ASIIN

ASIIN Seal

Accreditation Report

Bachelor's Degree Programme
Aquatic Resources Management
Aquatic Product Technology
Forest Resources Conservation and Ecotourism

Provided by
IPB University, Indonesia

Version: 22.09.2023

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]
Manajemen Sumberdaya Perairan	Aquatic Resources Management	ASIIN		08
Teknologi Hasil Perairan	Aquatic product Technology	ASIIN		08
Konservasi Sumberdaya Hutan dan Ekowisata	Forest Resources Conservation and Ecotourism	ASIIN		08
Date of the contract: 16.06.2022 **Submission of the final version of the self-assessment report:** 21.03.2023 **Date of the onsite visit:** 16.-17.05.2023 **at:** IPB Bogor				
Peer panel: Prof. Dr. Carsten Mann, Eberswalde University of Sustainable Development Prof. Dr. Julius Arnegger, Fh Westküste University of Applied Science Prof. Dr. Werner Kloas, Leibniz Institute of Freshwater Ecology and Inland Fisheries Bayu Priyambodo, Marine Aquaculture Development Center Lombok Mashirra Hazelita, Student Universitas Jambi				
Representatives of the ASIIN headquarter: Daniel Seegers				

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[1] ASIIN Seal for degree programmes
[2] TC: Technical Committee for the following subject areas: TC 08 - Agriculture, Nutritional Sciences and Landscape Architecture

Responsible decision-making committee: Accreditation Commission for Degree Programmes	
Criteria used: ASIIN General Criteria, as of April 14, 2022 Subject-Specific Criteria of Technical Committee 08 – Agriculture, Nutritional Sciences and Landscape Architecture as of March 27, 2015	

B Characteristics of the Degree Programmes

a) Name	Final degree (original/English translation)	b) Areas of Specialization	c) Corresponding level of the EQF[3]	d) Mode of Study	e) Double/Joint Degree	f) Duration	g) Credit points/unit	h) Intake rhythm & First time of offer
Aquatic Resources Management	Sarjana Peternakan (S.Pt) Bachelor of Science in Fisheries	/	6	Full time	/	8 Semesters	144 SKS 207 ECTS	1963
Aquatic Product Technology	Sarjana Peternakan (S.Pt) Bachelor of Science in Fisheries	/	6	Full time	/	8 Semesters	144 SKS 207 ECTS	1983
Forest Resources Conservation and Ecotourism	Sarjana Peternakan (S.Pt) Bachelor of Science in Forestry	/	6	Full time	/	8 Semesters	144 SKS 207 ECTS	1982

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

For the <u>Bachelor's degree programme Aquatic Resources Management,</u> the institution has presented the following objectives the Self-Assessment Report:"

The programme objectives of the Aquatic Resources Management (MSP) are **mastering in applying management of aquatic resources, environment, and space, based on carrying capacity, conservation, and sustainability principles.** This can be accomplished through the support of the following specific competencies.
Mastering the basic knowledge, technical and managerial skills in various aspects, including aquatic productivity, bio-ecology, health and pollution control, conservation, ecotourism, and fishery stock dynamics based on ecosystem approaches to be executed with full responsibility and truthfully in working either personally or in a small group with the necessary guidance and assistance.
1. Being capable and competent to plan, execute, monitor, and evaluate the aquatic ecosystem with a view to optimal and sustainable utilisation towards ecosystem health and community wellbeing.
2. Being capable of making decisions and adapting to the field of aquatic resources management.

The above objectives and competencies reflect the graduate's ability and competence, decision-making ability, and adaptability. "

For the <u>Bachelor's degree programme Aquatic Product Technology,</u> the institution has presented the following profile in the Self-Assessment Report:"

The Aquatic Product Technology (THP) BSc programme is targeted to produce graduates with core competencies **in applied science and technology in handling and characterisation of aquatic resources, biotechnology, processing technology, and development of aquatic industrial products based on sustainability and being environmentally friendly.**
The specific competencies of THP are:
1. Being capable to design and control the processing of aquatic products applying hurdle technology and other operating systems in order to produce value added products (food and non-food) that meet the standard.
2. Mastering in depth knowledge of general and specific theoretical concepts of fisheries and marine sciences, aquatic products chemistry and biochemistry, aquatic products microbiology, marine biotechnology, process engineering, products development and standardisation in order to conduct research and produce value added products (food and non-food) that meet the standard.
3. Being capable and skilful to collaborate, communicate (oral and written), analyse all information sources for problem solving/taking strategic decision, thoughtful, conclusive, have a good attitude and high integrity, respects for heterogeneity/pluralism, competent to lead and organise, have entrepreneurial spirit."

For the <u>Bachelor's degree programme Forest Resources Conservation and Ecotourism,</u> the institution has presented the following profile in the Self-Assessment Report:"

The objective of Forest Resources Conservation and Ecotourism (KSHE) BSc Degree Programme is to produce graduates who possess entrepreneurship skills to implement the principals of the conservation of forest resources, ecotourism, and ecosystem services, including the protection of ecological processes and life supporting systems, preservation of species and genetic diversity, and sustainable use of wildlife for improving ecosystems' quality as well as people's life and welfare; ability to develop in diverse contexts set in various kinds of profession; a mindset of lifelong learner; and appreciation of societal values. The specific competencies profile of graduates of the KSHE programme are as follows:
1. Being able to implement the principles and policies of the discipline of forest resources conservation and ecotourism through the use of science, technology, and arts in problem solving and adaptation to real life situations;
2. Mastering the theoretical concepts of forest resources conservation in general; acquire deep comprehension on the theoretical concepts of protected area management, wildlife management, conservation of plant diversity, ecosystem services utilisation, ecotourism management; and solve procedural issues;
3. Being able to make appropriate and accurate decisions based on the analysis of information and data and to provide guidance on the selection of alternatives in individual or group contexts; and
4. Be accountable for one's work to achieve the goals of one's organisation or institution."

C Peer Report for the ASIIN Seal[4]

1. The Degree Programme: Concept, content & implementation

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

Evidence:

- Objective-module matrices
- Self-Assessment Report
- Study plans of the degree programmes
- Curriculum handbooks
- Module descriptions
- Website
- Discussions during the audit

Preliminary assessment and analysis of the experts:

The experts assess whether the intended learning outcomes of the Bachelor of Science programmes in Aquatic Resources Management (MSP), Aquatic Product Technology (THP) and Forest Resources Conservation and Ecotourism (KSHE) as defined by the Institute Pertanian Bogor (IPB) correspond to the competences outlined in the Subject Specific Criteria (SSC) established by the Technical Committee on Agriculture, Food Science and Landscape Architecture (TC 08). Based on their evaluation, the experts came to the following conclusion:

The ability to apply science and technology to the planning and management of sustainable and environmentally sound use of marine and freshwater resources is developed in graduates of the MSP programme. They will be equipped with the necessary skills to improve the

sustainable use of important aquatic resources associated with capture fisheries and aquaculture. The programme, which demonstrates high quality education, emphasises the promotion of environmental conservation and research through the sustainable management of aquatic resources. In addition, graduates are encouraged to disseminate information to the public to raise awareness of related environmental issues and their impact on biodiversity. Through their training, responsible practices and environmental concerns are addressed in the field, contributing to the overall goal of sustainable aquatic resource management.

Upon completion of the Aquatic Product Technology programme, graduates will have a comprehensive understanding of the fundamental principles of fisheries and marine science. They will have knowledge in a range of disciplines including natural sciences, mathematics, statistics, agricultural sciences, and economic and social sciences. They will also have an in-depth understanding of the principles of fisheries and marine science, enabling them to apply this knowledge to post-harvest fisheries, processing and biotechnology, including ichthyology, oceanography, aquatic ecology, capture fisheries, fish culture and aquatic product technology. Graduates of the programme will be able to master and develop the science and technology involved in the processing of aquatic products from capture fisheries and aquaculture. They will be able to formulate concepts for the development of new aquatic products to meet consumer demands, particularly in the area of processing, and apply management principles in business development in this area. This ensures that graduates are well prepared to meet the needs of industry and to contribute to the advancement of the field of aquatic product technology.

The programme objectives of the KSHE programme are concretised in eleven more specific and appropriate learning outcomes (LO). The LOs aim to enable students to acquire the necessary scientific skills, i.e. to know and to be able to apply theoretical concepts and scientific methods to address conservation issues, as well as those related to implementation practices in the field of forest and conservation policy. The LOs also target sustainable forest and wildlife management and planning practices, the integration of indigenous knowledge, and the ability to develop a range of soft skills such as communication, social responsibility and teamwork. They build on insights and demands from a range of stakeholders involving practitioners from forest research, administration and industry, academic staffs, students, and alumni who works in different professions. In general, the knowledge gained in the programme will enable graduates to find employment in local to national forest research institutes, management offices, administration, environmental NGOs and industry, and to address societal challenges such as climate change, biodiversity loss and land use conversion.

However, the KSHE programme should better align its learning outcomes with individual modules and the name of the programme. This includes addressing the imbalance between natural and social sciences, as important aspects of ecotourism are currently not adequately covered. To bridge this gap, it is recommended that business perspectives such as destination management, marketing, product development and sustainability be integrated into the curriculum. In addition, greater inclusion of social science disciplines such as sociology, anthropology and cultural studies would be beneficial for a comprehensive understanding of the social and cultural dimensions of ecotourism. By addressing these issues and broadening the curriculum, the programme will better prepare graduates to contribute to the sustainable development of ecotourism and to participate in critical decision-making within the industry.

In summary, the auditors are of the opinion that the objectives and intended learning outcomes of the three programmes under review are, with the exception mentioned, reasonable and well founded and correspond to level 6 of the European Qualification Framework. They are convinced that the intended qualification of the undergraduate programmes will enable students to take up a job appropriate to their qualification. They also learn that various stakeholders (alumni, industry and government representatives) are involved in the continuous review and development of the curricula. For example, industry representatives are regularly invited to give suggestions on the skills and expertise graduates must possess and which new materials or topics should be added to the curricula. While there is a national standard for curriculum design, IPB takes into account stakeholder feedback and incorporates their expertise by supplementing lectures with guest lecturers from the industry who address emerging issues.

This cooperation between IPB and, in particular, its industrial partners results in good opportunities for the graduates on the national job markets, as well as the opportunity to transfer to other academic programmes to complete a Master's or maybe even a PhD programme. Although the programmes are mainly aimed at the national market, the auditors noted that the students have a very high level of proficiency in English, which was very impressive.

The employers confirm during the audit interviews that there is a high demand for graduates from all three programmes. Furthermore, they emphasize that graduates from IPB University are their first choice because they are "quick learners" and able to adapt very quickly to the specific situations, bring new ideas and energy, are able to solve problems and could be a motor for SMEs. However, the industry representatives also stress that there is room for improvement in soft skills such as managerial, entrepreneurial and marketing/communication skills. The experts recommend strengthening these competences

within the programmes to better prepare graduates for the dynamic and innovative challenges of the respective industry.

Overall, all programmes aim to produce well-rounded professionals who are prepared to contribute to different sectors of their respective industries, while having the flexibility to explore career opportunities outside of them.

Criterion 1.2 Name of the degree programmes

Evidence:
- Self-Assessment Report
- Diploma Supplements
- Discussions during the audit
- List of laboratory equipment

Preliminary assessment and analysis of the experts:
The auditors confirm that the English translation and the original Indonesian names of the Bachelor's degree programmes Aquatic Resources Management and Aquatic Product Technology correspond with the intended aims and learning outcomes as well as the main course language.

The alignment of the learning outcomes, title and curriculum of the programme "Forest Resources Conservation and Ecotourism" is crucial for coherence, as described in criterion 1.1. At present, the programme appears to place less emphasis on the 'ecotourism' aspect, and this needs to be reflected more clearly in both the learning outcomes and the curriculum. Ensuring a balanced integration of both aspects will contribute to a comprehensive and accurate representation of the programme's focus and objectives.

Criterion 1.3 Curriculum

Evidence:
- Self-Assessment Report
- Study plan of the degree programme
- Curriculum handbooks
- Academic guidelines
- Module descriptions

- Objective-module matrices

- Discussions during the audit

Preliminary assessment and analysis of the experts:

After analysing the module descriptions and the curricula, the experts confirm that the three undergraduate programmes under review are divided into modules and that each module is a sum of coherent teaching and learning units. All working practice intervals (community service and field training) are well integrated into the curricula, and the supervision by the faculty allows for their respective quality in terms of relevance, content, and structure. In addition, the experts gain the impression that the choice of modules and the structure of the curricula ensure that the intended learning outcomes can be achieved.

The curricula consist of eight semesters, with a total of 144 credits, equivalent to 207 ECTS (European Credit Transfer and Accumulation System) credits. The programmes offer a comprehensive range of courses covering various aspects of food science and technology.

The curriculum for the KSHE programme covers a comprehensive range of subjects in conservation and environmental studies. Students explore topics including biology, economics, mathematics, ecology and policy. Through a combination of theoretical coursework, practical field experience and research projects, students develop a strong foundation in conservation principles and gain the skills necessary to address environmental challenges. The programme aims to provide students with a well-rounded understanding of the field, preparing them for careers in conservation and related fields.

The majority of courses in the KSHE programme are firmly rooted in the natural sciences, forestry and wildlife management, with a much smaller proportion devoted to social science and tourism subjects such as outdoor recreation, environmental education, environmental ethics and urban forestry. These social science and tourism subjects should be expanded to include further policy-oriented courses focusing on environmental protection, conservation and tourism.

It is noteworthy, that the ecotourism-related modules primarily approach the issue from a supply-side perspective. This approach overlooks the fact that tourism is fundamentally demand-driven, making knowledge of (international) markets essential for effective ecotourism planning and management. To bridge this gap, it is crucial to broaden the curriculum to include content that addresses the business aspects of ecotourism, such as destination management, marketing, product development, supply chains and market structures. This will bring the learning outcomes of the KSHE programme more in line with its name and provide a comprehensive understanding of ecotourism management from both a demand and supply perspective.

The MSP curriculum covers a wide range of subjects, from basic courses in the first semester such as Religion, Indonesian, Agricultural Science, Mathematics, Chemistry, Biology and Economics, to more specialised subjects such as Aquatic Ecology, Fisheries Biology, Aquatic Pollution and Fisheries Resource Management. Throughout the programme, students gain in-depth knowledge and skills in areas such as limnology, water quality, aquatic ecology and fish population dynamics. Practical components, including community outreach activities, provide students with hands-on experience and opportunities to apply their knowledge in real-world scenarios. The curriculum culminates in a seminar and final project, allowing students to demonstrate their expertise in aquatic resource management.

The THP curriculum begins with basic courses such as Innovative Agriculture, Basic Biology, Technology and Science, Chemistry, Mathematics and Economics. As students progress, the focus shifts to specialised subjects such as aquatic ecology, ichthyology, aquaculture basics, capture fisheries methodology and aquatic product processing technology. These courses provide in-depth knowledge and practical skills related to aquatic ecosystems, fish biology, aquaculture practices and processing techniques. The curriculum also emphasises quality assurance and safety in aquatic product technology through courses such as Quality Management and Seafood Safety Systems, Standardisation and Integrated Quality Assurance, and Toxicology and Safety of Aquatic Products.

By the end of the programmes, students will have acquired a specialist understanding of various aspects of their respective fields. They will be equipped with both theoretical knowledge and practical skills to address complex challenges in the aquatic resources management, aquatic product technology and forest conservation and ecotourism. The progression of the curricula from basic to specialist knowledge ensures that students are well prepared for successful careers in their chosen disciplines.

Students are usually required to do community service in their final year. Programme co-ordinators explain that community service is compulsory for all Indonesian students. It lasts a minimum of four weeks and usually takes place in villages or rural areas where students stay and live with the local people. The course is designed to enable students to apply their knowledge in their field of study in order to empower society. During the audit, the experts learn that the students work on concrete tasks/contents in coordination with their supervisors and that they feel well supervised in the process. The evaluation of the community service consists of a work plan, the implementation of the programme and an activity report.

By integrating opportunities for work placements, fieldwork and community service into the curricula, students are well connected to the local and regional environment and

guided by the idea of interdependent social-ecological systems and the close link between forest conservation and societal well-being.

The curricula are regularly reviewed according to the Standard Operational Procedure (SOP) and feedback is received from various stakeholders, including students, lecturers, alumni and private sector partners. While minor changes are made on an ongoing basis, the curricula are revised and reviewed in more detail every five years. It is also aligned with, the Indonesian National Qualifications Framework and industry recommendations. The curricula effectively address the needs of IPB's stakeholders and Indonesian society.

As part of the K2020 curriculum redesign, significant changes have been implemented to meet the requirements of stakeholders. The revised curriculum emphasises the development of students' communication and collaboration skills, critical thinking and creativity in both general and specialised in the respective fields.

The departments have successfully implemented student-centred learning and participatory teaching methods in various courses. This approach emphasises the active involvement and participation of students in their learning journey. Many courses within the three programmes have successfully incorporated project-based learning, allowing students to actively participate in hands-on projects and collaborative activities. Through these student-centred approaches, students are empowered to take ownership of their education, enhance their problem-solving skills, foster creativity and develop critical thinking skills. This learner-centred environment fosters a dynamic and interactive learning experience, enabling students to apply theoretical knowledge to real-world scenarios and develop practical skills relevant to their field of study. Feedback from both students and teachers on these modules has been overwhelmingly positive, with the workload perceived to be reasonable based on calculations.

The experts discuss with IPB how students are encouraged to improve their English language skills. They learn that different courses are available to familiarise students with subject-specific English vocabulary and expressions. Furthermore, the integration of English literature is evident through the recommended reading in the module descriptions. At present, some IBP programmes already offer fully English taught international classes, a feature that is highly valued by experts and stakeholders who have expressed satisfaction with the English language skills of IBP students. However, in order to further enhance the international attractiveness of IBP, the experts recommend the introduction of international classes in all undergraduate programmes.

Both students and representatives of industry and public institutions are satisfied with the overall composition of the curricula. However, as noted in Criterion 1.1, industry representatives would like to see more emphasis on soft skills such as managerial, entrepreneurial

and marketing/communication skills. The experts recommend strengthening these competences in the three programmes under review in order to better prepare graduates for the dynamic and innovative challenges of industry.

Overall, the experts are satisfied with the curricula. They see that the programmes are well-structured and that the modules build on each other in a reasonable way, enabling the students to effectively reach the learning outcomes as laid down for the programme.

Mobility

Since 2020, the MBKM programme provides students with the opportunity to earn up to 40 SCU (equivalent to 2 semesters) outside the university, and up to 20 SCU (equivalent to 1 semester) outside the field of their study programme. This programme offers various possibilities for students, including internships in industry, research, independent projects, student exchanges, teaching assistance in education units, entrepreneurship, building a village, and humanitarian projects.

The MBKM-programme is optional for students. They are required to consult with their academic supervisor to determine their MBKM programme and fill out a Learning Agreement accordingly. The number of credit points students can earn by participating in one of the activities in the MBKM programme for a single semester depends on their workload.

There are two options for participation in the MBKM programme: full-time and part-time. Full-time participation involves leaving the campus for one semester without attending regular lectures, while part-time participation allows students to utilize their spare time between academic activities on campus.

International student mobility has not yet been extensively integrated into the curricula. However, students have been actively involved in virtual international activities, which serve as valuable extracurricular experiences. IPB has provided data showing the significant number of students who have taken advantage of these opportunities. Recognising the importance of such experiences, future curricula will include mechanisms to include extracurricular activities in the calculation of semester credit load (SCH), allowing for a more balanced approach and further opportunities for international mobility.

The reviewers were informed that IPB University has established numerous international partnerships and developed a scholarship programme. In addition, the university offers scholarships to foreign students who wish to study at IPB. Universities involved in student exchange programmes include Kangwon National University in the Republic of Korea, Kookmin National University in the Republic of Korea, Tokyo University of Agriculture in Japan,

the Faculty of Forestry at the University of British Columbia in Canada, Universiti Putra Malaysia in Malaysia, the University of Göttingen in Germany, and the Faculty of Agriculture at Kasetsart University in Thailand.

The experts consider that the emphasis on international mobility in the programmes evaluated is highly commendable and adds significant value to the overall educational experience. The active promotion and facilitation of student participation in various international opportunities demonstrates a strong commitment to fostering global perspectives and intercultural understanding. The establishment of collaborations with numerous universities around the world underlines the programmes' commitment to widening the scope of international mobility beyond South East Asia. The significant number of students engaged in international experiences and the reciprocal exchange of international students further illustrate the programmes' success in this area. Overall, the emphasis on international mobility is a notable strength that enriches the educational environment and prepares students for global engagement.

Criterion 1.4 Admission requirements

Evidence:
- Self-Assessment Report
- Academic Guidelines
- Websites
- Discussions during the audit

Preliminary assessment and analysis of the experts:
According to the Self-Assessment Report, the admission procedure is carried out centrally by the Directorate of Educational Administration. The requirements, the schedule and the registration venue are announced on the University's webpage and published in form of a Guidance Book as well. Therefore, the admission system is accessible for all stakeholders.

There are three main schemes by which students can be admitted to a Bachelor's programme at IPB:

1. National Entrance Selection of State Universities (Seleksi Nasional 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 written test (subjects: mathematics, Bahasa Indonesia, English, physics, chemistry, biology, economics, history, sociology, and geography).

3. Admission based on Talent Test (*Ujian Talenta Masuk IPB* - UTM). Written test conducted by IPB.

In addition to the conventional admission routes, IPB offers alternative pathways for admission, including those based on international achievements or regional representative scholarships, which account for a smaller portion of the overall admission process.

The admission website informs potential students in great detail about the requirements and the necessary steps to apply for admission into the programmes. Since the rules are based on decrees by the ministry of education and on the university's written regulations, the experts deem them binding and transparent.

Criterion 1.5 Workload and Credits

Evidence:
- Self-Assessment Report
- Study plan of the degree programme
- Curriculum handbooks
- Survey of student satisfaction related to the workload
- Module descriptions
- Discussions during the audit
- Students handbook

Preliminary assessment and analysis of the experts:
Based on the National Higher Education policy, the FTSP uses a credit point system called SKS. In comparison to ECTS credit system, wherein 1 ECTS equals 25-30 hours of students' workload per semester, it is determined that 1 SKS is awarded for 170 minutes of workload per week and the relation between the different kind of learning (contact hours, self-studies) is fixed. Most of the modules are rather small and encompass between 1 and 3 SKS. A standard 3 SKS module is approximately equals 4 ECTS. Therefore, to reach the usual workload, students need to take on average 18 SKS per semester. However, the regular schedule usually covers 19-21 SKS per semester to give more space in the last semesters for final projects, or more electives. If a student is not satisfied with his GPA, she or he can repeat the classes, but this will lead to a prolongation of the study time.

According to the Self-Assessment Report, the expected time to complete the programmes is 8 semesters. The average length of study varies between 8.6 semesters for the MSHO,

8.9 semesters for the KSHE and 9.5 semesters for the THP. A number of corrective measures have already been taken to compensate for this slight delay, which is mainly due to the implementation of the final year project. However, the impact of these corrective measures can only be assessed when the restrictions imposed by Covid 19 no longer affect the study. The experts appreciate these efforts.

Overall, the experts gain the impression that workload of the three undergraduate programmes is generally suitable and that modules are adequately credited.

Criterion 1.6 Didactic and Teaching Methodology

Evidence:
- Photos and videos of laboratories
- Self-Assessment Report
- Module descriptions
- Samples of lecturer evaluation by students
- Websites
- Discussions during the audit

Preliminary assessment and analysis of the experts:

IPB University aims to support the transition from teacher-centred to student-centred teaching in order to involve all students in the learning process and to develop their thinking and analytical skills. Among other methods, blended learning is being introduced as a modern way of teaching. The use of e-learning elements in the learning process allows for classroom activity without physical presence. In this respect, IPB's Lecture Management System and other internet resources are actively used to provide students with course materials. In order to support and guide teachers in the use of these tools, all members of the teaching staff have attended workshops on blended learning.

All three programmes use several different teaching methods for each course, such as practical laboratory work, field studies, lectures, community service and the final research project.

Active and interactive teaching methods (e.g., lectures, discussions, reports, presentations and group work) are used in the classroom. IPB aims to encourage students to acquire knowledge from different scientific fields and to introduce them to research activities. This should ultimately contribute to the transition from a teacher-centred to a student-centred approach to learning.

In addition, with the 2020 curriculum, IPB has tried to implement teaching methods that better prepare students for their working lives and are closer to the expected cases they will be working on. Therefore, they added problem-based learning to strengthen students' communication and collaboration skills, critical thinking and creativity.

In summary, the expert group judges that the teaching methods and tools are appropriate to support students in achieving the intended learning outcomes. In addition, they confirm that the study design the three programmes under review includes a variety of teaching and learning methods and practical parts, adapted to the respective subject culture and study format. Students are actively involved in the design of teaching and learning processes (student-centred teaching and learning).

Another tool IPB uses to improve the diversity of teaching and learning is the invitation of guest lecturers from the industry or alumni who are able to convey practical experiences and present examples of how the contents of the study programme are applied in practice. The experts welcome this approach and recommend deepening the efforts since they could learn during the discussion with the industry representatives that this exchange is highly valued by them and that all parties benefit from the opportunity to cooperate.

During the discussions with the programme coordinators and the teaching staff, the experts learn that the teaching staff tries to implement English assignments such as presentations and written homework to support the English language proficiency of the students. Some of the face-to-face teaching is also held in English depending on the lecturer.

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

Criterion 1.1, 1.2 & 1.3 KSHE

Option 1: Positive Assessment

IPB has submitted the new learning outcomes, accompanied by the updated version of the KSHE curriculum. These learning outcomes have been refined, aligning them more closely with the program's name and content. IPB elaborates on the incorporation of business and social science aspects into certain courses, and how community service and field practice courses blend theory and practice effectively.

The experts thoroughly review the new learning outcomes and the provided explanation, and they express satisfaction with the efforts made by IPB in aligning the program's content, learning objectives, and its name.

Criterion 1.3

The experts are impressed by the various approaches taken to improve students' exposure to English courses and exchange opportunities. They believe these programs and measures will contribute to raising the international standard among students and support IPBS's plan to increase the number of international classes.

The experts consider criterion 1 **fulfilled/partly fulfilled.**

2. Exams: System, Concept and Organisation

Criterion 2 Exams: System, concept and organisation

Evidence:

- Self-Assessment Report
- Module descriptions
- Examination regulations
- Curriculum handbooks
- Samples of student's work (projects, exams and thesis)
- Statistical data
- Websites
- Academic Calendar

Preliminary assessment and analysis of the experts:

According to the Self-Assessment Report, the students' academic performance is evaluated based on their attendance and participation in class, their laboratory works, assignment reports, homework, presentations, mid-term exam, and the final exam at the end of each semester. The system, concept, and organization of exams are stated in the Guidance Book of Bachelor Degree Programmes of the University, which is available to the students and faculty members in printed and electronic forms. Everyone can access the Guidance Book via website of the University also. All final exams take place within a certain timeframe at the end of each semester. This timeframe (exam weeks) is communicated at the beginning

of each academic year. Before the exam week there is a preparatory week offered for students to prepare intensively for their final exams.

If a student fails, he or she must take a remedial exam in order to pass the courses or repeat the entire module in the following semesters. The further details are described the Academic Guidelines.

The experts discussed also the availability of special measures for students with disabilities or illnesses when examinations take place. They learn that IPB University has regulations for disability compensation, which include the extending deadlines, leave of absence (one semester break), alternatives examination forms.

In addition to the course assessments, undergraduate students are required to complete a final project in the form of a bachelor's thesis. The final year student fulfilling the academic performance requirements is admitted to the final stage consisting of the following items: preparation phase (proposal drafting), research implementation, writing the thesis, seminar (presentation of preliminary findings), and thesis exam. In the preparation phase, students need to prepare and submit a research proposal including a suitable topic to the Thesis Advisory Committee. The Committee reviews the proposal and decides about the supervisor, who mentors the student until the final report submitted and presented. Assessment of the thesis exam is conducted by a supervisor, an examiner, and a chairperson of the degree examination session.

The experts observed that the examination formats documented in the module handbooks were not always appropriately matched to the nature of the course, highlighting the need for improvement in this matching. To address this issue, it is recommended that the relevant modules incorporate a greater number of project-based assignments such as project reports, term papers, presentations and case studies. By incorporating these practical assignments, students will be able to enhance their applied skills and deepen their understanding of the subject matter. In addition, it is proposed that the Scientific Writing course should not include a written examination, but rather focus on a practical exercise in scientific writing, such as a scientific research paper or a small research project, in preparation

for the Bachelor's thesis. This approach will allow students to develop and refine their scientific writing skills and better equip them for future academic endeavours.

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

In conclusion, the experts note that all relevant examination regulations are in place and well communicated in a transparent way. The forms of exams are oriented toward the envisaged learning outcomes of the respective courses, and the workload is distributed in an acceptable way.

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

IPB does not comment on criterion 2.

The experts consider criterion 2 **fulfilled**.

3. Resources

Criterion 3.1 Staff and Staff Development

Evidence:
- Self-Assessment Report
- Staff Handbook
- Samples of lecturer evaluation by students
- Study plan of the degree programme
- Module descriptions
- Websites
- Discussions during the audit

Preliminary assessment and analysis of the experts:
At IPB, the staff members have different academic positions. There are professors, associate professors, assistant professors, lecturers, and assistant lecturers. 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.

After reviewing the staff handbooks associated with each programme, the experts confirm that the current faculty is sufficiently qualified and in sufficient numbers. It is worth noting that many lecturers have PhDs from overseas institutions and have returned to IPB. This enriches their expertise with up-to-date knowledge and an international perspective, which they effectively impart to the students. As a result, the qualifications and diverse backgrounds of the faculty contribute to a well-rounded educational experience at IPB.

However, after careful evaluation, the experts have identified a need for future expansion of the existing staff to include the required marketing and management skills, and ideally social sciences competencies in order to adequately reflect the ecotourism part of the KSHE programme. It is recommended that a staff development plan be developed to facilitate this expansion and to address potential retirements in order to ensure the sustainability and continued excellence of the programme. This development plan should prioritise the recruitment and training of professionals with expertise marketing and destination management to enable them to contribute effectively to the programme's curriculum and provide students with a comprehensive educational experience. The experts learned that there will be a generational change over the next few years and that new staff will need to be recruited. By implementing such a plan, the institution will be able to maintain its commitment to academic breadth and enhance its capacity to offer a diverse range of courses and disciplines to meet the evolving needs and expectations of both students and the wider academic community.

The experts discussed with IPB's management how new staff members are recruited. They learn that every year the faculties and departments announce their vacancies to the University's management. Since IPB is semi-autonomous, they can decide themselves what staff members to hire.

The experts also inquired whether there are any requirements for staff members to hold practical experience when applying to IPB. During discussions with the University's management, it is clarified that practical experience has importance for the academic staff, particularly for those practitioners involved in teaching in vocational schools. As regards the faculty, staff positions are mostly taken by PhD degree holders, therefore, the requirements mainly addressed the scientific profile with the capability to apply theory in the field of research.

The auditors are impressed at how the staff members and programme coordinators are engaged to the teaching process, and certainly, this atmosphere of understanding and support is one of the strong points of the degree programmes.

In summary, the experts confirm that the composition, scientific orientation and qualifications of the teaching staff are suitable for successfully implementing and sustaining the

programmes, while the tourism expertise should be strengthened in the future for the KSHE programme.

In order to encourage the training of its academic and technical staff, IPB University has developed a programme for improving the didactic abilities and teaching methods. One part of the capacity-building programme focuses on subject-specific skills (to keep up with current developments and trends in the areas of the programmes under review), whereas other training courses are intended to further improve the teachers' didactic skills and to introduce new teaching methods (e.g., blended learning, project based learning).

The professional and scientific development of the staff members is coordinated both at the University and faculties level. There are financial resources available for staff members to go abroad for a limited time and to take part at conferences or other events in order to stay up to date with the scientific development in their area of expertise. In addition, all three faculties want to promote the process of internationalisation at IPB by hosting international scientific events, facilitating sabbatical leaves, and inviting international professors.

The experts 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 IPB University, their opportunities to further improve their didactic abilities and to spend some time abroad to attend conferences, workshops or seminars.

Additionally, the experts pay attention to the scientific research that is funded by the industry, and to what extent the students can take part in such activities together with the lecturers. In this regard, programme coordinators and lecturers alike refer to examples of research projects IPB carries out in cooperation with the industry. According to the University, the purpose of such collaborations is to implement innovations currently needed by the industry, and to form industrial atmosphere at the campus as well. In order to strengthen the bridge between science and industry, a Science-Techno Park has been developed at the campus.

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

Criterion 3.2 Student Support and Student Services

Evidence:

- Self-Assessment Report

- Curriculum handbooks

- Students handbook

- Discussions during the audit

Preliminary assessment and analysis of the experts:

IPB University offers a comprehensive advisory system for all undergraduate students. At the start of the first semester, the academic supervisors are assigned to students. The role of the academic supervisor is to help the students with the process of orientation during the first semester, 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. The students confirm during the discussion with the experts that they all have an academic advisor.

The university has also implemented a mentoring system with the aim of fostering student development. The system brings numerous benefits, including promoting collaboration and a sense of community among faculty members, facilitating effective pedagogical practices, offering personalized support, and enabling experienced faculty members to contribute to the professional growth of their experts. This initiative reflects the university's dedication to enhancing the quality of education and creating a supportive learning environment for students.

In conjunction with the academic and mental support, IPB provides financial support for students with economic difficulties. In addition, the University manages and distributes scholarships to assist students with high academic performance.

During the audit, the experts learn that students sometimes struggle with the financial burden associated with their thesis work, which can affect their ability to carry out thorough research. The experts therefore recommend that financial support be provided to alleviate this burden and allow students to devote more time and resources to their thesis projects. Adequate funding can cover expenses such as research materials, equipment, data collection and even travel costs for fieldwork, if necessary. Such support will not only enhance the quality and scope of students' research, but also contribute to their overall academic development.

The University also provides student counselling services and medical center services for personal problems a student might face. Students' interests and talents are furthermore

facilitated through several centers, such as the career development center or the scholarship information portal. In order to provide students with sufficient information about the available support and assistance, IPB distributes a Guidance Book for Bachelor's degree students that is regularly updated. All necessary information can also be found on IPBs websites.

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

Criterion 3.3 Funds and equipment

Evidence:
- List of laboratories and equipment
- Photos and videos of the facilities
- Partnership agreements
- Recapitulation of budget
- Self-Assessment Report
- Discussions during the audit

Preliminary assessment and analysis of the experts:
The experts had a close look at the equipment used for practical training in the laboratories. They saw an advanced research laboratory equipped with the latest research technology and some research laboratories equipped with research equipment representing the current state of the art. The research equipment in these laboratories is provided to support research staff and postgraduate students. In contrast, the technical equipment in the laboratories used only for the training of undergraduate students is at a very basic level. Most of the bachelor students are looking for jobs in industry after graduation, and in industry they usually have to work with more modern research equipment than is offered for teaching at the IBP. Therefore, the experts suggest that (A) the undergraduate students should also be given an insight into the use and possibilities of the research equipment available in the advanced laboratory and the research laboratories, and (B) the students should also be offered more modern analytical equipment in the teaching laboratories.

Basic funding of the degree programmes and the facilities is provided by the IPB University. Additional funds, e.g. for research activities or special equipment, can be provided by IPB or by the National Indonesian Government, but the teachers have to apply for them.

The experts are satisfied that the teaching and office facilities, libraries and computer labs which are adequate for all students and staff. The experts can also assess that safety measures, such as safety policies and protocols, fire extinguishers and emergency showers, are available and in line with international guidelines. Students are also required to undergo safety training in order to work in the laboratories.

In summary, the experts confirm that current funding allows standards to be maintained and additional instrumentation to be purchased if required, that IPB University generally has sufficient workspace and laboratories, and that all laboratories are equipped with modern and sophisticated instrumentation.

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

Criterion 3.1

The experts acknowledge that IPB has already proposed an application for new teaching staff and is aiming to recruit 7 qualified lecturers in the fields of Communication and Community Development, Natural Resource and Environmental Economics, and Ecotourism by 2027, with the purpose of bolstering the social and tourism domain.

Furthermore, IPB leverages the expertise of guest lecturers to impart practical insights on Forest Resources and Conservation and Ecotourism.

The experts commend these proactive efforts, noting that IPB has diligently analyzed its staff situation and actively seeks improvement.

Criterion 3.2

The experts note that most students involved in research projects with their supervisors do not incur material costs. However, they emphasize the need for IPB to consistently support students who are not part of their lecturers' research projects and to inform them about possible funding options.

Criterion 3.3

The experts are highly confident in the overall quality and satisfaction level of the equipment available to students. They appreciate IPBS's drive to enhance the equipment further, emphasizing that their main concern was the availability of modern tools in the teaching environment.

The experts consider criterion 3 **fulfilled.**

4. Transparency and documentation

Criterion 4.1 Module descriptions

Evidence:

- Module descriptions
- Websites

Preliminary assessment and analysis of the experts:

The students, as well as all other stakeholders, have access to the module descriptions via IPB's homepage. The more detailed syllabus is handed out to the students by the lecturers at the beginning of each semester. The syllabus includes a practical guideline and detailed description of the practical parts of each course.

After reviewing the module descriptions, the experts confirmed that they contain most of the essential details, including information on the module coordinators, teaching methods, workload, credit points awarded, intended learning outcomes, content coverage, applicability, admission and examination requirements, as well as assessment methods and a comprehensive explanation of how the final grade is calculated.

However, the experts noted that some of the module descriptions submitted were outdated and not in line with accreditation requirements. The same applies to the recommended literature that in many cases is too old and needs to be updated to represent the state of the art. To remedy this, the experts are asking IPB to provide module descriptions specifically tailored to the 2020 curriculum. The updated module descriptions must include all modules taught in the programmes to ensure comprehensive coverage. In addition, it is essential to include the correct allocation of ECTS credits for each module to ensure accurate credit calculation and workload assessment.

In addition, the experts state that it is crucial to demonstrate the changes and improvements made in the new curricula. This includes highlighting the use of innovative teaching methods, such as project-based learning, and clearly outlining how these methods enhance the student learning experience and align with the intended learning outcomes.

Updated versions of the module handbooks must be uploaded to the relevant websites and be accessible to all stakeholders.

Criterion 4.2 Diploma and Diploma Supplement

Evidence:

- Sample Transcript of Records
- Sample Diploma certificate
- Sample Diploma Supplement

Preliminary assessment and analysis of the experts:

The experts confirm that all students receive a diploma and a diploma supplement upon graduation. The diploma consists of a diploma certificate and a transcript of records. The transcript of records lists all the courses taken by the graduate, the credits earned, the grades and the cumulative GPA. The Diploma Supplement contains information about the degree programme, including soft skills acquired and awards (extra-curricular and co-curricular activities). However, it does not currently provide information on the ECTS credits earned, which is necessary for potential employers to properly assess a student's performance and depth of knowledge. Therefore, IPB has to add this information.

Criterion 4.3 Relevant rules

Evidence:

- Self-Assessment Reports
- Curriculum handbooks for all degree programmes
- Academic Guidelines
- Examination regulations
- All relevant regulations as published on the university's website

Preliminary assessment and analysis of the experts:

The auditors confirm that the rights and duties of both IPB and the students are clearly defined and binding. All rules and regulations are published on the university's website and hence available to all relevant stakeholders. In addition, the students receive all relevant course material in the language of the degree programme at the beginning of each semester.

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

Criterion 4.1

IPB submits new module handbooks for the updated curricula. While the new handbooks meet all formal requirements, some modules may need to have their references updated.

Criterion 4.2

IPB does not comment on this criterion.

The experts consider criterion 4 **partly fulfilled.**

5. Quality management: quality assessment and development

Criterion 5 Quality management: quality assessment and development

Evidence:

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

Preliminary assessment and analysis of the experts:

The experts learn that there are two levels of quality assurance. The first level is external quality assurance, which consists of an external review of IPB's study programmes by the National Higher Education Accreditation Body (BAN-PT). All study programmes received an "A", which means "Unggul (Excellent)" in the new BAN-PT rating. The second level consists of an internal quality assurance system carried out by different actors.

The first actor at the university level is the Quality Management and Internal Audit Office (KMMAI). Its role is to develop and monitor the university's quality assurance system in order to continuously improve the quality and accountability of academic and non-academic programmes throughout the university. It follows a Plan-Do-Check-Action (PDCA) cycle.

At faculty level, IPB has established Quality Assurance Groups (Gugus Penjamin Mutu, GPM) that work in close collaboration with the Quality Control Units (Gugus Penjamin Mutu, GPM) at departmental level. While the Vice-Dean coordinates the GPMs, the Secretary of the Department coordinates the GKMs.

IPB University presents the published document "Quality Assurance System for undergraduate programmes (IQAS/SPM (Internal Quality Assurance System))", complying with the

University's Education Quality Standards for Education. The regulations encompass all core processes of the University and the respective quality assurances measures, processes and responsibilities. All of the mentioned quality assurance units on the different levels use this tool to work towards the same standard.

The IQAS mandates regular monitoring, assessment, and audit of quality achievement, involving students, alumni, and graduate users. Students are involved in assessing the learning process, while alumni and graduate users evaluate the outcomes of graduates through tracer studies. There are seven quality standards for BSc degree programmes at IPB University, covering various aspects of education and research:

1. Standard-1: Vision, Mission, Objectives, and Targets, as well as Strategic Programmes. This standard ensures that the vision, mission, objectives, and targets of the BSc degree programmes are well-defined and aligned with the overall goals of IPB University. It also includes strategic programes to support the achievement of these objectives.

2. Standard-2: Government, Leadership, Management, and Quality Assurance Systems. This standard focuses on the governance structure, leadership, and management of the BSc degree programmes. It ensures that effective systems for quality assurance are in place to maintain educational standards.

3. Standard-3: Students and Graduates. Standard-3 emphasizes the well-being and success of students throughout their academic journey. It includes aspects such as student support services, student development, and the overall satisfaction and performance of graduates.

4. Standard-4: Human Resources. This standard addresses the quality and competence of faculty members and staff involved in delivering the BSc degree programmes. It includes aspects such as recruitment, professional development, and the evaluation of teaching staff.

5. Standard-5: Curriculum, Learning Process, and Academic Atmosphere. Standard-5 focuses on the curriculum design, the learning process, and the overall academic environment offered to students. It ensures that the curriculum is relevant, the teaching methods are effective, and the academic atmosphere is conducive to learning.

6. Standard-6: Funding, Infrastructure, and Information Systems. This standard covers the availability of adequate funding, infrastructure, and information systems to support the delivery of BSc degree programmes. It ensures that the necessary resources are provided to facilitate effective teaching, research, and learning.

7. Standard-7: Research, Community Empowerment, and Collaboration. Standard-7 emphasises the importance of research, community engagement, and collaboration within the BSc degree programmes. It encourages research activities, partnerships with external stakeholders, and contributions to the development of the community.

Two important tools highlighted by IPB are the curriculum evaluation and development process and the evaluation of teaching and learning.

Curriculum evaluation aims to improve programmes and ensure relevance to current issues and developments. The evaluation process involves various stakeholders and takes place every five years. Feedback from alumni and stakeholders is used to adapt the curriculum. In 2014, the curriculum was enhanced by incorporating new courses such as KKNT (Knowledge, Skills, and Attitudes for Natural Resource Management) and Field Work. These additions provided students with more opportunities to learn independently in the field, interact with the community and engage in entrepreneurial activities. In addition, a new curriculum was introduced in 2020 with a focus on the demands of the Industrial Technology 4.0 era. This curriculum encouraged students to take enrichment courses of approximately 20 credits in total. These courses aimed to enhance students' competence through independent learning activities. In addition, the curriculum emphasised the development of students' character by offering various opportunities such as student exchanges, internships/field placements, teaching in schools, research projects, humanitarian initiatives, entrepreneurial activities, independent projects and village development projects. Overall, the 2014 and 2020 revisions aimed to improve the relevance of the curriculum, encourage student engagement and enhance the overall student learning experience.

The learning evaluation is completed online by students each semester. Ten elements of courses are evaluated, including course design, delivery of materials, knowledge acquisition, attendance, independent work, teaching materials, teaching facilities, examination questions and prompt notification of examination results. Quality assurance activities include planning, implementation, monitoring and evaluation with the aim of improving the teaching and learning process. Student satisfaction is assessed through the Evaluation of the Teaching and Learning Process (EPBM), which provides feedback on course parameters and lecturer performance. The EPBM results for all departments are consistently good, with no negative impact on student participation or feedback.

During the audit, the experts discuss the quality management system at IPB with the rectorate representatives, programme coordinators and the students. They concluded that IPB has established a well-organised system of quality assurance that involves all relevant

stakeholders. All programmes and courses are constantly under review for further development. Students learning outcomes throughout the whole student life cycle are monitored through various surveys and the results are used to improve the quality of the degree programmes. In this regard, it is particularly noteworthy that the faculty seems to have succeeded in establishing a remarkably responsive feedback culture between teachers and students. During the discussions, students report that their assessment of the courses and their criticism of the work of University' services are taken seriously and that they feel well informed about the follow-up to any critical remarks. The lecturers also confirm the trusting and cooperative relationship in the teaching/learning community at the faculties. Moreover, IPB University and the Faculty of Fisheries and Marine Sciences and Faculty of Forestry and Environment maintain close contact with their alumni, who also support the Faculty by raising funds.

The experts learn from the representatives of IPB's partners from public institutions and private companies that 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. The experts see that changes in the curriculum are implemented as a result of feedback from employers.

The experts found a very open and innovative attitude to addressing disadvantage, for example in recruiting candidates from remote areas of Indonesia. Several measures have been taken to support female staff (e.g., childcare) and staff with disabilities. IPB has created a new central unit to meet their needs.

However, when it comes to students with disabilities or chronic illnesses, the experts could not find a consistent policy or strategy on the direction IPB is taking. Similarly, in the area of gender equality, no pathways or objectives were identified. The fact that only full-time positions are offered seems to be one of the limiting factors for women to apply for a position at IPB.

The experts recommend that IPB proactively addresses at least the most common diversity issues (such as age, gender, race, religion, sexual orientation, physical and mental (dis)ability, etc.), not only prohibit discrimination on these grounds, but actively promote diversity.

In summary, the expert group confirms that the quality management system is suitable for identifying weaknesses and improving the programme. All stakeholders are involved in the process.

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

The experts recognize that IPB has taken steps towards promoting equality. However, they suggest developing a clear vision or plan to further strengthen these efforts. Having a well-defined strategy can guide IPB in continuously enhancing equality and inclusivity within the university community. By setting clear objectives and implementing targeted initiatives, IPB can foster an environment where everyone feels valued and respected.

The experts consider criterion 5 **fulfilled.**

D Additional Documents

No additional documents needed.

E Comment of the Higher Education Institution (29.07.2023)

Criterion 1.1:

The peers advise KSHE programme should better align its learning outcomes with individual modules and the name of the programme. This includes addressing the imbalance between natural and social sciences, as important aspects of ecotourism are currently not adequately covered. To bridge this gap, it is recommended that business perspectives such as destination management, marketing, product development and sustainability be integrated into the curriculum.

Based on the Curriculum Evaluation in 2019, the KSHE 2014 has been revised into KSHE K2020 Curriculum and the current curriculum has address such issues described in the K2020 Learning Outcomes (LO) (https://kshe.ipb.ac.id/kurikulum/) of which 8 out of 11 LOs addressing ecotourism. The KSHE K2020 LOs are as follow:

1. Able to comprehend the theoretical concepts of forest conservation, biodiversity, ecotourism and environmental services.
2. Able to educate the general public about the importance of forest conservation, biodiversity, ecotourism and environmental services.
3. Able to describe and implement policies, legislation and regulations related to ecosystem management. wildlife management, management of bioprospection and plant conservation, environmental and geospatial analysis, and management of ecosystem-environmental services, outdoor recreation and ecotourism.
4. Able to adopt the traditional wisdom of the community and to develop this traditional wisdom in the fields of ecosystem management, wildlife management, management of bioprospection and plant conservation, environmental and geospatial analysis, and management of ecosystem-environmental services, outdoor recreation and ecotourism.

5. Able to plan area management, which includes the areas of: ecosystem management, wildlife management, management of bioprospection and plant conservation, environmental and geospatial analysis, and management of ecosystem-environmental services, outdoor recreation and ecotourism.

6. Able to manage sustainable use in the areas of ecosystem management, wildlife management, management of bioprospection and plant conservation, environmental and geospatial analysis, and management of ecosystem-environmental services, nature recreation and ecotourism.

7. Able to preserve genetic resources and germplasm on site.

8. Able to develop genetic resources and germplasm in the field of wildlife management and management of plant bioprospection and conservation.

9. Able to mobilise resources in the management of protected areas, wildlife, bioprospection and conservation of plant biodiversity, ecosystem-environmental services; outdoor recreation & ecotourism.

10. Able to apply an interdisciplinary approach in the field of ecosystem management, wildlife management, management of bioprospection and plant conservation, environmental and geospatial analysis, and management of ecosystem-environmental services, outdoor recreation and ecotourism.

11. Able to convey thoughts in the form of scientific writing and oral communication well.

The KSHE K2020 Curriculum offers a balanced courses between the natural and social sciences. As an improvement of the K2014 Curriculum and to enhance the portion of social science learnings in the programme, the KSHE K2020 curriculum added courses on *Communication and Social Science Conservation (*https://kshe.ipb.ac.id/semester-4/*)* also on *Conservation Business* (https://kshe.ipb.ac.id/semester-6/*)*. The latter focuses on the business perspectives of ecotourism as well as its supply (flora, fauna). In addition, some courses have been given more loads on social science contents which in turn have improved the name of the course, for example: Forest Ethnobiology becomes *Ethnobiology and Bioprospection (*https://kshe.ipb.ac.id/semester-5/*)*; Medicinal Plant Conservation becomes *Forest Medicinal Plant and Food* (https://kshe.ipb.ac.id/semester-6/*)*; Protected Area Management *becomes Protected Areas and Essential Ecosystems* (https://kshe.ipb.ac.id/semester-7/). This is to highlight and justify the importance of ensuring "people" aspects are noticed and acknowledge in this study programme. Any content pertaining to the Local Community, presents social aspects and allow the students to conduct research on issues on policy and government, history and geography, local environment, or business of the local area.

For semester 7 KSHE students, they will undertake field practice on Protected Area Management, Ecotourism and Environmental Services for a total of 30 days.

The peers recommend strengthening the competences of the students within the programmes (soft skills such as managerial, entrepreneurial and marketing/communication skills) to better prepare graduates for the dynamic and innovative challenges of the respective industry.

In order to strengthen soft skills of the students within the programmes (soft skills such as managerial, entrepreneurial and marketing/communication skills) to better prepare graduates for the dynamic and innovative challenges of the respective industry, the study programmes provide capstone courses which are project based learning, field activities, enrichment courses (including Management, Marketing, Entrepreneurship, Agribusiness, Communication, Consumer Behaviour), extracurricular, internship in the programme of MBKM (Emancipated Learning) etc. For example, field activities are also intended to improve the student skills for communication and decision-making.

For semester 7 KSHE students, they will undertake field practice on Protected Area Management, Ecotourism and Environmental Services (https://kshe.ipb.ac.id/semester-7/) and Wildlife Management Field Practice (https://kshe.ipb.ac.id/semester-7/) for a total of 30 days, follows by an internship (https://kshe.ipb.ac.id/semester-7/) of a total of 40 days. The K2020 Curriculum provides opportunities for students to broaden their skills and knowledge through MBKM (Emancipated Learning) programme. The MBKM programme offers students the opportunity to take courses through internships in the industry and/or attending courses at other universities that are part of the MBKM programme. The purpose of this programme is to bridge the gap between students' abilities and those required by employers like industry, upon graduation from university.

Criterion 1.2:

The peers recommend the KSHE programme to emphasise the 'ecotourism' aspect, and this needs to be reflected more clearly in both the learning outcomes and the curriculum.

The KSHE programme has address the ecotourism aspect in the Learning Outcomes of the K2020 Curriculum as a revision of the K2014 Curriculum, with 8 out of the 11 LO Learning Outcomes (LO) address ecotourism (https://kshe.ipb.ac.id/kurikulum/).

Although the term "ecotourism" is not used in many course names, KSHE courses integrate an interdisciplinary approach to the study of biodiversity and conservation. The KSHE Study Programme defines ecotourism as tourism that is based on nature and emphasizes conservation of biodiversity and livelihood improvement. This specific aspect are presented to the students in various courses contents and often given in study cases in classes as follows:

1. The potential benefits of biodiversity conservation can be applied in community-based ecotourism. Biodiversity conservation are offered in courses related to *Wildlife Ecology* and *Mapping, Geographical Information System, and Unmanned Aerial Vehicle* (https://kshe.ipb.ac.id/semester-3/), *Animal Behaviour* (https://kshe.ipb.ac.id/semester-5/), *Wildlife Inventory and Monitoring* (https://kshe.ipb.ac.id/semester-5/), all assist in developing smart and precision ecotourism activities.
2. Learning, education, and awareness are also given in *Conservation Education* course
3. Habitat management supports the implementation of ecotourism activities and this is given in the course on *Wildlife Management* (https://kshe.ipb.ac.id/semester-6/).

Criterion 1.3:

The majority of courses in the KSHE programme are firmly rooted in the natural sciences, forestry and wildlife management, with a much smaller proportion devoted to social science and tourism subjects such as outdoor recreation, environmental education, environmental ethics and urban forestry. The peers advise to broaden the curriculum to include content that addresses the business aspects of ecotourism, such as destination management, marketing, product development, supply chains and market structures

The KSHE K2020 has a balanced natural and social sciences courses. Some courses were given more loads on social science contents which enhanced the course name, for example: Forest Ethnobiology becomes *Ethnobiology and Bioprospection*; Medicinal Plant Conservation becomes *Tropical Forest Medicinal Plant and Food;* Protected Area Management *becomes Protected Areas and Essential Ecosystems.* This is to highlight and justify the importance of ensuring "people" aspects are noticed and acknowledge in this study programme. Any contents related to 'Local Community' forms the social aspects and could allow students to research issues related to the politics and government, history and geography, local environment, or commerce of the local area. In addition, the potential benefits of biodiversity conservation can be applied in community-based ecotourism (*see Criterion 1.2*).

In the KSHE K2020 curriculum, a course on *Conservation Business* is given in 6th semester (https://kshe.ipb.ac.id/semester-6/). This course provides the basic mastery of business theory and practices in ecotourism. One of the course content is on **ecotourism business potential, opportunities and challenges**. In additions, course contents on flora and fauna business potential, opportunities and challenges are also given to the students; both flora and fauna make up the basic supply in ecotourism and can be developed into ecotourism products. Other content in this course include **marketing in the conservation business**. With regards to the latter two, under the course of *Tropical Forest Medicinal Plant and Food*, students are taught their entrepreneur skill, by developing plant-based products, and

at the end of the semester, students exhibit their products and market them (https://kshe.ipb.ac.id/semester-6/). Under the course *Outdoor Recreation and Ecotourism*, one of the course content is on **market demand towards outdoor recreation and ecotourism** (https://kshe.ipb.ac.id/semester-3/).

The peers recommend the introduction of international classes in all undergraduate programmes

To organize the international classes and international programmes, IPB has Directorate of International Education, and Directorate of Global Connectivity. These directorates actively publish international classes or programmes to increase the exposure of the programmes.

The study programmes have been encouraged to conduct international classes. For the international classes in all undergraduate programmes, the study programmes have been preparing for the international classes, for instance providing training on didactic and delivering course in English conducted by Cambridge Assessment English through the programme "Content and Language Integrated Learning (CLIL).

The study programmes have initiated some international activities to invite international students to take internship, joining extracurricular activities, such as summer courses, symposiums, international competitions, etc.; as well as inviting international students to conduct collaborative research with undergraduate students.

Annually the study programmes conduct international summer course with various subjects especially on the topic of tropical resources to catch the interest of international participants/students.

Some of the summer course activities can be seen in the websites of the study programmes or social media:

1. Summer course on "Tropical Aquatic Biodiversity"
   https://www.instagram.com/stories/highlights/18158649232151557/?hl=de
2. Summer course on "Tropical Seaweeds"
   https://thp.ipb.ac.id/tag/summercourse-thp/
3. Summer course on "Sustainable Forest & Environment Management in New Normal Era: Conservation, Biodiversity, and Culture"
   https://fahutan.ipb.ac.id/international-summer-course-on-forestry-and-environment-2022/

Mobility

The peers advise the future curricula will include mechanisms to include extracurricular activities in the calculation of semester credit load (SCH), allowing for a more balanced approach and further opportunities for international mobility

The students have opportunities to join an international mobility, such as student exchange, internship, student competition, and conference/seminar or training. Financial support for these activities are provided by IPB, come from the sponsor or the organiser. To recognise the student activities in term of international mobility, IPB has provided the credit earning or credit transfer guidance for the student mobility. Therefore, the students can claim their international activities into the credits or as Diploma supplement.

Link for the credit earning/transfer guidance is https://hukum.ipb.ac.id/wp-content/uploads/ 2021/11/19-IT3-PP-2020-Pedoman-Pengumpulan-Kredit-Credit-Earning-Dan-Alih-Kredit-Credit-Transfer-IPB.pdf

One of the components in the integration of MBKM and K2020 provides more flexible learning spaces, personalised learning, multi-activities and multi-channels to support the achievement of IPB 4.0 educational goals. These courses is termed Enrichment Courses, which is components in the 2020 Curriculum structure which include multi-activities in the form of courses or activities organised by academic implementing units (courses) (activities), other implementing units or partners outside the original study programme. Multi-activity can be pursued not only through lecture activities, but also through activities such as competitions/competitions, summer courses, conferences/seminars, entrepreneurial activities, community service activities, talent interest activities, apprenticeships, competency certification, leadership and organisation, and other forms of activity that can be equated with credits and recognised as courses.

Credit equivalent uses the learning hours approach. Learning Hours is defined as "all planned learning activities leading toward the achievement of programme or qualification learning outcomes". Include teaching direct contact time (directed learning: lectures, seminars, tutorials, laboratory practicals, workshops, fieldworks etc.), and self-directed learning: time spent in studying, doing assignments, undertaking practical tasks, preparing and carrying out formative and summative assessments. In accordance with Permendikbud No. 3 of 2020, article 19 paragraph 4, the form of learning is 1 (one) credit in the learning process in the form of practicum, studio practice, workshop practice, field practice, work practice, research, design, or development, military training, student exchange, apprenticeship, entrepreneurship, and/or community service, 170 (one hundred and seventy) minutes per week per semester or equivalent of 45 learning hours per credit which includes student activities for preparation, debriefing, implementation, and preparation of activity reports.

In case of the course subject from other universities is different with the course subject in IPB, IPB provides two course codes to recognise for the credit earning, which are IPB 200 and IPB 300 with 2 and 3 SCH, respectively. Maximum credit for the credit earning/transfer is 40 SCH (58 ECTS). Calculation of the credit consider several aspects, such as:

1. Content
2. Activity structure
3. Workload
4. Evaluation or learning output

Criterion 1.4: Confirmed

Criterion 1.5: Confirmed

Criterion 1.6:

The peers recommend IPB to deepen the efforts to improve the diversity of teaching and learning

The study programmes will continue to invite the stakeholders from the industry and alumni to give a lecture, as well to design the programme.

The study programmes often conduct guest lectures, stadium generals and hands on for new equipment or method for analyses. The guest lecturers come from national or international universities, research institutes, governments and industries. Some of these activities are available in the study programmes website, IPB Today (daily news of IPB Staffs and Students activities) or official social media. For further details and some of the examples, please visit the following links:

IPB Today

https://ipb.ac.id/ipbtoday

Guest lectures

https://thp.ipb.ac.id/guest-lecture-metabolomic-of-marine-fungi/

https://www.instagram.com/p/CsQqpu6PozY/?hl=de

https://www.instagram.com/p/CriFFoEJ8Lq/?hl=de

Additionally, IPB implements the national programme of practitioner lecturers (*Praktisi Mengajar*) since 2022. This programme invites professionals from industry, researchers, and bureaucrats to give a lecture.

Criterion 2: Confirmed

Criterion 3.1:

The peers recommend a staff development plan be developed to facilitate this expansion and to address potential retirements in order to ensure the sustainability and continued excellence of the programme

In KSHE, there are four lecturers in the Division of Nature Recreation and Ecotourism, while the staffs in the Division of Protected Area Management (totalled to 8 lecturers) although do not bear the name "ecotourism", but their main interests and research are all involved with tourism from various aspects, such as tourism area management, landscape architecture, community development, culture and psychology. In addition, lecturers from the Division of Wildlife Ecology focus on various wildlife behaviour, of which this is very important as the basis for wildlife watching which is important for conducting ecotourism activities.

Furthermore, the KSHE study programme has designed and proposed an application for the need for new teaching staff until 2027 (7 lecturers), where the adjuration is intended to recruit several teaching staff with scientific qualifications in the fields of Communication and Community Development, Natural Resource and Environmental Economics, and Ecotourism in order to strengthen the field of social and tourism.

The peers advise to strengthen the tourism expertise in the future for the KSHE programme

Many of the courses invited guest lectures who are practitioners in the field of ecotourism, biodiversity conservation and other related skills, as part of "Practitioners goes to Campus". Lecturers with ecotourism expertise are also actively involved in various tourism competency development activities recognised nationally and internationally, held by domestic and foreign governments and the private sector. Furthermore, the KSHE study programme has designed and proposed an application for the need for new teaching staff until 2027 (7 lecturers), where the adjuration is intended to recruit several teaching staff with scientific qualifications in the fields of Communication and Community Development, Natural Resource and Environmental Economics, and Ecotourism in order to strengthen the field of social and tourism.

Criterion 3.2:

The peers advise to support the students with adequate funding to cover expenses such as research materials, equipment, data collection and even travel costs for fieldwork, if necessary.

Most of the students who conduct experimental works have been involved in the research projects of their supervisors. Therefore, they do not need to pay their thesis projects. Some lecturers also support the final project of the students using the materials and facilities from collaboration with research agencies, industries and other research institutes.

Criterion 3.3: Confirmed for a very basic level of equipment in the teaching laboratory, but, the students have the opportunity and can access all the facility in the laboratory with sophisticated equipment such as in the advance research laboratory. The KSHE Study Programme used advanced technologies to be applied by students to enhance learning and produce good quality research. For examples the fixed wing trinity with multispectral and thermal sensor for various spatial learnings, that can be use in the field of wildlife as well as ecotourism and protected area planning. KSHE is the first to use this advance technology in Indonesia. KSHE also uses spectroradiometer. In addition, the KSHE students are also given training in how to use and operate drones (given under the course Wildlife Inventory and Monitoring) (https://kshe.ipb.ac.id/semester-4/)to collect data on biodiversity and environment for smart and precision forest ecotourism.

Criterion 4.1: Confirmed, Module handbooks and the curricula have been updated.

Link for module handbooks

MSP: https://msp.ipb.ac.id/wp-content/uploads/2023/07/Learning-Outcome-Module-Handbook-MSP-IPB.pdf

THP: https://ipb.link/module-handbook-k2020-curriculum

KSHE: https://kshe.ipb.ac.id/kurikulum/

Criterion 4.2: Confirmed

Criterion 4.3: Confirmed

Criterion 6: Confirmed in regards with the comments on facilities for disabilities or chronic illnesses. There are some comments related to the equality of staffs and students

For the area of gender equality, IPB provides an equal opportunity for man and woman staffs. The equal opportunity also the same for the students. IPB invites students from all races and regions in Indonesia, as well as the international students. Related to religions, IPB offers courses on religion for various religions.

IPB University has always had a policy of recruiting prospective students from all parts of the country through the invitation channel without testing. It is because IPB University is

aware that equality of access to higher education for all Indonesian people is a necessity in caring for diversity.

IPB University has developed the spirit of diversity with a 1-year dormitory system so that multicultural life could be awakened. Cross-cultural communication is also getting smoother. Since the beginning students are educated to recognize and appreciate multiculture. The annual student event in the form of the *Gebyar Nusantara* by BEM KM IPB University and the Nusantara Cultural Festival by students of the Vocational School of IPB University are a reflection of student awareness about the importance of caring for diversity. It was on this momentum that all regional student organizations (OMDA) at IPB University displayed various cultures in the arts, fashion and culinary specialties of the region. This is the commitment of IPB University students to continue to strengthen national unity by caring for diversity.

F Summary: Expert recommendations (08.08.2023)

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

Degree Programme	ASIIN Seal	Maximum duration of accreditation	Subject-specific label	Maximum duration of accreditation
Ba Aquatic Resources Management	With requirements for one year	30.09.2029	–	/
Ba Aquatic Product Technology	With requirements for one year	30.09.2029	–	/
Ba Forest Resources Conservation and Ecotourism	With requirements for one year	30.09.2029	–	/

Requirements for all study programmes:

A 1. (ASIIN 4.2) The transcript of records needs to list all courses with their credits (SKS and ECTS).

Recommendations

E 1.   (ASIIN 1.3) It is recommended to teach more modules in English and to foster the development of more international classes.

E 2.   (ASIIN 1.3) It is recommended that the soft skills of graduates should be further developed, particularly in terms of managerial, entrepreneurial and marketing/communication skills.

E 3.   (ASIIN 2) It is recommended to make the relation between course type and exam type more consistent.

E 4.   (ASIIN 3.2) It is recommended to provide financial support for students' thesis work.

E 5.   (ASIIN 3.3) It is recommended that equipment be improved to ensure that basic laboratories have access to more modern devices.

E 6.   (ASIIN 5) It is recommended that a coherent inclusion strategy be developed.

G Comment of the Technical Committee 08 – Agriculture, Forestry and Food Sciences (13.09.2023)

Assessment and analysis for the award of the ASIIN seal:

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

The Technical Committee 08 Agriculture, Forestry and Food Sciences recommends the award of the seals as follows:

Degree Programme	ASIIN Seal	Maximum duration of accreditation	Subject-specific label	Maximum duration of accreditation
Ba Aquatic Resources Management	With requirements for one year	30.09.2029	–	/
Ba Aquatic Product Technology	With requirements for one year	30.09.2029	–	/
Ba Forest Resources Conservation and Ecotourism	With requirements for one year	30.09.2029	–	/

H Decision of the Accreditation Commission (22.09.2023)

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

The Accreditation Commission discusses the procedure and follows the assessment of the peers and the Technical Committee. Nevertheless, it has chosen to eliminate E.6 due to its absence of discernible concerns in connection with this matter, while emphasizing that IPB is already actively striving towards a more inclusive direction.

The Accreditation Commission decides to award the following seals:

Degree Programme	ASIIN Seal	Maximum duration of accreditation	Subject-specific label	Maximum duration of accreditation
Ba Aquatic Resources Management	With requirements for one year	30.09.2029	–	/
Ba Aquatic Product Technology	With requirements for one year	30.09.2029	–	/
Ba Forest Resources Conservation and Ecotourism	With requirements for one year	30.09.2029	–	/

Requirements for all study programmes:

A 1. (ASIIN 4.2) The transcript of records needs to list all courses with their credits (SKS and ECTS).

Recommendations

E 1. (ASIIN 1.3) It is recommended to teach more modules in English and to foster the development of more international classes.

E 2. (ASIIN 1.3) It is recommended that the soft skills of graduates should be further developed, particularly in terms of managerial, entrepreneurial and marketing/communication skills.

E 3.   (ASIIN 2) It is recommended to make the relation between course type and exam type more consistent.

E 4.   (ASIIN 3.2) It is recommended to provide financial support for students' thesis work.

E 5.   (ASIIN 3.3) It is recommended that equipment be improved to ensure that basic laboratories have access to more modern devices.

Appendix: Programme Learning Outcomes and Curricula

According to Self-Assessment Report the following **objectives** and **learning outcomes (intended qualifications profile)** shall be achieved by the Bachelor degree programme Aquatic Resources Management:

1. Demonstrate the ability of fundamental sciences to support the scientific management of aquatic resources

1.1 Explain the exact basic sciences principles which support the scientific management of aquatic resources

1.2 Explain the non-exact basic science principles which support the scientific management of aquatic resources

1.3 Explain the basic science principles of fisheries

2. Identify resources (individuals, populations, and communities), ecosystems, environments, and water areas

2.1 Identify the characteristics of aquatic biota in compliance with applicable scientific rules

2.2 Identify the types and characteristics of ecosystems and aquatic areas in compliance with applicable scientific rules

2.3 Explain and measure the physical, chemical, and biological parameters of aquatic quality, and report the measurement results

3. Describe the condition and status of resources, ecosystems, environment, and water areas based on their characteristics using qualitative and quantitative approaches

3.1 Describe the condition and status of aquatic resources (individuals, populations, and communities) through a systematic and easy-to-understand presentation

3.2 Properly classify the condition and status of aquatic resources (individuals, populations, and communities)

3.3 Describe the condition of ecosystems, environment and aquatic areas comprehensively

3.4 Convincingly explain the status of resources, ecosystems, environment, and aquatic areas through the application of qualitative and quantitative approaches

4. Linking from resources, ecosystems, environment, and aquatic variables, in part or in an integrated manner, through the analysis of ecological interactions

4.1 Predict the interrelationships of various variables from resources, ecosystems, environment, and aquatic areas accurately

4.2 Modify the interrelationships of the variables of resources, ecosystems, environment, and aquatic areas, either in part or in an integrated manner, through the analysis of ecological interactions

4.3 Constructing a model of the interrelationship of variables from resources, ecosystems, environment, and water areas, either partially or integrated, through the analysis of ecological interactions

4.4 Summarise clearly the results of the analysis of ecological interactions

5. Applying the science of managing resources, ecosystems, environment, and water areas based on the principles of carrying capacity, conservation, and sustainability

5.1 Examine the interrelationships of variables from resources, ecosystems, environment, and areas in an integrated water management system

5.2 Deciding on the management model for resources, ecosystems, environment, and water areas based on the principles of carrying capacity, conservation, and sustainability

5.3 Applying the science of water resource management in the field through research

The following **curriculum** is presented:

Semester							
Semester 8	MSP 1401 Seminar **1.44 ESCT**	MSP 1402 Final Project **8.64 ESCT**					
Semester 7	IPB 1400 Community Outreach **5.76 ESCT**	MBKM credits earning MBKM activities, Elective courses **28.8 ESCT**					
Semester 6	MSP 1313 Aquatic Environmental Risks and Impacts **4.32 ESCT**	MSP 1314 Aquatic Resources Management Policy **4.32 ESCT**	MSP 1315 Aquatic Resources Management **4.32 ESCT**	MSP 1323 Management of Aquatic Resources Conservation **4.32 ESCT**	MSP 1324 Management of Aquatic Ecotourism **2.88 ESCT**	MSP 1331 Fish Stock Assessment **2.88 ESCT**	MSP 1332 Fishery Resources Management **4.32 ESCT**
Semester 5	MSP 1311 Aquatic Pollution and Water Treatment **4.32 ESCT**	MSP 1312 Aquatic Productivity **4.32 ESCT**	MSP 1321 Biology of Aquatic Conservation **2.88 ESCT**	MSP 1322 Aquatic Toxicology **2.88 ESCT**	MSP 1331 Information System of Aquatic Resources **4.32 ESCT**	MSP 1232 Model and Simulation of Aquatic Resources **2.88 ESCT**	MSP 1338 Basic of Fish Population Dynamics **4.32 ESCT**
Semester 4	MSP 1213 Aquatic Plants and Macroalgae **4.32 ESCT**	MSP 1214 Hydrodynamic of Aquatic Ecosystem **4.32 ESCT**	MSP 1215 Planktonology and Benthology **4.32 ESCT**	MSP 1224 Ecosystem of Coastal, Small Islands, and Tropical Sea **4.32 ESCT**	MSP 1225 Aquatic Animal Physiology **4.32 ESCT**	MSP 1234 Quantitative Methods for Aquatic Ecology and Resources **4.32 ESCT**	MSP 1301 Scientific Work Method **2.88 ESCT**
Semester 3	MSP 1211 Basic of Limnology and Oceanology **2.88 ESCT**	MSP 1212 Water Quality and Aquatic Microbiology **2.88 ESCT**	MSP 1221 Aquatic Ecology **4.32 ESCT**	MSP 1222 Ichthyology **4.32 ESCT**	MSP 1223 Aquatic Invertebrates **4.32 ESCT**	MSP 1231 Data Analysis for Aquatic Resources and Environment **4.32 ESCT**	MSP 1232 Fisheries Biology **4.32 ESCT** MSP 1233 Aquatic Molecular Biology **2.88 ESCT**
Semester 2	IPB 111 Education of Pancasila **2.88 ESCT**	IPB 108 English **4.32 ESCT**	IPB 112 Sports and Arts **1.44 ESCT**	FIS 100 Physics **4.32 ESCT**	KPM 130 General Sociology **4.32 ESCT**	AGB 100 Introduction of Entrepreneurship **1.44 ESCT**	FPK 101 Introduction of Fisheries and Marine Sciences **2.88 ESCT** MSP 111 Limnology **2.88 ESCT**
Semester 1	IPB 100-104/IPB 110 Religion **4.32 ESCT**	IPB 106 Indonesian **2.88 ESCT**	IPB 107 Introduction of Agricultural Science **2.88 ESCT**	MAT 100 Fundamental of Math **4.32 ESCT**	KIM 101 Chemistry **4.32 ESCT**	BIO 100 Biology **4.32 ESCT**	EKO 100 General Economy **4.32 ESCT**

According to Self-Assessment Report the following **learning outcomes (intended qualifications profile)** shall be achieved by the Bachelor degree programme Aquatic Product Technology:

1. Have an understanding of the basic principles governing fisheries and marine science.

1.1 Have understanding of the basic principle in natural science, mathematics, statistics, agriculture science, economic and social sciences, (such as sociology, religion, and civics science)

1.2 Have an understanding of principle in fisheries and marine science and be able to apply the knowledge with regard to the fisheries post-harvest, processing and biotechnology, covering the knowledge about fish/ichthyology, oceanography, aquatic ecology, basic captured fisheries, basic fisheries culture, basic aquatic products technology.

2. Being capable of physic-chemical properties of aquatic resources.

2.1 Being capable to identify problem and determined quality of aquatic product based on biological, physical, and chemical properties

3. Mastering the knowledge of processing technology and capable of applying it to aquatic industrial production.

3.1 Able to recognise the technique and work safety in the field of the fisheries industry.

3.2 Able to apply various methods for collecting and analysis data on fisheries processing and biotechnology field

4. Mastering the principle of product development and capable to design and formulate aquatic products.

5. Mastering on biotechnology and bioprospecting of aquatic products for food and non-food development.

6. Mastering the knowledge of standardisation systems and capable of applying quality and safety management systems of aquatic products.

7. Being capable of self-improvement, religious, nationalist, moral responsible, self-confidence; working in a team, and responsible for the team accomplishment; and communicating effectively both orally and written, have eagerness to keep up with development of science and technology

7.1 Able to interpret data and draw conclusion to possible problem accordance with its plan

7.2 Able to search of relevant literature and data sources for scientific activities

7.3 Being capable and skilful in communicating verbally and in writing, able to think critically and utilise various resources of information in problem solving,

7.4 having ethics and high integrity, respect the diversity, and have eagerness to keep up with development of science and technology

7.5 Being capable to lead and organise and have a spirit of entrepreneurship

7.6 Being capable of self-improvement, self-confidence; working in a team, and responsible for the team accomplishment

The following **curriculum** is presented:

Semester 8
- THP1491 Final Project Seminar — 1.44 ECTS
- THP1492 Final Project — 8.64 ECTS

Semester 7
- FPK1401 Community Outreach — 5.76 ECTS
- THP143M Aquatic Product Technopreneurship — 4.32 ECTS
- THP1401 Field Practical — 2.88 ECTS
- Out-Campus Elective Courses — Up to 28.8 ECTS

Semester 6
- THP1307 Standardization and Integrated Quality Assurance — 2.88 ECTS
- THP1308 Quality Management and Seafood Safety System — 2.88 ECTS
- THP132F Aquatic Product Pharmaceutical — 2.88 ECTS
- THP132G Aquatic Product Bioprospecting — 4.32 ECTS
- THP132H Toxicology and Safety of Aquatic Product — 2.88 ECTS
- THP133J Aquatic By-product Processing Technology — 2.88 ECTS
- THP133K Aquatic Product Industry Planning — 2.88 ECTS
- THP133L Practical on Aquatic Product Processing Technology — 2.88 ECTS
- Elective courses up to 9.68 ECTS

Semester 5
- THP1305 Scientific Writing — 4.32 ECTS
- THP1306 Research Design in Aquatic Product Technology — 4.32 ECTS
- THP131D Introduction to Kit Design and Quality Detection Method of Aquatic Product — 4.32 ECTS
- THP1329 Aquatic Product Fermentation — 2.88 ECTS
- THP132D Practical on Microbiology and Aquatic Product Fermentation — 2.88 ECTS
- THP132E Aquatic Product Biotechnology — 2.88 ECTS
- THP133H Diversification and Aquatic Product Development — 2.88 ECTS
- THP133I Marine Flora Industrial Technology — 2.88 ECTS
- Elective courses up to 7.20 ECTS

Semester 4
- THP1204 Instrumentation and Product Testing — 4.32 ECTS
- THP1227 Aquatic Product Biochemistry — 2.88 ECTS
- THP1228 Aquatic Product Microbiology — 2.88 ECTS
- THP123F Aquatic Product Processing Technology — 4.32 ECTS
- THP1219 Aquatic Product Handling — 2.88 ECTS
- THP121B Aquatic Product Transportation and Supply Chain Technology — 2.88 ECTS
- THP121C Practical on Handling and Transportation — 2.88 ECTS
- THP133G Indigenous Aquatic Product Processing Technology — 2.88 ECTS
- Elective Coursec Up to 8.64 ECTS

Semester 3
- BDP1200 Basics Aquacultre — 4.32 ECTS
- MSP1221 Aquatic Ecology — 4.32 ECTS
- MSP1223 Ichtiology — 4.32 ECTS
- THP1216 Knowledge on Aquatic Bioresources — 2.88 ECTS
- THP1217 Physiology and Metabolite Degradation of Aquatic Products — 2.88 ECTS
- THP1218 Practical on Aquatic Industri Bioresource and Physiology — 2.88 ECTS
- THP1203 Biological chemistry — 2.88 ECTS
- PSP1223 Capture Fisheries Methodology — 2.88 ECTS
- Elective courses up to 7.20 ECTS

Semester 2
- STA1111 Statistics and Data Analysis — 4.32 ECTS
- KOM1102 Computational Thinking — 2.88 ECTS
- FIS1104 Tecnology and Science Physic — 4.32 ECTS
- FPK1101 Introduction to Fisheries and Marine Science — 2.88 ECTS
- IPB110F English Language — 2.88 ECTS
- IPB110D Pancasila Education — 2.88 ECTS
- IPB110G Sport/Art — 1.44 ECTS
- KPM1131 Sociology — 2.88 ECTS
- IPB110E Civics Education — 1.44 ECTS

Semester 1
- IPB110C Innovative Agriculture — 2.88 ECTS
- BIO1102 Basic Biology — 4.32 ECTS
- IPB110A Religion — 2.88 ECTS
- IPB1106 Indonesian Language — 2.88 ECTS
- EKO1101 Economy — 2.88 ECTS
- KIM1104 Technology and Science Chemistry — 4.32 ECTS
- MAT1102 Mathematic and Logic Thinking — 4.32 ECTS

According to Self-Assessment Report the following **learning outcomes (intended qualifications profile)** shall be achieved by the Bachelor degree programme Forest Resources Conservation and Ecotourism:

1. Understand the theoretical concept of living natural resources conservation.

2. Elaborate and implement policies and regulations regarding protected area management, wild animal management, plant diversity conservation, ecosystem services utilisation management, nature recreation, and ecotourism management.

3. Analyse the benefits and measure the potential of protected area, wild animal, plant diversity, ecosystem services, nature recreation, and ecotourism.

4. Identify traditional and indigenous knowledge in the utilisation of protected area, wild animal, plant diversity, ecosystem services, nature recreation, and ecotourism.

5. Plan and design the management of protected area within the context of landscape, wild animal, plant diversity, ecosystem services, nature recreation, and ecotourism.

6. Manage the utilisation of protected area, wild animal, plant diversity, ecosystem services, nature recreation, and ecotourism sustainably.

7. Preserve genetic resources and germplasm of living natural resources.

8. Breed species of wild animal and plant.

9. Mobilise resources in the management of protected area, wild animal, plant diversity, ecosystem services, nature recreation, and ecotourism.

10. Manage conflicts.

11. Implement interdisciplinary approach in the management of protected area, wild animal, plant diversity, ecosystem

The following **curriculum** is presented:

Semester	COURSES									Total ECTS
8	KSH1408 1.44 ECTS Seminar	KSH1409 8.64 ECTS Final Project/Undergraduate Thesis								10.08
7	KSH1404 4.32 ECTS Wildlife Management Field Practice/Internship	KSH1405 4.32 ECTS Protected Area Management, Ecotourism and Environmental Services Practice/Internship	KSH1406 1.44 ECTS Colloquium	IPB303 4.32 ECTS *Life Skill* (Internship)						14.40
6	KSH1315 4.32 ECTS Ex-situ Conservation and Wildlife Captivity	KSH1333 4.32 ECTS Forest Medicinal Plants and Food3	KSH1303 2.88 ECTS Environmental management Instrument	KSH1324 4.32 ECTS Protected Area Planning	KSH1316 2.88 ECTS Wildlife Management	KSH1345 2.88 ECTS Urban Forest Conservation	KSH1325 2.88 ECTS Conservation Business	IPB400 5.76 ECTS Thematic Services Learning Program/Community Outreach		30.24
5	KSH1342 4.32 ECTS Environmental Spatial Analysis	KSH 1332 2.88 ECTS Ethnobiology and Forest Bioprospecting	KSH1302 2.88 ECTS Research Methods and Scientific Writing	KSH1343 4.32 ECTS Pollution and Environmental Impact Assessment	KSH1314 2.88 ECTS Wildlife Behaviour	KSH1353 2.88 ECTS Nature and Environment Interpretation	KSH1344 2.88 ECTS Environmental Services	KSH1323 2.88 ECTS Protected Area and Essential Ecosystem		25.92
4	SVK212 4.32 ECTS Forest Ecology	SVK225 4.32 ECTS Silviculture	KSH1222 2.88 ECTS Communication and Social Science Conservation	KSH1252 4.32 ECTS Conservation Education	KSH1213 4.32 ECTS Wildlife Inventory and Monitoring	FHT1200 4.32 ECTS Forestry Field Practice				24.48
3	SVK211 4.32 ECTS Dendrology	KSH1211 4.32 ECTS Wildlife Ecology	KSH1212 4.32 ECTS Biodiversity Conservation Data Analysis	KSH1251 2.88 ECTS Outdoor Recreation and Ecotourism	KSH1231 2.88 ECTS Tropical Plant Conservation	KSH1221 2.88 ECTS Conservation and Environmental Policy	KSH1241 4.32 ECTS Mapping, GIS, and Unmanned Aerial Vehicle (UAV) of Environment	MNH1101 2.88 ECTS Forestry Science and Environmental Ethics		28.80
2	IPB10F 2.88 ECTS English	FIS104 4.32 ECTS Physical Science and Technology	KIM104 4.32 ECTS Chemistry Science and Technology	KPM131 2.88 ECTS Sociology	KOM102 2.88 ECTS Computational Thinking	STA111 4.32 ECTS Statistics and Data Analysis	KSH1101 2.88 ECTS Conservation of Natural Resources and Environment			24.48
1	IPB100 4.32 ECTS Religion	IPB10D 1.44 ECTS Pancasila* / IPB10E 1.44 ECTS Civic Education*	IPB106 2.88 ECTS Indonesian Language	BIO102 4.32 ECTS Fundamentals of Biology	EKO101 2.88 ECTS Economics	IPB10C 2.88 ECTS Innovative Agriculture	MAT102 4.32 ECTS Mathematics and Logical Thinking	IPB10G 1.44 ECTS Sports and Arts		25.92

Note: *= can be taken either in semester 1 or 2

Common Core Course	IPB General competencies courses	Academic Core	Core courses for study program	Compulsory Enrichment Course	Credit earning outside study program
Study Program Fundamentals	Basic courses for study program	SP In-depth Core	In-depth courses within study program		
Foundational Literacy	Skills to apply core skills	Final Year Project	Capstones		