated by 99 respondents from physics education and 134 participants from biology education. The aims of this questionnaire are (1) proportionality of the workload; and (2) suitability of the workload with the implementation. Figure 2.1 show that the workload is appropriate based on students' opinion. Thank you for the suggestion to re-evaluate the workload. We have re-evaluated the workload as suggested (Link).

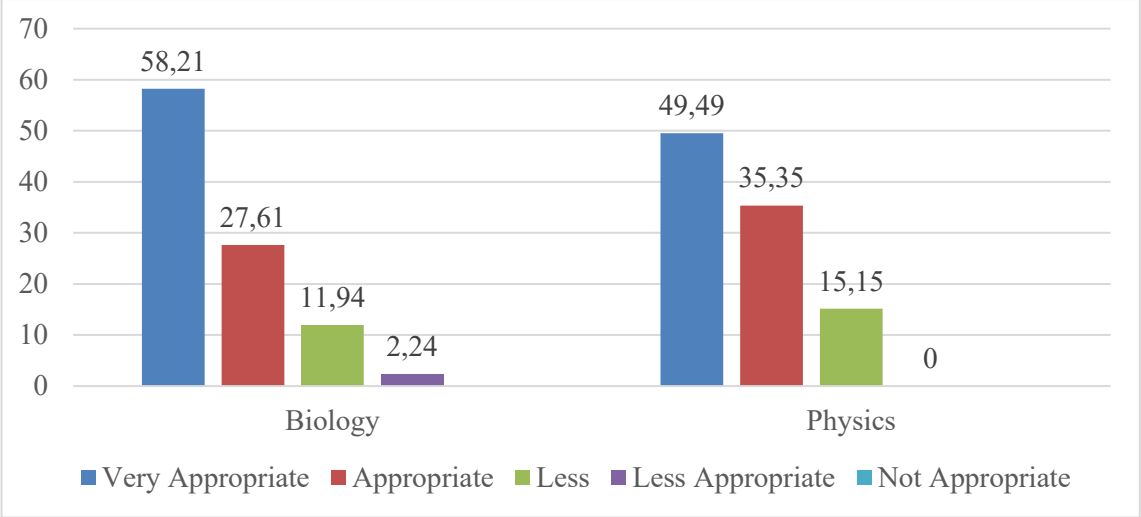

Figure 2.1 Questionnaire result

Criterion 2.3 Teaching and Methodology

Thank you for recognizing that our teaching methods and instruments are suitable to support the students in achieving the intended learning outcomes.

Criterion 2.4 Support and assistance

Our faculty also appreciate the assessment from ASIIN peers who recognize that the support and assistance from FKIP are well managed. FKIP will continue the optimization of academic supervisors and research supervisors to support students during their studies.

Physics Education

To coordinate the student activities, the students' association called Himpunan Mahasiswa Pendidikan Fisika (HIMAPFIS FKIP UNMUL) was established in 1999. (https://fisika.fkip.unmul.ac.id/page/90?&lang=en). The activities conduct such as (1) Pekan Fisika; (2) Antariksa; (3) HIMAPFIS Competition; (4) Creative Training; (5) Webinar HIMAPFIS; (6) Public Speaking Training; (7) Tahsin; (8) Research Club; (9) Leadership Training; (10) HIMAPFIS Charity; (11) HIMAPFIS Goes to School; (12) Introduction to laboratory assistant; (13) Study Club; dan (14) Training.

To support the interests and talents of students, we will pay more attention to supporting the students through various forums. The student forum such as the "Research Club" for Physics Education and students association conduct "Pekan Fisika," which is a big event for more than 1000 elementary to secondary school students to enhance their ability in science and physics (https://fisika.fkip.unmul.ac.id/berita/20?&lang=en).

Biology Education

At the study program level, there is a Biology Education Study Program Student Association (HIMAPBIO) which facilitates students to independently train hard skills and soft skills through various fields such as biology club, scientist squad, code classes, entrepreneurship training, and also other activities whose descriptions are found in the following link (Appendix 18). Several activities organized by the study program also aim to develop student interests and talents, such as career development seminars, entrepreneurship seminars, and national biology education seminars. In the future, the study program and also HIMAPBIO will provide more space for activities or forums that support hard skills and soft skills for students.

3. EXAMS: SYSTEM, CONCEPT AND ORGANISATION

We appreciate the peers have inspected our examination papers and final theses and are satisfied with the quality. We also appreciate suggestions from peers on having clear guidance on how participation (affective) is assessed. The faculty has provided the affective assessment guide, but we're sorry we missed attaching it to the SAR. Therefore, we attach a link to the affective assessment guide in this section. The clear guidance can be accessed at the link Appendix 19

The details of the grading system and assessment rubric for the teaching internships, the community service, and the final project are described in the respective module descriptions and can be accessed at the link:

a. Physics Education (https://fisika.fkip.unmul.ac.id/page/22?lang=en):

1) Field Orientation 1: https://bit.ly/FieldOrientation1
2) Field Orientation 2 (Teaching internship): https://bit.ly/FieldOrientation2
3) Community Service Program: https://bit.ly/Com_Service
4) Thesis (Final Project): https://bit.ly/Thesis_

b. Biology Education (https://biologi.fkip.unmul.ac.id/page/50?lang=en)

Regarding the exams, based on the suggestions, we will Increase motivation for students to be able to think freely and improve questions related to transfer skills, critical thinking, and problem-solving. In several courses, lecturers have tried to give assignments or exams that accommodate critical thinking, problem-solving, and transfer skills, examples of which can be accessed at the following link:

a. Physics Education: https://bit.ly/CriticalThinkingQuestion.
b. Biology Education: Link.

Thank you for the suggestions; we are committed to improving the quality and quantity of assignments and exams that can accommodate critical thinking, problem-solving, and transfer skills in the degree program and the highest in the latest semesters.

4. RESOURCES

In summary, the peers confirm that the teaching staff's composition, scientific orientation, and qualification–besides the already mentioned points - are suitable for successfully implementing and sustaining the degree programmes. In summary, the auditors confirm that UNMUL offers sufficient support mechanisms and opportunities for teaching staff members who wish to develop their professional and teaching skills further. In summary, the peer 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.

Criterion 4.1. Staff

As additional information, to support the academic activities in both Study Programs, our University and faculty also support through competent staff, as seen in Table 4.1.

Table 4.1 Educational Personnel assigned by University and Faculty

No	Name	Status	Assignment

1.	Amirudin, S.Sos	Government Employee	Librarian
2.	Monica Febry Paembonan, S.Sos	Government Employee	Librarian
3.	Isai Julianto Mangele	University Employee	Academic Administration Services
4.	Syalilah	Government Employee	Academic Administration Services
5.	Nina Ramadhiati, A.Md	Government Employee	Financial and Personnel Administration Services
6.	Iriansyah Gama	Government Employee	Student Administration Services
7.	Ermawati	Government Employee	Student Administration Services
8.	Indra Sukma	University Employee	Technician

Physics Education

We appreciate the suggestion to distribute the lecturer workload based on three areas: teaching, research, and community service. The list of staff contributions to the Study Program of Physics Education can be seen in Table 4.2.

Table 4. 2 Staff Contributed to Study Program of Physics Education

No	Name	Position	Status	Credits			
				TA	RA	CS	Total
1.	Lambang Subagiyo	Professor	G E	4	4	4	12 (19,08 Ects)
2.	M. Junus	Associate Professor	G E	8	2	2	12 (19,08 Ects)
3.	Laili Komariyah	Associate Professor		7	2	3	12

No	Name	Position	Status	Credits			
				TA	RA	CS	Total
			G E				(19,08 Ects)
4.	Zulkarnaen	Associate Professor	G E	6	2	4	12 (19,08 Ects)
5.	Riskan Qadar	Associate Professor	G E	8	2	2	12 (19,08 Ects)
6.	Zeni Haryanto	Associate Professor	G E	8	2	2	12 (19,08 Ects)
7.	Muliati Syam	Associate Professor	G E	8	2	2	12 (19,08 Ects)
8.	Abdul Hakim	Associate Professor	G E	8	4	2	14 (22.26 Ects)
9.	Nurul Fitriyah S	Assistant Professor	G E	8	4	2	14 (22.26 Ects)
10.	Shelly Efwinda	Assistant Professor	G E	8	4	2	14 (22.26 Ects)
11.	Atin Nuryadin	Assistant Professor	U E	6	4	4	14 (22.26 Ects)
12.	Puardmi Dama-yanti	Assistant Professor	U E	8	2	4	14 (22.26 Ects)
13.	Agus Riyadi	Laboratory Admin	U E	Satisfactory			
14.	Simon Sura	Academic Admin	G E	Satisfactory			

Note: GE : Government Employee
UE : University Employee
TA : Teaching Activity
RA : Research Activity
CS : Community Services Activity

Biology Education

Table 4.3 Staff Contributed to Study Program of Biology Education

No	Name	Position	Status	Credits			
				TA	RA	CS	Total
1.	Prof. Dr. Makrina Tindagen, M.Pd	Professor	GE	4	4	4	12 (19.08 Ects)
2.	Prof. Dr. Didimus Tanah Boleng, M.Kes	Professor	GE	4	4	4	12 (19.08 Ects)
3.	Dr. Akhmad, M.Kes	Associate Professor	GE	6	2	4	12 (19.08 Ects)
4.	Dr. Hj. Herliani, M.Pd	Associate Professor	GE	8	2	2	12 (19.08 Ects)
5.	Dr. Elsje Theodora Maasawet, M.Pd	Associate Professor	GE	6	2	4	12 (19.08 Ects)
6.	Dr. Sonja Verra Tinneke Lumowa, M.Kes	Associate Professor	GE	8	2	2	12 (19.08 Ects)
7.	Dr. Vandalita Maria Magdalena Rambitan, MP	Associate Professor	GE	8	2	2	12 (19.08 Ects)
8.	Dr. Evie Palenewen, M.Pd	Associate Professor	GE	8	2	2	12 (19.08 Ects)
9.	Drs. H. Jailani, M. Si	Associate Professor	GE	8	2	2	12 (19.08 Ects)

No	Name	Position	Status	Credits			
				TA	RA	CS	Total
10.	Sri Purwati, S.Pd., M.Si	Associate Professor	GE	8	2	2	12 (19.08 Ects)
11.	Masitah, S.Pd, M.Pd	Assistant Professor	GE	8	4	2	14 (22.26 Ects)
12.	Zenia Lutfi Kurniawati, S.Pd, M.Pd	Assistant Professor	GE	8	4	2	14 (22.26 Ects)
13.	Dora Dayu Rahma Turista, S.Si, M.Pd	Assistant Professor	GE	8	4	2	14 (22.26 Ects)
14.	Ruqoyyah Nasution, S.Pd, M.Pd	Assistant Professor	EU	8	4	2	14 (22.26 Ects)
15.	Eadvin Rosrinda AS, S.Si	Laboratory Staff	GE	Satisfactory			
16.	Nurul Juha, S.Pd	Administration Staff	EU	Satisfactory			
17.	Norhayani, A.Md	Academic Staff	GE	Satisfactory			

Notes: GE : Government Employee
EU : University Employee
TA : Teaching Activity
RA : Research Activity
CS : Community Services Activity

Criterion 4.2. Staff Development

Faculty committed to supporting the enhancement of lecturer's ability in English through English training with mentors from English Education Department and to support lecturers in various international conferences. Faculty also held our annual Educational Sciences International Conferences (ESIC) conference. In 2022, the 5th ESIC will be held on November 2022 (https://esic.fkip.unmul.ac.id/).

Criterion 4.3 Funds and Equipment

Our faculty will strengthen the development of the joint laboratory with the Science Faculty as following the agreement document (Appendix 20). At the university level, the highlight

from ASIIN peers that advanced laboratory is compulsory to support the research of lecturers and students will be a positive insight for us. The ongoing process of fulfilling the equipment at the Integrated Laboratory will require more attention.

5. TRANSPARENCY AND DOCUMENTATION

We considered all the comments and suggestions from the peers to improve the transparency and documentation standards. In the University, faculty, and both study programs level, we are committed to follow-up the suggestions such as:

1. Re-calculation of workload is stated in each module.
   a. Physics Education (https://fisika.fkip.unmul.ac.id/page/22?&lang=en)
   b. Biology Education (https://biologi.fkip.unmul.ac.id/page/50?lang=en)
2. The Supplement to the Certificate with additional information on students' statistical results. An example of the document can be seen through this link:
   a. Physics Education (https://fisika.fkip.unmul.ac.id/page/50?lang=en)
   b. Biology Education (Appendix 21)
3. Relevant academic regulations can be accessed through the university website.

   https://www.unmul.ac.id/page/peraturan-rektor-1622728334.html
   https://io.unmul.ac.id/International%20Services
   https://lp3m.unmul.ac.id/

6. Quality Management: Quality assessment and development

We would like to address appreciation to the peers for their comments and the possibility of improvements for the quality management system aiming at continuously improving the degree programmes. The faculty followed up on the suggestion to add student representatives as members of the Quality Assurance Group (https://fisika.fkip.unmul.ac.id/page/48?lang=en). The students' representatives as official members of the Quality Assurance Group on the faculty level will be involved in the Management Review Meetings and actively involved in the decision-making processes to further develop the degree programmes.

The faculty of teacher training and education is committed to conducting a job fair by inviting stakeholders, including primary and secondary schools and educational institutions or tutoring. This job fair is expected to provide information to alums and senior students in getting jobs according to their skills and knowledge.

Physics Education

Physics education strengthens the implementation of discussion between lecturers and students about the results of the course questionnaires and what could be improved in the respective course. This discussion is held each semester and led by the program coordinator. The recent discussion was held for the even semester 2021-2022 (https://fisika.fkip.unmul.ac.id/page/48?lang=en).

Biology Education

Course evaluations have been through questionnaires and have been discussed internally by study program lecturers with the results of the attached document (Appendix 22). Furthermore, the results of the lecturer's internal management review meeting in the form of feedback from the questionnaire were submitted to students by the study program coordinator and the study program quality assurance unit (Appendix 23). The results of the evaluation and also the results of this feedback are used as material for planning the implementation of learning activities and student activities in the next semester. This evaluation activity will routinely be carried out every semester."

F Summary: Peer recommendations (14.11.2022)

Taking into account the additional information and the comments given by UNMUL, the peers 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 Education	With requirements for one year	-	30.09.2028
Ba Physics Education	With requirements for one year	-	30.09.2028

Requirements

For all degree programmes

A 1. (ASIIN 2.2) Verify the students' total workload and award the ECTS points accordingly. Define how many hours of students' workload are required for one ECTS point.

A 2. (ASIIN 6) Close the feedback cycles and discuss with the students directly about the results of the course questionnaires.

For the Physics Education programme

A 3. (ASIIN 5.2) Rewrite the module descriptions to include information about the students' total workload (hours per semester).

Recommendations

For all degree programmes

E 1. (ASIIN 2.1) It is recommended to further promote the students' academic mobility and to establish more international cooperations.

E 2. (ASIIN 2.1) It is recommended to offer more subject-specific courses that are at least partly taught in English.

E 3. (ASIIN 2.1) it is recommended to open the preparatory class, which prepares students for international programmes, for students from all Faculties.

E 4. (ASIIN 4.2) It is recommended to invite more international guest lecturers.

E 5. (ASIIN 4.2) It is recommended to improve the teachers' English proficiency.

E 6. (ASIIN 6) It is recommended to make student representatives members of the Quality Assurance Group on faculty level and to include them in the Management Review Meetings in order to directly involve them in the decision making processes for further developing the degree programmes.

E 7. (ASIIN 6) It is recommended to establish an advisory board with external stakeholders, especially from high schools and other employers.

E 8. (ASIIN 6) It is recommended to organise a job fair and invite high schools to present themselves and offer jobs to graduates and senior students.

G Comment of the Technical Committees (28.11.2022)

Technical Committee 10 – Life Sciences (28.11.2022)

Assessment and analysis for the award of the ASIIN seal:

The procedure was conducted on-site in Samarinda in September. It was the first ASIIN procedure at UNMUL and also the first international accreditation procedure of the university. For this reason, there are a number of formal deficiencies (Diploma Supplement, ECTS points, module descriptions) which are reflected in requirements. In addition, the main points of discussion were the internationalisation of the university, which still needs improvement, the QM system, and the cooperation with the local schools. The peers propose recommendations on these points.

Overall, however, the peers gained a positive impression of the university and the two degree programmes, and the Technical Committee agrees with this assessment. It supports the proposed conditions and recommendations.

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

Degree Programme	ASIIN-seal	Subject-specific label	Maximum duration of accreditation
Ba Biology Education	With requirements for one year	-	30.09.2028
Ba Physics Education	With requirements for one year	-	30.09.2028

Technical Committee 13 – Physics (21.11.2022)

Assessment and analysis for the award of the ASIIN seal:

The Technical Committee discusses the procedure and concurs with the assessment of the peers.

The Technical Committee 13 – Physics recommends the award of the seals as follows:

Degree Programme	ASIIN-seal	Subject-specific label	Maximum duration of accreditation
Ba Biology Education	With requirements for one year	-	30.09.2028
Ba Physics Education	With requirements for one year	-	30.09.2028

H Decision of the Accreditation Commission (09.12.2022)

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

The Accreditation Commission briefly discusses the procedure and decides to follow the assessment of the peers and the Technical Committees.

The Accreditation Commission for Degree Programmes decides to award the following seals:

Degree Programme	ASIIN-seal	Subject-specific label	Maximum duration of accreditation
Ba Biology Education	With requirements for one year	-	30.09.2028
Ba Physics Education	With requirements for one year	-	30.09.2028

Requirements

For all degree programmes

A 1. (ASIIN 2.2) Verify the students' total workload and award the ECTS points accordingly. Define how many hours of students' workload are required for one ECTS point.

A 2. (ASIIN 6) Close the feedback cycles and discuss with the students directly about the results of the course questionnaires.

For the Physics Education programme

A 3. (ASIIN 5.2) Rewrite the module descriptions to include information about the students' total workload (hours per semester).

Recommendations

For all degree programmes

E 1. (ASIIN 2.1) It is recommended to further promote the students' academic mobility and to establish more international cooperations.

E 2. (ASIIN 2.1) It is recommended to offer more subject-specific courses that are at least partly taught in English.

E 3. (ASIIN 2.1) it is recommended to open the preparatory class, which prepares students for international programmes, for students from all Faculties.

E 4. (ASIIN 4.2) It is recommended to invite more international guest lecturers.

E 5. (ASIIN 4.2) It is recommended to improve the teachers' English proficiency.

E 6. (ASIIN 6) It is recommended to make student representatives members of the Quality Assurance Group on faculty level and to include them in the Management Review Meetings in order to directly involve them in the decision making processes for further developing the degree programmes.

E 7. (ASIIN 6) It is recommended to establish an advisory board with external stakeholders, especially from high schools and other employers.

E 8. (ASIIN 6) It is recommended to organise a job fair and invite high schools to present themselves and offer jobs to graduates and senior students.

I Fulfilment of Requirements (08.12.2023)

Analysis of the peers and the Technical Committees (28.11.2023)

Requirements

For all programmes

A 1. (ASIIN 2.2) Verify the students' total workload and award the ECTS points accordingly. Define how many hours of students' workload are required for one ECTS point.

.Initial Treatment	
Peers	Fulfilled Vote: unanimous Justification: UNMUL has verified the students' total workload and awards the ECTS points accordingly.
TC 10	Fulfilled Vote: unanimous Justification: The TC agrees with the assessment of the experts.
TC 13	Fulfilled Vote: unanimous Justification: The TC agrees with the assessment of the experts.

A 2. (ASIIN 6) Close the feedback cycles and discuss with the students directly about the results of the course questionnaires.

Initial Treatment	
Peers	Fulfilled Vote: unanimous Justification: The reflective discussions are documented on homepages and should be continued.
TC 10	Fulfilled Vote: unanimous Justification: The TC agrees with the assessment of the experts.
TC 13	Fulfilled Vote: unanimous Justification: The TC agrees with the assessment of the experts.

For the Physics Education programme

A 3. (ASIIN 5.2) Rewrite the module descriptions to include information about the students' total workload (hours per semester.

Initial Treatment	
Peers	Fulfilled Vote: unanimous Justification: The module descriptions have been updated and now include all necessary information.
TC 13	Fulfilled Vote: unanimous Justification: The TC agrees with the assessment of the experts.

Decision of the Accreditation Commission (08.12.2023)

The Accreditation Commission follows the assessment of the experts and the Technical Committees and decides that all requirements are fulfilled.

The Accreditation Commission decides to award the following seals:

Degree Programme	**ASIIN seal**	**Subject-specific labels**	**Maximum duration of accreditation**
Ba Biology Education	All requirements fulfilled	-	30.09.2028
Ba Physics Education	All requirements fulfilled	-	30.09.2028

Appendix: Programme Learning Outcomes and Curricula

According to the Self-Assessment Report, the following **objectives** and **learning outcomes (intended qualifications profile)** shall be achieved by the Bachelor's degree programme Biology Education:

Aspects	Code	Descriptions
Attitude	A-1	Upholding human values based on religion, morals, and ethics and having social awareness to society and the environment.
	A-2	Cooperating and being responsible for their work in the fields of biology and education.
Knowledge	K-1	Being able to master basic theories, concepts, principles and procedures in the field of biology and the interaction of organisms with tropical rainforests and their environment
	K-2	Being able to implement pedagogical science in biology education in tropical rainforests and their environment
	K-3	Being able to master knowledge related to biological research and learning methodologies
General Skills	GS-1	Being updated with the development of biology sciences and education, having an entrepreneurial spirit and good communication skills
Special Skills	GS-2	Being able to use logical, critical, systematic, and innovative thinking in making strategic decisions by applying humanities values in the field of biology and education based on relevant data information
	SS-1	Being able to master work skills and managerial laboratory management by utilizing science and technology and available natural resources
	SS-2	Being able to design, implement, publish research results so that they can be used as alternatives to solve problems in the field of biology and education in tropical rainforests and the environment.
	SS-3	Being able to design, implement, develop evaluation instruments in accordance with the concept of learning in the field of Biology.

The following **curriculum** is presented:

No	Subject		Nature	Semester Package	Number of credits	ECTS
	Code	Name				
1	MU0000602W004	Bahasa	C	1	3	4,77
2	19050163W001	General biology	C	1	3	4.77
3	19050163W002	Introduction to Physics	C	1	3	4,77
4	MU0000603W001	Pancasila Education	C	1	2	3,18
5	19050163W003	Introduction to Math	C	1	3	4,77
6	19050163W004	Introduction to Chemistry	C	1	3	4.77
7	MU0000603W001	Religious Education	C	1	3	4,77
8	MU0000602W006	Basic Humanities	C	1	2	3,18
9	19050162W006	English For Biology	C	2	2	3,18
10	MU0000602W003	Civic Education	C	2	2	3,18
11	19050162W010	Cell Biology	C	2	2	3,18
12	19050162W012	Environmental Science	C	2	2	3,18
13	19050162W005	Introduction to Education Science	C	2	3	4,77
14	19050162P011	Animal Microtechniques	E	2	2	3,18
15	19050163W008	Plant Morphology	C	2	3	4,77
16	19050163W007	Invertebrates	C	2	3	4,77
17	19050162W009	Laboratory Management and Instruments	C	2	2	3,18
18	19050063W003	Learner Development	C	3	3	4,77
19	19050163W020	Plant Anatomy	C	3	3	4,77
20	19050163W023	Biochemistry	C	3	3	4,77
21	19050063W002	Learning and Instruction	C	3	3	4.77
22	19050163W022	Human Anatomy	C	3	3	4,77
23	19050163W021	Animal Anatomy	C	3	3	4,77
24	19050163W019	Vertebrates	C	3	3	4.77
25	19050062W004	Educational Profession	C	3	3	4,77

26	19050163W032	Biology Instructional Strategies	C	4	3	4,77
27	19050162P031	Learning Media	E	4	2	3,18
28	19050162W027	Lower Plant	C	4	2	3,18
29	19050163W026	Genetics	C	4	3	4,77
30	19050163W030	Study of Biology Curriculum And Textbooks in Secondary Education	C	4	3	4.77
31	19050162W025	Histology	C	4	3	4,77
32	19050162W033	Basic Statistics	C	4	2	3,18
33	19050162P024	Character building Education	E	4	2	3,18
34	19050162W028	Evolution	C	4	2	3,18
35	19050162W029	Entomology	C	4	2	3,18
36	19050163W040	Biology Instructional Planning	C	5	3	4,77
37	19050163W037	Human Physiology	C	5	3	4.77
38	19050163W039	Process Evaluation and Results In Biology Instruction	C	5	3	4,77
39	19050163W036	Animal physiology	C	5	3	4,77
40	1905062W038	Protists	C	5	2	3,18
41	19050163W035	Plant Physiology	C	5	3	4,77
42	19050162P034	Health Sciences	E	5	2	3,18
43	19050162P042	Conservation of Natural Resources	E	5	2	3,18
44	19050162W041	Advanced Statistics	C	5	2	3,18
45	19050163W049	Embryology	C	6	3	4,77
46	19050163W044	Higher plant	C	6	3	4.77
47	19050163W047	Animal Ecology	C	6	3	4,77
48	19050163W047	Human Ecology	C	6	2	3,18
49	19050163W046	Plant Ecology	C	6	3	4,77
50	19050162P050	Integrated learning	E	6	2	3,18
51	19050162W045	Bacteriology	C	6	2	3,18
52	19050162W043	Entrepreneurship	C	6	2	3,18
53	19050163W051	Research Methodology of Biology Education	C	6	3	4,77
54	19050162P054	Biotechnology	E	7	2	3,18
55	19050162P053	Environmental Pollution	E	7	2	3,18
56	05015355	Community Service Program	C	7	3	4,77
57	0501534DEF	Field Orientation 1	C	7	2	3,18
58	05015348	Field Orientation 2	C	7	2	3,18
59	19050162W052	Undergraduate Seminars in Biology	C	7	2	3,18
60	19050166W055	Thesis	C	8	6	9,54

C = Compulsory; E = Elective

According to the Self-Assessment Report, the following **objectives** and **learning outcomes (intended qualifications profile)** shall be achieved by the Bachelor's degree programme Physics Education:

Aspects	Codes	Descriptions
Knowledge	K-01	Understanding basic concepts, principles, theories, laws, branches of classical physics and knowing modern physics
	K-02	Applying technology, pedagogy, content, knowledge in physics learning
	K-03	Applying physics concepts in solving physics problems
	K-04	Understanding the interrelationships of science-technology-engineering-mathematics and other related fields of science
General Skills	GS-01	Having the ability to learn and to increase their knowledge to a higher level
	GS-02	Being able to communicate well and make good presentations in Indonesian and being familiar with English
	GS-03	Considering scientific ethics and professional principles and being responsible and collaborative
Specific Skills	SS-01	Having skills in planning, implementing and evaluating the learning and teaching of physics
	SS-02	Having skills in planning, implementing and reporting the results of physics practicum
	SS-03	Having skills in designing physics learning media and physics experiments

The following **curriculum** is presented:

No	Curriculum	Course		Attribute	Semester	Credits
		Code	Name			
1	KKNI 2019	MU0000603W001	Religious Education	C	1	3
2	KKNI 2019	MU0000602W002	Pancasila Education	C	1	2
3	KKNI 2019	MU0000602W004	Indonesian Language	C	1	2
4	KKNI 2019	19050363W006	General Biology	C	1	3
5	KKNI 2019	19050362W002	Basic Physics I	C	1	2
6	KKNI 2019	19050363W004	Basic Chemistry	C	1	3
7	KKNI 2019	19050363W005	Basic Mathematic	C	1	3
8	KKNI 2019	19050362W001	Introduction to Educational Sciences	C	1	2
9	KKNI 2019	19050361W003	Basic Physics Practicum I	C	1	1
10	KKNI 2019	MU0000602W003	Civil Education	C	2	2
11	KKNI 2019	MU0000602W006	Basic Humanities	C	2	2
12	KKNI 2019	19050362W012	Computer Application	C	2	2
13	KKNI 2019	19050362W007	Basic English	C	2	2
14	KKNI 2019	19050362W008	Basic Physics II	C	2	2
15	KKNI 2019	19050363W010	Mathematical Physics I	C	2	3
16	KKNI 2019	19050362W013	Mechanical	C	2	2
17	KKNI 2019	19050362W011	Learner Development	C	2	2
18	KKNI 2019	19050361W009	Basic Physics Practicum 2	C	2	1
19	KKNI 2019	19050361W014	Mechanical Practicum	C	2	1
20	KKNI 2019	19050362W015	History of Physics	C	2	2

21	KKNI 2019	19050362W016	Learning and Instruction	C	3	2
22	KKNI 2019	19050362W020	Basic Physics III	C	3	2
23	KKNI 2019	19050362W017	Environmental Physics	C	3	2
24	KKNI 2019	19050362W018	Integrated Natural Sciences	C	3	2
25	KKNI 2019	19050363W022	Laboratory Management (internship 1)	C	3	3
26	KKNI 2019	19050363W023	Mathematical Physics 2	C	3	3
27	KKNI 2019	19050361W021	Basic Physics Practicum 3	C	3	1
28	KKNI 2019	19050362W019	Junior High School Curriculum	C	3	2
29	KKNI 2019	19050363W024	Thermodynamics	C	3	3
30	KKNI 2019	19050363W028	Earth and Space	C	4	3
31	KKNI 2019	19050362W033	Electronics	C	4	2
32	KKNI 2019	19050362W026	Physics For Senior High School	C	4	2
33	KKNI 2019	19050362W031	Vibration and Waves	C	4	2
34	KKNI 2019	19050363W029	Electricity and Magnetism	C	4	3
35	KKNI 2019	19050362W030	Mathematical Physics 3	E	4	2
36	KKNI 2019	19050361W034	Electronics Practicum	C	4	1
37	KKNI 2019	19050361W032	Practice on Vibrations and Waves	C	4	1
38	KKNI 2019	19050363W025	Educational Profession	C	4	3
39	KKNI 2019	19050362W027	Senior High School Curriculum Studies	C	4	2

40	KKNI 2019	19050362P043	English For Physics Instructional	E	5	2
41	KKNI 2019	19050363W036	Assessment of Instructional in Physics (internship 2)	C	5	3
42	KKNI 2019	19050362P044	Medical Physics	E	5	2
43	KKNI 2019	19050363W041	Modern Physics	C	5	3
44	KKNI 2019	19050362W042	Entrepreneurship	C	5	2
45	KKNI 2019	19050362W037	Instructional Media	C	5	2
46	KKNI 2019	19050363W039	Optics	C	5	3
47	KKNI 2019	19050363W035	Instructional in Physics I	C	5	3
48	KKNI 2019	19050362W038	Laboratory Research	C	5	2
49	KKNI 2019	19050362W040	Statistics 1	C	5	2
50	KKNI 2019	19050362W055	Astronomy	C	6	2
51	KKNI 2019	19050362P051	Digital Electronics	E	6	2
52	KKNI 2019	19050362W052	Experimental Physics	C	6	2
53	KKNI 2019	19050362P054	Material Physics	E	6	2
54	KKNI 2019	19050362W053	Tropical Rainforest Enviromental Sciences	C	6	2
55	KKNI 2019	19050362W046	Research Methodology 1	C	6	2
56	KKNI 2019	19050363W045	Instructional in Physics II	C	6	3
57	KKNI 2019	19050362W047	Microteaching	C	6	2
58	KKNI 2019	19050363W048	Education of Core Physics	C	6	3
59	KKNI 2019	19050363W049	Education of Quantum Physics	C	6	3
60	KKNI 2019	19050362W050	Statistics 2	C	6	2

61	KKNI 2019	19050362P059	Photography	E	7	2
62	KKNI 2019	19050362P060	Education Management	E	7	2
63	KKNI 2019	19050362W056	Research Methodology 2	C	7	2
64	KKNI 2019	19050363W058	Introduction to Solid State Physics	C	7	3
65	KKNI 2019	19050361W065	Field Orientation 1	C	7	3
66	KKNI 2019	19050363W066	Field Orientation 2	C	7	1
67	KKNI 2019	MU0000603W007	Community Service Program	C	7	3
68	KKNI 2019	19050362P063	IT Applications in Learning Physics	E	8	2
69	KKNI 2019	19050362P062	Teacher Profession Ethics	E	8	2
70	KKNI 2019	19050362P064	Chemistry and Management of Hazardous Material and Wates	E	8	2
71	KKNI 2019	19050366W061	Thesis	C	8	6