



ASIIN Seal Accreditation Report

Ba Marine Science

Ba Fisheries Sciences

Ba Fisheries Sciences (Pangandaran Campus)

Ma Marine Conservation

Ma Fisheries Sciences

Provided by:

University Padjadjaran

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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
Sarjana Ilmu Kelautan	Bachelor Programme Marine Science	ASIIN		08
Sarjana Perikanan	Bachelor Programme Fisheries	ASIIN		08
Sarjana Perikanan (Pangandaran)	Bachelor Programme Fisheries (Pangandaran)	ASIIN		08
Magister Konservasi Laut	Master Programme Marine Conservation	ASIIN		08
Magister Perikanan	Master Programme Fisheries	ASIIN		08
Date of the contract: 31.05.2022 Submission of the final version of the self-assessment report: 18.08.2022 Date of the online audit: 28. - 30.09.2022 at: Universitas Padjadjaran, Bandung, Indonesia				
Peer panel: Prof. Dr. Harry Palm, University of Rostock				

¹ ASIIN Seal for degree programmes

² TC: Technical Committee for the following subject areas: TC 08 – Agriculture, Forestry, Food Sciences and Landscape Architecture

<p>Prof. Dr. Sonja Kleinertz, formerly University of Rostock</p> <p>Prof. Dr. Mochammad Riyanto, IPB Bogor</p> <p>Muhammad Syahnun, Student at IPB Bogor</p>	
<p>Representative of the ASIIN headquarter: Daniel Seegers</p>	
<p>Responsible decision-making committee: Accreditation Commission for Degree Programmes</p>	
<p>Criteria used:</p> <p>European Standards and Guidelines as of 15.05.2015</p> <p>ASIIN General Criteria as of 28.03.2014</p> <p>Subject-Specific Criteria of Technical Committee 08 – Agriculture, Forestry, Food Sciences and Landscape Architecture as of 27.03.2015</p>	

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
Marine Science	S.Kel (Bachelor of Marine Science)	1. Conservation 2. Hydrooceanography 3. Biotechnology	Level 6	Full time	No	8 Semester	144 SKS / 22.13 ECTS	Annually / August
Fisheries Sciences	S.Pi. (Bachelor of Fisheries Science)	1. Aquaculture 2. Aquatic Resources Management 3. Fish Processing Technology 4. Social and Economy in Fisheries	Level 6	Full time	No	8 Semester	144 SKS / 217.60 ECTS)	Annually/ August
Fisheries Sciences (Pangandaran Campus)	S.Pi. (Bachelor of Fisheries Science)	1. Aquaculture 2. Aquatic Resources Management 3. Fish Processing Technology 4. Social and Economy in Fisheries	Level 6	Full time	No	8 Semester	144 SKS / 217.60 ECTS	Annually/ August
Marine Conservation	M.Kel (Master of Marine Science)	1. Marine Resources Conservation 2. Management of Coastal Resources and small island 3. Maritime Science	Level 7	Full time	No	4 Semester	42 SKS / 63.47 ECTS	Every Semester (August and January)

³ EQF = The European Qualifications Framework for lifelong learning

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
Fisheries Sciences	M. Pi. (Master of Science in Fisheries)	1. Aquaculture 2. Aquatic Resource Management	Level 7	Full time	No	4 Semester	44 SKS / 66.46 ECTS	Every Semester (August and January)

For the Bachelor's programme Marine Science, the Faculty of Fisheries and Marine Sciences has presented the following profile in their Self-Assessment Report:

The objectives of Bachelor's programme Marine Science are to develop students who are able to:

1. Mastering the theory of Marine Biology, Marine Ecology, Oceanography, Mapping, Remote Sensing, Geographic Information Systems, Marine Acoustics, Scientific Diving, Conservation, Rehabilitation Techniques, and Biotechnology that able to identify and formulate solutions to the issue of exploration and conservation of marine resources and the environment in a systematic way;
2. Capable of exploring and conserving marine resources and the environment by utilizing observation instruments, scientific diving, mapping, marine information systems, marine acoustics, rehabilitation techniques, and biotechnology, independently and creatively, as a manifestation of their ability to adapt to the environmental problems they face;
3. Capable of carrying out activities and formulating plans/designs/models for the utilization of potential marine living resources by applying the understanding and principles of conservation of marine resources and the environment;
4. Capable of developing and adapting to working conditions individually and in teams, as well as being able to make the right decisions, lead and organize resources to achieve goals;
5. Capable of being responsible for their work, achieving organizational work results, and solving problems armed with a leadership attitude based on piety to God Almighty.

For the Fisheries Programme and the Fisheries Programme at Pangandaran Campus, Faculty of Fisheries and Marine Sciences has presented the following profile in their Self-Assessment Report:

1. To produce human resources who are faithful, devoted, virtuous, cultured, have a sense of community and national responsibility, have high competitiveness and have academic and professional abilities in the field of fisheries.
2. To produce graduates who are able to contribute ideas to increase the role of fisheries in increasing the country's foreign exchange.
3. To produce creative and innovative graduates to increase the role of fisheries in national development through increasing the added value of fishery resources.
4. To produce graduates who have the ability to develop freshwater fish hatchery technology.

5. To produce graduates who are able to develop models of fishery activities economically and sustainably.
6. To produce graduates who are able to deliver a better understanding in fisheries science and technology to the community and harmonize the community's abilities in the field of fisheries with environmental conditions.
7. To realize a conducive academic atmosphere that is in line with the applicable curriculum and educational implementation guidelines through the availability of complete facilities and infrastructure in the learning process, both intra and extracurricular, quality assurance, and a beautiful campus environment.
8. To produce quality educators and educational personnel through increased academic, training, research, scientific writing, and participation in the professional organization at national and international levels.
9. To realize a fishery study program capable of collaborating with various parties in the fields of education, research, and community service.

For the Master's programme Marine Conservation, the Faculty of Fisheries and Marine Science has presented the following profile in their Self-Assessment Report:

Graduates of the UNPAD Marine Conservation Master Programme are expected to be absorbed in various government and non-government institutions (NGOs):

- (1) Expert in sustainable marine living resources;
- (2) Marine disaster mitigation and climate change adaptation expert;
- (3) Marine conservation management expert;
- (4) Experts in the field of evaluating the impact of marine tourism on marine ecosystems;
- (5) Researcher in marine conservation;
- (6) Marine organism biodiversity data processing expert.

For the Master's programme Fisheries, the Faculty of Fisheries and Marine Science has presented the following profile in their Self-Assessment Report:

The objectives consist of:

1. To implement the better learning quality and education activities for Master graduates in Fisheries Science and to produce the graduates who have the highest competencies in the field of fisheries and are able to compete at local, national, and global levels;
2. To improve the quality and quantity of research that focuses on the issues in the local, national and international scope, both as the development of fisheries science and contribute to solving the problems in the fisheries sector;
3. To implement the community service activities that are able to support learning and the advancement of science in the field of fisheries as well as empowerment for the academic community, government, industry, and society;
4. To establish a conducive academic climate in the implementation of academic, research, and community service;
5. To implement the high quality, professional, and accountable management of the fisheries science master's study program;
6. To increase the graduates of the fishery master program who have high integrity, strong character, insightful and competitive locally, nationally, regionally, and globally.

C Peer Report for the ASIIN Seal

1. The Degree Programme: Concept, content & implementation

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

Evidence:

- Self-Assessment Report
- Discussions during the audit
- Study plans
- Module descriptions
- Homepage UNPAD: <https://www.unpad.ac.id/en/>
- Homepage Faculty of Fisheries and Marine Science: <https://www.unpad.ac.id/en/fakultas/fishery-and-marine-science/>

Preliminary assessment and analysis of the peers:

The peers refer to the Subject-Specific Criteria (SSC) of the Technical Committee 8 – Agriculture, Forestry, Food Sciences and Landscape Architecture to assess whether the intended learning outcomes of the Bachelor's degree programmes Marine Science (MSP), Fisheries (FP), Fisheries Pangandaran Campus (FPC) as well as the Master's degree programmes Marine Conservation (MCMP) and Fisheries (FMP), as defined by UNPAD, are consistent with the competences outlined in the SSC. They come to the following conclusion:

According to the Self-Assessment Report, the objective of the Bachelor's programme Marine Science is to impart the essential competencies in Marine Science including marine biology, marine ecology, oceanography, scientific diving, conservation, rehabilitation techniques, as well as biotechnology. This includes the acquisition of basic physical, chemical, biological, and mathematical skills. Moreover, students learn practical marine science work in the lab and in the field and should be familiar with exploring and conserving marine resources and the environment.

In addition to the subject-related qualification objectives, graduates should also be capable to work both independently and in a team during their studies and carry out research activities. Furthermore, they should be able to solve subject-relevant problems, to present the results, and have an awareness of ecological and social effects of their action. In the course of their studies, students should also acquire communicative skills and learn to work in a team.

Graduates should be qualified to work as researchers in governmental or private institutes, as academics, consultants, or managers/entrepreneurs in the field of marine conservation or fisheries resources.

Graduates of the Bachelor programmes in Fisheries should acquire the necessary competencies and knowledge in aquaculture, processing of fishery products, capture fisheries, management of aquatic resources and fishery socio-economics. According to the Self-Assessment Report, they will be able to work as fisheries entrepreneurs, fisheries consultants, early researchers and as fisheries extension workers. Moreover, students learn how to work and lead in teams, handle data and conduct scientific work and research.

In the discussions with the programme coordinators, the peers learn that both fisheries programmes use the respective geographic conditions to apply a specific focus. The Fisheries programme at the Bandung Campus therefore focuses on “Inland Fisheries and Aquaculture”, while the Fisheries programme at the Pangandaran Campus focuses on “Sustainable coastal and oceanic fisheries”.

The Master’s programme Marine Conservation aims to produce graduates that are able to apply theory in practice and conduct research in the fields of fishing at sea, disaster mitigation, climate change adaption, water resources monitoring and evaluation and marine conservation management. In addition to the strong scientific focus, graduates also learn about national and international laws and relationships of the parties involved. They should be able to work as experts in sustainable marine living resources, marine disaster mitigation and climate change, marine conservation management, evaluating the impact of marine tourism and marine ecosystems, marine conservation and marine organisms’ biodiversity data processing.

The objective of the Master’s programme Fisheries is to produce professionals in the management of aquaculture and inland waters. Graduates of the programme are expected to have expertise in research, scientific writing, broodstock management, inland water quality management, environmental monitoring skills and fish farming. Therefore, students are

educated to work with data and to gain analytical abilities as well as social and entrepreneurial competencies that enable them to work in the fisheries industry, as aquaculture practitioners, fisheries environment consultants or in fisheries research.

To develop their study programmes UNPAD involves a variety of stakeholders e.g. local companies from the fisheries industry, the Indonesian Aquaculture Society and Marine and Fisheries Agency of the West Java Province, national research institutes as well as students and alumni. The curricula are updated regularly, and slight changes may be made during the semester. Regarding labour market prospects and practical relevance of the field of the field of aquaculture, UNPAD states in the SAR that Indonesia is one of the three biggest fishing nations of the world and the demand for qualified workers is constantly rising and chances of employment after graduating from UNPAD are adequate. Information on graduate placement in the labour market is obtained through a continuous tracer study.

During the online discussion, students and the partners from the industry/public sector emphasized that they feel well integrated into the development process of the learning outcomes and the objectives of the programmes. The peers also learn that the students are very confident about finding a job after graduating and that many of them are interested in continuing their studies. They acknowledge that there is sufficient support for the students regarding their strategies for finding a suitable career.

Judging from an objectives-matrix that links the ten ILOs to the Subject-Specific Criteria for the five study programmes under review as well as an objective-module-matrix that delineates in which modules students learn the skills purposed in the ILOs, the peers see that the objectives and intended learning outcomes of the programmes are suitable to produce qualified graduates. They wonder, however, why the Bachelor programmes in Fisheries focus on “Inland Fisheries and Aquaculture” at Bandung Campus and “Sustainable coastal and oceanic fisheries” at Pangandaran Campus, as outlined during the discussions, is reflected neither in the ILOs nor in the curriculum. The learning outcomes for both programmes are identical and do not distinguish between the different conditions of the practical teaching possibilities on the coast and the inland. The peers strongly urge UNPAD to revise the learning outcomes of both programmes to ensure that the respective focus of the programmes is visible. The different focus must also be visible in the titles of the courses and the corresponding learning outcomes. Furthermore, additional courses need to be integrated into the curricula (s. criterion 1.3).

In the peers opinion, the Master’s programme Fisheries and the Bachelor’s programme Marine Science also need to be adjusted to ensure that the three lines of education (MSP: Conservation, Hydro-oceanography and Biotechnology) are reflected in the curriculum and that the FMP is a meaningful continuation of the Bachelor’s programmes. This aspect is

explained in more detail chapter 1.3.

While the peers notice some aspects that need to be improved, they highlight the overall high standard of the scientific education within the programmes. This aspect has also been one of the strongpoints mentioned by all of the stakeholders.

In conclusion, the peers are of the opinion that the objectives and intended learning outcomes of all degree programmes under review are reasonable and well-founded but need further adjustment in order to distinguish them from each other and other programmes in Indonesia. They are convinced that the intended profiles of all programmes allow students to take up an occupation that corresponds to their qualification. The degree programmes are designed in such a way that they meet the objectives set for them and the peers judge the objectives and learning outcomes of the degree programmes suitable to reflect the intended level of academic qualification.

Criterion 1.2 Name of the degree programme

Evidence:

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

Preliminary assessment and analysis of the peers:

The peers hold the opinion that the English translation and the original Indonesian name of the Bachelor's degree programmes Marine Science, Fisheries, Fisheries Pangandaran Campus as well as the Master's degree programmes Marine Conservation and Fisheries corresponds with the intended aims and learning outcomes as well as the main course language.

Criterion 1.3 Curriculum

Evidence:

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

Preliminary assessment and analysis of the peers:

The curricula of the five study programmes under review were developed in a series of meetings and workshops within UNPAD involving relevant stakeholders such as employers from the marine sector, the fisheries community, students and alumni. All curricula comply to the Qualification Framework 2010 and the Ministry of Education's Decree (National Standard of Ministry of Education's Decree No 44/2015). Each of the courses is designed to support the learning outcomes of the graduates. The curricula are adapted to the market needs and evaluated as a whole at least every four years. Individual contents of the study programmes are annually updated and can easily adapted during the course of each semester. The evaluation of the curricula involves a two days' workshop consisting of plenary discussion and panel discussion by expert groups involving students, stakeholders, alumni and the respective professional societies.

The Bachelor's degree programme Marine Sciences comprises 147 credits consisting of 87 credits for compulsory courses and 60 credits of electives. The first year consists of introductory courses in natural sciences and introduction to fisheries and marine sciences. It also includes the ethics of scientific writing and a big data course. In the second and third year, course are offered on the main topics such as oceanography, conservation science and marine biotechnology. In the fourth year, students carry out their final research project and internships.

As has been mentioned under criterion 1.1, the structure of the curriculum remains unclear to the peers. They urge UNPAD to ensure that the three lines of education are clearly reflected in the curriculum, thus preparing students to continue their studies in one of the specialisations as part of a Master's programme. Finally, they recommend rethinking the overall structure of the curriculum. In the peers opinion, the scientific writing course could be located at later stage of the curriculum (for example semester 4) in order to establish a closer connection to the Marine Survey course. Similar to this, the computer and big data course in semester 2 also seems to be too early. It might make more sense in the later stages of the curriculum, when students have learned how to collect and analyse data in other courses.

In addition, the list of elective modules seems to be rather small and could include courses on the influence of fisheries on marine science, environmental issues or ecological impact during the Anthropocene as well as courses that enhance the transition from the bachelor to the master level.

The Bachelor's degree programmes Fisheries encompass 144 credits consisting of 132 credits for compulsory courses and 12 credits for elective courses. Both programmes have the same curriculum. The first semester consists of general courses in religion, Bahasa, civil

education English and first introductory courses to fisheries and marine sciences. From semester 2 to 4, students engage in subject specific courses such as oceanography, aquatic animal physiology, handling of fisheries product, statistics and fish biotechnology etc. In the fifth and sixth semesters, students can choose four electives and complete their community service programme. The seventh semester comprises the bachelor theses that account for six credits.

As has been discussed under criterion 1.1, the peers learned during the online audit that both study programmes share the same curriculum, but have different focuses. While the Fisheries programme at Bandung Campus focuses more on “Inland Fisheries and Aquaculture”, the Fisheries programme at Pangandaran Campus concentrates on “Sustainable coastal and oceanic fisheries”. This in itself is understandable for the peers, as both campuses offer different possibilities. However, this difference must also be visible within the curricula of both programmes, including the course titles and module description. They urge UNPAD to adjust the curricula of both programmes so that they can be distinguished from each other, as it actually appears that both programmes are the same. For the Fisheries programme at Pangandaran Campus, courses such as “Oceanic and deep sea fisheries” could be added to distinguish it from other programmes and especially the fisheries programme at Bandung Campus.

In addition, there are several contents that need to be a part of a fisheries study programme that are not covered in the current curricula. The peers ask UNPAD to include courses on the environmental impact of fisheries and aquaculture and stakeholder conflicts, as well as courses on stock assessment methodologies and the treatment of fish diseases treatments (incl. parasites, bacteria, fungi and virus).

The Master’s degree programmes Fisheries is pursued in 4 semesters (2 years) and is designed to be consecutive to the bachelor programmes. It comprises 41 credits (35 for compulsory and 6 for elective courses) and two specializations (Aquaculture and Aquatic Resource Management). The first year consists of courses in “Statistical Analysis”, “Scientific Writing” and fisheries specific courses such as “Advanced Fisheries”, “Ecobiology of Aquatic Organisms” and “Fisheries Industry”. The second year includes electives such as “Fish Breeding”, “Management of Public and Marine Aquaculture” and “Feed Technology” as well as the master thesis in the fourth semester.

In the peers opinion, there are some difficulties in the arrangement of the modules and what differentiates this master from other master programmes in Indonesia. The modules should build on the classes taught in both bachelor programmes to facilitate UNPDAS bachelor’s students to continue their studies. They should therefore also include “Methodologies in Stock assessment (otolith extraction, cutting and staining of otoliths, growth ring

counts, other methods for stock assessment e.g. fish parasitology, fish morphometrics) and elective classes on “Fishing economy, product and product development” and “impact of fisheries and aquaculture on aquatic environments”.

In order to achieve a more systematic composition of the curriculum, it could be reorganised to the following scheme: 1. semester standardisation of students’ skills, 2. semester subject specific courses, 3. electives and highly specialised courses based on the UNPAD profile, 4. Semester master thesis. According to the peers, the research methods and scientific writing modules should be located in the later semesters, while “Ecobiology” could be moved to the first semester. Digital Fisheries could be taught in second semester and supplemented with elective modules in the third semester.

The Master’s degree programme Marine Conservation is usually completed in two years with 42 SKS. In the first year, students attend classes on international law, human ecology, climate change mitigation, management of marine pollution and ecotoxicology etc. to specialise in the fields of marine resources conservation, management of coastal resources and small island or maritime science. In the second year students get to choose one elective course and participate in an international conference. The master’s thesis is written in the last semester.

The peers consider the curriculum of the Marine Conservation programme to be reasonably structured and in line with the learning outcomes of the programme. Similar to the other degree programmes, the share of elective modules could be higher and the list of elective modules could be expanded.

An important topic missing from all curricula is safety/occupational safety at sea. As students undertake research or field practices at sea and may work at sea after graduation, the peers urge UNPAD to add this content in all curricula under review.

The peers gain the impression that the graduates of all degree programmes under review are well prepared for entering the labour market and can find adequate jobs in Indonesia. During the discussion with the peers, UNPAD’s partner from the industry/public sector confirm that the graduates have a broad scientific education, are very adaptable, and have wide range of competences that enable them to find adequate jobs.

In summary, the auditors are convinced that the intended qualifications profiles of all degree programmes under review allow the students to take up an occupation that corresponds to their qualification profile.

Even though the level of education seems to be high, the structure of the curricula of the four programmes MSP, FP, FPC and FMP needs to be revised to align with their learning outcomes and to make them distinguishable.

International Mobility

One aspect in need of improvement, according to the peer group, is the low level of international academic mobility of the students. Only 20 Bachelor's or Master's students completed a stay abroad during the review period. The programme coordinators admit that the number of students who participate in international exchange programmes is still low, despite students' high interest.

The peers discuss with UNPAD's management if there is a strategic concept to increase the international mobility of students and teachers. They learn that UNPAD supports students' academic mobility via the International Office Universitas Padjadjaran and the International Unit of the Faculty of Fisheries and Marine Science. UNPAD offers scholarships for stays in the Europe (Erasmus Mundus, IFI-Campus France, and AMINEF/Fulbright).

With respect to the Fisheries Master's programme, UNPAD plans to initiate a Double degree programme with University of Malaysia Sabah. UNPAD has also tried to establish an international class in the Fisheries Bachelor programme, but was unable to do so due to COVID-19. However, there are plans to establish international classes within the future.

The students confirm during the discussion with the peers that some opportunities for international academic mobility exist. However, they also point out that they wish for more places, more exchange programmes and more scholarships. In addition, students should improve their English proficiency in order to increase their international job perspectives and their chances for receiving a scholarship for continuing their academic education at an international university. Moreover, for graduate students it is essential to become proficient in English. Therefore, in all programmes, there should be some courses taught in English.

Since 2020, students are free to choose courses at other faculties or universities nationally and internationally. In addition to the elective courses, students can transfer their credits if they choose to replace their compulsory courses with courses taken at other universities. This flexibility aspect of the curriculum is anchored in the newly introduced Freedom of Learning Independent Campus curriculum (Merdeka Belajar Kampus Merdeka – MBKM) and allows students to complete up to 40 SKS outside of their study programmes.

The peers recommend increasing the effort to further internationalise UNPAD by inviting more international guest lecturers, conducting summer schools, establishing more international cooperations and exchange programmes, and offering more and better endowed scholarships.

Rules for recognising achievements and competences acquired outside UNPAD exist, but only very few students attend classes at international universities.

In summary, the peers appreciate the effort to foster international mobility and encourage both the Faculty of Fisheries and Marine Sciences and UNPAD to further pursuing this path.

Criterion 1.4 Admission requirements

Evidence:

- Self-Assessment Report
- UNPAD Admission Guide
- Homepage UNPAD: <https://www.unpad.ac.id/en/>
- Discussions during the audit

Preliminary assessment and analysis of the peers:

According to the Self-Assessment Report, the admission procedures and policies for new students follow the National Regulation No.5, 2020. The requirements, schedule, registration venue, and selection test are announced on UNPAD's webpage and thus accessible for all stakeholders.

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

1. National Entrance Selection of State Universities (Seleksi Nasional Masuk Perguruan Tinggi Negeri, SNMPTN), a national admission system, which is based on the academic performance during the high school (20 % of the students at UNPAD are admitted through this selection system).
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). It accounts for 30 % of the admitted students at UNPAD.
3. Written Test (Ujian Tulis), students are selected based on a written test (similar to SBMPTN) specifically held by UNPAD (50 % of the students at UNPAD are admitted through this test).

In addition, applicants need to submit a verification of English proficiency (e.g. TOEFL score ≥ 450) and of sufficient academic ability (e.g. Academic Potential Test (TKA) score ≥ 450).

For the Master's programmes, the applicants have to explain about their background, interests, and reasons for continuing their studies at UNPAD. In addition, they have to state their motivation and demonstrate their ability for time management, critical thinking, independence, and communication. Candidates with research experience have to provide samples of their research activities, while practitioners or professionals can describe their achievements in their field of occupation.

UNPAD has a guideline for conducting the admission interviews and the underlying criteria. The interviews are conducted by two persons. For the Master's programmes, one is the Head of the Department where the candidate applied and one is a lecturer with a minimum qualification of associate professor.

The schedule of admission, the requirements, and the procedures are published and can be accessed via UNPAD's homepage.

The peers see that the programmes of the faculty of Fisheries and Marine Science are very popular because the job perspectives are very good. In addition, there are a great many high school graduates in Indonesia and UNPAD is one of the most prestigious universities in the country. Consequently, UNPAD is able to only accept the best candidates. From their discussion with the students, the peers gain the impression that the admission system is very effective and only very motivated and high-performing candidates are admitted. The peers consider the highly selected and dedicated students to be one of the strong points of the degree programmes under review.

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

The yearly intake of new students for the bachelor programmes is depicted in the following table:

Study Program (Ba)	Interested									Accepted									
	2020			2019			2018			2020			2019			2018			
	SNMPTN	SBMPTN	SMUP	SNMPTN	SBMPTN	SMUP	SNMPTN	SBMPTN	SMUP	SNMPTN	SBMPTN	SMUP	SNMPTN	SBMPTN	SMUP	SNMPTN	SBMPTN	SMUP	
Fisheries Sciences	372	501	102	422	588	36	693	1128	49	74	131	40	87	7	72	121			
Fisheries Sciences Pangandaran C	41	97	19		288			174	11	12	23		30	15		36			
Marine Sciences	323	507	199	427	527	80	832	1728	25	40	66	25	58	23	28	54			

Criterion 1.5 Workload and Credits

Evidence:

- Self-Assessment Report
- UNPAD Admission Guide
- Homepage UNPAD: <https://www.unpad.ac.id/en/>
- Discussions during the audit
- Module descriptions

Preliminary assessment and analysis of the peers:

Based on the National Standards for Higher Education of Indonesia (SNPT), all programmes use a credit point system called SKS (or CSU), which is regulated as follows:

Type of activity	Definition of 1 CSU/week/semester	Duration (min)	TOTAL (min)
Classroom course	Classroom meeting	50	170
	Structured task	60	
	Independent work	60	
Practical course	Practical work	170	170
Seminar	Seminar meeting	100	170
	Independent work	70	

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.

The students' total workload (contact hours and self-studies) of the Bachelor's programme Marine Science is 147 credits, evenly distributed in 8 semesters. Both Bachelor's programmes in Fisheries comprise 144 credits spread over 7 semesters. One ECTS point is awarded for 30 hours of students' total workload. The overall number of ECTS is 222 for the Marine Science programme and 218 for the fisheries programmes. To complete the degree programmes in time, Bachelor students need to take on average 18 SKS per semester excluding co-curricular contents. However, the regular schedule usually covers 19-21 SKS per semester to give more space in the last semesters for resits, or their bachelor thesis. 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.

The Master's programme Fisheries requires students to complete 44 credits (1933 hours, 66 ECTS) for all courses in 4 semesters. To complete the programme on time, students need

to take an average of 11 SKS per semester. The same goes for the Master's programme Marine Conservation that requires students to complete 42 credits (1904 hours, 63 ECTS) in 4 semesters as well.

According to the data provided by UNPAD, the average length of studies is 4,9 years for the Marine Science, 4,6 years for the Fisheries programme at Bandung Campus and 4 years for the Fisheries programme at Pangandaran Campus. Both master programmes have just been established and therefore cannot present any graduate numbers.

The peers discuss with the students about the reasons for the extended study durations. While they state that the overall workload during the semesters is not too high and feasible for them, they also mention difficulties regarding their final thesis work. It takes them more time to prepare their own experiments and collect data on living subjects, which then leads to extended study durations. The peers urge UNPAD to investigate this problem and to restructure the final research project in a manner that ensures that students can finish their studies on time.

Criterion 1.6 Didactic and Teaching Methodology

Evidence:

- Self-Assessment Report
- UNPAD Admission Guide
- Homepage UNPAD: <https://www.unpad.ac.id/en/>
- Discussions during the audit
- Module descriptions

Preliminary assessment and analysis of the peers:

The degree programmes under review make use of several different educational methods for each module such as active instruction (lectures, exercises, practical laboratory work, seminars, etc.), independent work, field studies, exams, writing of final papers, internships, and Community Service.

During the classes, active and interactive teaching methods (e.g. lectures, discussions, reports, presentations, and group work) are applied. UNPAD wants to encourage the students to gain knowledge from different scientific areas and wants to introduce them to research activities. This should ultimately contribute to the transition from a teacher-centred to a student-centred and outcome based learning approach.

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

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

Criterion 1.1

UNPAD states that it initiated a process with its stakeholders to differentiate the Fisheries Programme Campus Pangandaran Campus (FPCP) from the regular Fisheries Programme. The peers inspect the draft version of the new curriculum for the FPCP and welcome the planned changes.

In order to fully assess the planned changes, the peers ask UNPAD to hand in an updated version of the module handbook which includes the updated and new courses.

Criterion 1.3

UNPAD agrees with the peers' assessment and explains that it will consider the requirements of the peers in order to adjust the curricula. Aspects such as the continuation of the Fisheries programmes as well as the visibility of the three lines of education (Conservation, Hydro-oceanography and Biotechnology) in the Marine Sciences programme will be part of the adjustment process.

The peers understand the reasoning behind the structure of the MSP and FMP and appreciate the clarification.

UNPAD states that content such as stakeholder conflicts and stock assessment is taught in different courses in the fisheries bachelor's programmes, e.g. as sociology of fisheries and parasite and fish diseases as well as fish health management. The peers welcome this clarification but urge that the contents should be clearly more clearly visible in the module descriptions.

UNPAD explains that occupational safety/safety at sea is addressed in several courses, e.g. in the marine survey and diving course. The peers are satisfied with the fact that safety at sea is already part of the curriculum. However, they ask UNPAD to revise the module descriptions of the mentioned courses in order to ensure that all contents are visible.

UNPAD presents many approaches to improve the international mobility of UNPAD students. The peers are very satisfied with the students' opportunities and hope that these will lead to increasing numbers of incoming and outgoing students in the future.

Criterion 1.5

The peers appreciate UNPADS efforts to help students graduate on time. They are curious to see if these strategic interventions will pay off. To assess, this they ask for the updated module descriptions of the theses as well as any other documents that document the progress.

In summary, the peers consider that criterion 1 will be **mostly fulfilled** after implementation of the changes already announced.

2. Exams: System, Concept and Organisation

Criterion 2 Exams: System, concept and organisation

Evidence:

- Self-Assessment Report
- Study plans
- Module descriptions
- Academic Guidelines

Preliminary assessment and analysis of the peers:

According to the Self-Assessment Report, the students' academic performance is evaluated based on their attendance and participation in class, their laboratory works and reports, assignments, homework, presentations, mid-term exam, and the final exam at the end of each semester. The form and length of each exam is mentioned in the module descriptions that are available to the students via UNPAD's homepage and the digital platform SIAT.

Grading of students is done by continuous monitoring and is based on the points earned in the different exams and assignments. The final grade is the result of the different activities in the course, which may include practical and clinical exercises, oral exams, seminar papers, professional practise, mid-term and final exam, graduation thesis and colloquium. Students have to attend at least 80% of the sessions and 100% of the practical activities to take the final exam. Students who are sick, participate in curricular or extra-curricular

events out campus or have other reasons that are approved by the Dean or Chancellor are permitted to take a supplementary exam that has to be arranged within the following week.

If a student fails, he has to repeat the entire module in the following semesters; it is not possible to retake just parts of the course or to just retake the final exam. The further details are described in the Academic Guidelines.

As the peers learn during the audit, UNPAD does not offer a summer semester. As a result, the students cannot use this short semester to make up on missed classes or failed exams. However, UNPAD gives students the opportunity to re-sit their final exams at the end of each semester. Usually students who failed an exam or received a grade below B will take part at the re-examination.

At UNPAD, students have the chance to examine, discuss, and appeal their final grade results. First, students should address the teacher of the respective course and if there is still disagreement, they can appeal to the programme coordinator who will review the grade.

The students confirm that they are well informed about the examination schedule, the examination forms and the rules for grading. The peers confirm that there is a form of assessment for each course and that all students are well informed about the form of assessment and the details of what is required to pass the module. The rules for re-sits, disability compensation, illness and other circumstances are detailed in the rulebook on examination and assessment, which can be assessed online, and are therefore transparent to all stakeholders.

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

The peers conclude that the criteria regarding the examination system, concept, and organization are fulfilled and that the examinations are suitable to verify whether the intended learning outcomes are achieved or not.

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

The peers consider criterion 2 to be **fulfilled**.

3. Resources

Criterion 3.1 Staff and Development
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Evidence:

- Self-Assessment Report
- Staff handbook
- Discussions during the audit

Preliminary assessment and analysis of the peers:

At UNPAD, the staff members have different academic positions. There are professors, associate professors, assistant professors and 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.

According to the Self-Assessment Report, the teaching staff at the Faculty of Fisheries and Marine Science consists of 67 full-time teachers (4 professors, 16 associate professors, 26 assistant professors, 12 instructors and 9 lecturers). 28 academic staff members hold PhD degrees and 39 a Master's degree. 54 staff members support the teaching body as librarians, laboratory assistant/technician/analyst and in administration.

All members of the teaching staff are obliged to be involved in (1) teaching/advising, (2) research, and (3) community service. As the peers learn during the audit, all teachers have a workload between 12 and 16 credits per semester (one credit equals 170 minutes of activities per week). However, the workload can be distributed differently between the three areas from teacher to teacher.

The ratio between lecturer to active students for each degree programme under review are 1: 9 (MSP), 1:22 (FP), 1:22 (FPCP), 1:18 (MCMP) and 1:17 (FMP). The peers consider this ratio sufficient.

In summary, the peers confirm that the composition, scientific orientation and qualification of the teaching staff are suitable for successfully implementing and sustaining the degree programmes.

The auditors are impressed by the excellent and open-minded atmosphere among the students and the staff members. This atmosphere of understanding and support is one of the strong points of the degree programmes.

UNPAD encourages the training and further development of its staff members and has established the Learning Innovation Center (Pusat Inovasi pengajaran dan pembelajaran).

Lecturers are provided with pedagogical training and development programmes such as PEKERTI, particularly for junior lecturers, and Applied Approach (AA) for both junior and senior lecturers. Those programs are organised by the Teaching and Learning Innovation Center, which also provides training for e-learning and new teaching and learning methods.

The professional development of academic staff members by supporting their scientific career by sending them abroad for following a PhD programme and by offering English language classes. In addition, senior teachers mentor and train the newly recruited staff members in three aspects: teaching, research, and community services. On the other hand, junior teachers have to assist senior teachers as lecturers for a minimum of one semester.

There are financial resources available for academic 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.

The peers discuss with the members of the teaching staff the opportunities to develop their personal skills and learn that the teachers are satisfied with the internal qualification programme at UNPAD, their opportunities to further improve their didactic abilities and to spend some time abroad to attend conferences, workshops or seminars; even a sabbatical leave is possible.

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

UNPAD offers a comprehensive advisory system for all undergraduate students. At the start of the first semester, every student is assigned to an academic advisor. Each academic advisor is a member of the academic staff and is responsible for approximately 20 students (BP programme) or 10 students (MCP programme) from his classes. He is a student's first port of call for advice or support on academic or personal matters.

The role of the academic advisor is to help the students with the process of orientation during the first semesters, the introduction to academic life and the university's community, and to respond promptly to any questions. They also offer general academic advice, make suggestions regarding relevant careers and skills development and help if there are problems with other teachers. The students confirm during the discussion with the peers that they all have an academic advisor. In addition, UNPAD provides each student with a

thesis supervisor, who is assigned based on the research topics. The thesis supervisor assists the students in conducting research, monitors the progress, and evaluates the performance.

All students at UNPAD have access to the Integrated Information System of Universitas Padjadjaran (SIAT). The students' profiles (student history, study plan, academic transcript and grade point average/GPA, lecturer evaluation, and course lists) are available via SIAT.

Furthermore, UNPAD offers licensed psychologists to students if they need experts to help them with personal or mental problems. Finally, there are several student organizations at UNPAD; they include student's activity clubs, which are divided into arts, sports, religious and other non-curricular activities.

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

Criterion 3.2 Funds and equipment

Evidence:

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

Preliminary assessment and analysis of the peers:

The Fisheries and Marine Science faculty has a manifold of buildings that contain lecture halls, laboratories, libraries and canteens. Five buildings are situated at the Campus in Bandung and one at the Pangandaran Campus. There are eight laboratories, including a field laboratory, nature laboratory, a marine station and a floating cage. All these facilities are available for practical laboratory work in the Bachelor's programmes as well as for research activities for Master's students.

In addition, there is central laboratory at UNPAD which can be used by all staff members. More sophisticated instruments than in the laboratories of the Faculty of Fisheries and Marine Science are available there. Moreover, the manifold partners from the industry and governmental institutions also provide teachers and advanced students (e.g. in the course of their thesis work) to use their laboratories and their advanced technical equipment.

Basic funding of the programmes and the facilities is provided by UNPAD and the Faculty

of Fisheries and Marine Science. Additional funds for research activities can be provided by UNPAD or the Indonesian government (Bantuan Pendanaan Perguruan Tinggi Nasional, BPPTN), but the teachers have to apply for them. In addition, there are several co-operations with industrial partners. As the rector explains during the audit, 39.4 % of the funds derive from tuitions fees, 36.2% from the Indonesian government, and 24.4% from other sources (including university business units and cooperations with companies).

The provided budget allows the Faculty of Fisheries and Marine Science to conduct the study programmes as well as some specific activities, including student exchange programmes, student financial assistance for research, and participation in international conferences.

The programme coordinators emphasise that from their point of view, all programmes under review receive sufficient funding for teaching and learning activities. Hence, the Departments do not face any financial shortages. Of course, there is limited funding to modernize or add laboratory equipment, but there are sufficient resources for adequately teaching the classes.

From the provided documents and videos of the laboratories, the peers deduct that there seem to be no severe bottlenecks due to missing equipment or a lacking infrastructure. The basic technical equipment for teaching the students is available, although it is not state of the art in all cases. The students and teaching staff confirm during the discussion with the peers that, in general, they are satisfied with the available equipment, but several instruments are outdated. Moreover, the peers learn during the audit that students can use and operate the instruments in the laboratories by themselves after being trained and instructed by either senior students or lab technicians. Each laboratory has a lab supervisor; in addition, there are several senior students, which work as lab assistants. In addition, teachers and students can use the facilities of UNPAD's central laboratory. Here, more sophisticated instruments are available and lab technicians are present to operate them. Teachers have to apply for using the facilities and are charged for the provided services.

The peers emphasise that the field station of "freshwater aquaculture" seems to be less developed. It could be upgraded and expanded to provide RAS and Aquaponics research facilities for students. The equipment should be improved with additional multiprobes for student activities.

The students also express their satisfaction with the library and the available literature, journals (e.g. SAGE Journals, Cambridge Core, Clinical Key, Ebsco Host, Emerald Insight, Oxford, SAGE research Methods, E-Journal Springer, Springer Nature Experiments, Nature, and Thom-son Reuters Westwals), and scientific databases (e.g. Science Direct).

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

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

The peers appreciate UNPAD'S commitment to improve their facilities.

The peers consider criterion 3 to be **fulfilled**.

4. Transparency and documentation

Criterion 4.1 Module descriptions

Evidence:

- Self-Assessment Report
- Module descriptions
- Homepage Faculty of Fisheries and Marine Science: <https://www.unpad.ac.id/en/fakultas/fishery-and-marine-science/>

Preliminary assessment and analysis of the peers:

According to the critique raised under criterion 1.3, the module descriptions need to be adjusted. First of all the titles of the modules and their description need to correspond with the module's and programme's learning outcomes, second it has to be ensured that students are sufficiently informed about the education lines of the programmes. This could be done for example by creating a curriculum overview with color-coding.

For this reason, the peers expect UNPAD to update the module descriptions, to check for inconsistencies and to align them with the programme learning outcomes.

Criterion 4.2 Diploma and Diploma Supplement

Evidence:

- Self-Assessment Report
- Sample Diploma Supplement for each degree programme

- Sample Diploma for each degree programme
- Sample Transcript of Records

Preliminary assessment and analysis of the peers:

The peers confirm that the students of all degree programmes are awarded a Diploma and a Diploma Supplement after graduation. However, the provided sample Diploma Supplements are incomplete and do not include all necessary information about the degree programme.

In addition, the peers point out that the Transcript of Records needs to list all courses that the graduate has completed, the achieved credits, grades, relative grades and cumulative GPA.

Criterion 4.3 Relevant rules

Evidence:

- Self-Assessment Report
- Homepage UNPAD: <https://www.unpad.ac.id/en/>
- Homepage Faculty of Fisheries and Marine Science: <https://www.unpad.ac.id/en/fakultas/fishery-and-marine-science/>

Preliminary assessment and analysis of the peers:

The auditors confirm that the rights and duties of both UNPAD and the students are clearly defined and binding. All rules and regulations are published on UNPAD's website and hence available to all relevant stakeholders.

A deficit the peers notice is the fact that not all relevant information about the degree programmes (e.g. intended learning outcomes, profile, curriculum, module descriptions, and academic guideline, mobility window) is available on the English homepage of the programmes. For this reason, the peers expect UNPAD to publish all relevant information on the programme's English homepage. This way, it is ensured that all stakeholders are well informed about the programmes.

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

Criterion 4.1

UNPAD agrees with the peers' assessment and will adjust the modules and their descriptions in order to align them with the learning outcomes and the overall structure of the degree programmes.

Criterion 4.2

UNPAD also states that the Diploma Supplement is following UNPAD standardization and that its amendment will take time.

Criterion 4.3

UNPAD presents links to its website where all relevant information can be found.

In summary, the peers consider criterion 4 to be **partly fulfilled**.

5. Quality management: quality assessment and development

Criterion 6 Quality management: quality assessment and development

Evidence:

- Self-Assessment Report
- Quality Policy UNPAD
- Academic Guidebook
- Discussions during the audit

Preliminary assessment and analysis of the peers:

The peers discuss the quality management system at UNPAD with the programme coordinators and the students. They learn that there is a continuous process in order to improve the quality of the degree programmes and it is carried out through internal and external evaluation. The quality assurance system at UNPAD is conducted by the Office of Quality Assurance (SPM), which is supported by the Quality Assurance Unit (UPM) at faculty level.

Internal evaluation of the quality of the degree programmes is mainly provided through student and alumni surveys (annual tracer study conducted by the university). The students give their feedback on the courses by filling out the questionnaire online. Giving feedback on the classes is compulsory for the students; otherwise, they cannot access their account on the digital platform SIAT. The course evaluations are held during the final exam week. A

compilation of the students' feedback is sent to the respective lecturers. As the students point out during the discussion with the peers, there is also the possibility to give a direct and informal feedback to the teacher. The feedback will then be discussed in the courses by each lecturer.

External quality assessment of the degree programmes is provided by the Board of National Accreditation (BAN-PT).

The auditors gain the impression that the Faculty of Fisheries and Marine Science takes the students' feedback seriously and changes are made if necessary. Additionally, once a year the students' representative body (Badan Perwakilan Mahasiswa, BPM) holds a formal meeting. During this meeting, the Vice Dean, Study Program Coordinators, and the Manager of learning and Student Affairs meet with the students' representatives to discuss their suggestions.

UNPAD regularly conducts an alumni tracer study. By taking part at this survey, alumni can comment on their educational experiences at UNPAD, the waiting period for employment after graduation, their professional career, and they can give suggestions how to improve the programme. Moreover, the employers are asked to give feedback to UNPAD on employability and acquired competencies of UNPAD's graduates. During the audit, the employers express their general satisfaction with the qualification profile. They highlight the soft skills of the students as well as their scientific training and their ability to adapt in the field. Industry is also involved in the programmes through close cooperation with UNPAD lecturers and through various guest lectures.

The peers discuss with the representatives of UNPAD's partners from public institutions and private companies if there are regular meetings with the partners on faculty or department level, where they discuss the needs and requirements of the employers and possible changes to the degree programmes. They learn that some employers and alumni are invited to give their feedback on the content of the degree programmes. The peers appreciate that UNPAD stays in contact with its alumni and has a close relation with its partners from the industry.

In summary, the peer group confirms that the quality management system at UNPAD is suitable to identify weaknesses and to improve the degree programmes.

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

The peers consider criterion 5 to be **fulfilled**.

D Additional Documents

No additional documents needed

E Comment of the Higher Education Institution (11.11.2022)

The Degree Programme: Concept, content & implementation

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

The distinction of the Fisheries Program (FP) and Fisheries Program Campus Pangandaran (FPCP) are decided by Unpad after the 5 years of the FPCP establishment. The FP Study Program focused on inland fisheries, however, several courses and research still linked to the inland, coastal, and marine.

The initial internal discussion of stakeholders such as university, faculty and the study program are carried out to further design the specialization of FPCP. To re-design, adjust, delineate and integrate the curriculum with the updated PEO and ILO's will be developed that merely focus on arranging curricula of the program to be specifically in marine and coastal oriented includes the additional course and subject through workshop series organized by university and Faculty of Fisheries and Marine Sciences UNPAD. The workshop will involve the respective stakeholder alumni, government, higher education authority, marine and fisheries industrial counterpart, students, and other relevant parties. The draft of curricula of FPCP are available on the attachment file.

The adjustment for the continuation of the Bachelor Program to the Master's program Fisheries (FMP) to ensure that the three lines of education (MSP: Conservation, Hydro-oceanography and Biotechnology) will be considered and integrating the curricula based the research and education focus, also on the Indonesian Standard for Qualification Framework (SKKNI) differentiate the bachelor degree (basic) and master's degree (advanced).

Concluding this criterion, the faculty and study program agree with peers, and commit to adjust the learning outcomes and the curriculum, in order to distinguish them from each other and other programmes in Indonesia. The improvement of PEO, LO's and curriculum include the course subject will be discuss on workshop engaging all partners.

Criterion 1.3 Curriculum 0 Appendix: Curricula

The curricula of the five degree programmes are developed and evaluated in accordance with the existing regulations and guidelines that include the internal regulations of UNPAD, the Indonesian National Qualification Framework, as well as regulations from the Ministry of Research, Technology, and Higher Education.

Additional information from the previous criterion (Criterion 1.1), we agree with peers to distinguish of focus in between FP and FPCP, and all study program. Furthermore, the several course, subject, and modules are suggested by peers to each study program comments below:

- **MSP:** Regarding the peers comment addressing the computer and big data course in semester 2 seems to be too early. The big data and computer courses offered by the marine science study program is merely taught the basics of data, especially data in the marine science field, and this course analyses the basics of data using computers. On the other hand, we include the big data and computer course in semester 2. With the aim that after semester 2 students are accustomed to using computers and familiar with the types of data in marine science. In the marine science study program (MSP), writing courses is divided into two parts, namely ethics of scientific writing and scientific writing. For ethics of scientific writing, this course will train students with the basics of scientific writing. This course is offered in semester 1 with the aim that students are familiar with writing ethics to avoid the plagiarism and writing quotes when adapting writings from research article or journal from the beginning of their study. As for scientific writing, we do offer it in semester 5. In this course, students will be taught how to write scientific writing well.

- **FP:** Addressing the issues of the environmental impact of fisheries and aquaculture and stakeholder conflicts, as well as courses on stock assessment methodologies and the treatment of fish diseases treatments (incl. parasites, bacteria, fungi and virus), We realize that the environmental impact of fisheries and aquaculture is part of the aquaculture engineering course, technology of waste water treatment course, then the stakeholder conflict topics is delivered as part of sociology of fisheries (address the fisheries society), later on the stock assessment is deliver on Population Dynamic course and Fisheries Resources course, later on the treatment of fish diseases is deliver on parasite and fish diseases course, and fish health management.

- **FMP:** Regarding the systematic composition of the curriculum:

1. Semester standardization of students' skills,
2. Semester subject specific courses,

3. Electives and highly specialized courses based on the UNPAD profile,
4. Semester master thesis. and reorganized the course or subject.

The FMP insist the course Digital Fisheries runs on third semester is based on the integrative approach of data is needed from the previous subjects.

- **MCP:** the Marine Conservation program to be reasonably structured and in line with the learning outcomes of the program. Refers to all study program the share of elective modules could be higher and the list of elective modules could be expanded, and add the topic safety/occupational safety at sea.

Related the topic safety/occupational safety at sea, this issue is partially addressed in several approach, the faculty has guidelines for safety including safety at the sea, several subjects on bachelor program (MSP) are addressed the issues, the marine survey course, and diving course.

For additional information, the all programmes of Faculty of Fisheries and Marine Sciences, UNPAD have been contribute to achieve the targets of SDGs in Goal 14, which is not only beneficial for sustainable marine ecosystem management but also has an impact on the achievement of other SDGs Goals, namely Goal 1, Goal 2, Goal 8, Goal 11, Goal 12 and Goal 13 which are the results of the analysis. scientific studies by the International Council of Science (ICSU, 2017) (<https://sdgs.unpad.ac.id/sdg14/>). Based on the THE results of impact ranking 2022 of Life below water (SDG 14), UNPAD ranked 35, which the 1st national rank with the score 84.1 (https://www.timeshighereducation.com/rankings/impact/2022/life-below-water#!/page/0/length/25/locations/IDN/sort_by/rank/sort_order/asc/cols/undefined).

According to those facts, The Faculty of Fisheries and Marine Sciences, UNPAD agrees to the peer's statement that, the four programs (MSP, FP, FPC and FMP) needs to be revised to align with their learning outcomes and to make them distinguishable. The adjustment and improvement of the LO's and modules of each study program will be discussed on the workshop engaging with all partners.

International Mobility

In order to provide significant contributions to the nation and the world, UNPAD sets its vision to be a world class university. UNPAD has partnered with many international universities to share knowledge and promote intercultural learning, ensuring its graduates are in high demand on the global stage.

All of the university programs are designed in such a way as to ensure the students are able to seize many different pathways in gaining international recognition, experience, and qualifications. Our students have been well-received by the university network of partner universities and have accomplished outstanding academic achievements. The UNPAD student exchange program is a program offered for partner university students of UNPAD students who meets the qualification set by UNPAD and the chosen partner university. UNPAD students who are interested in participating in the program must apply through the UNPAD International Office. Due to the agreement, students who participate in this program are exempted from the tuition fees in the partner universities. The credits of the courses taken from the partner university could be transferred to Unpad based on the approval of the students department and faculty and vice versa. The regular inbound-Outbound exchange partners are Tenri University Japan, Rikkyo University Japan, Fukuoka University Japan, Tsukuba University Japan, Kwansai Gakuin University, Japan, Ajou University South Korea. More exchange programs are provided by the Government of Indonesia called Indonesian International Student Mobility Awards (IISMA) which is open every semester to all students in Indonesia (<https://site.iisma.id>).” with the high competitive and high qualification of academic and English proficiency. UNPAD agree with peers that students should improve their English proficiency in order to increase their chances for receiving international exchange scholarship or international job perspectives. Actually UNPAD has provide the routine English program for students, through the Faculty of Cultural Sciences held an online English Language Proficiency Test (<https://international.unpad.ac.id/unpad-holds-online-english-language-proficiency-test/>). Beside that, The Faculty of Fisheries and Marine Sciences provide the international internship program with international fisheries and marine sciences industries in Japan. Since 2021 more than 35 students have been participating in this program. Regarding the peer’s recommendation to further internationalize UNPAD by inviting more international guest lecturers, conducting summer schools, UNPAD agree to expand collaboration like joint lecture, inviting guest lecturers, joint publication, etc. During the past one year, The Faculty of Fisheries and Marine Sciences have been inviting 25 guest lecturers from partner universities. In addition, UNPAD actually organized the summer program every year, and each faculty including the Faculty of Fisheries and Marine Sciences. Since 2021, The faculty organized the summer program every year with high enthusiasm from international partner university students with the participation more than 150 international students.

Adding the comment to increase the numbers of student mobility participants, we develop international lecture and seminar by inviting the experts, conducted international exchanges program, the detail information of international mobility in faculty as follows <https://fpik.unpad.ac.id/en/international/>, at the same time the support from the university are various mobility program such as international joint research, double degree program, international exchange can be follow at <https://international.unpad.ac.id/about-international-office/> In order to increase the scholarships opportunities for the students, the improvement of student English proficiency is needed. UNPAD agree with peers to improve the student's English proficiency.

Criterion 1.4 Admission requirements

The admission requirements to support the students in achieving the intended learning outcomes were transparently display on university website and updated based on latest information. The admission of national selection (SNMPTN, SBMPTN and UTBK) can be accessed at <https://ltmpt.ac.id> , while the UNPAD independent admission can be accessed at <https://smup.unpad.ac.id>. Furthermore, the academic guidelines provided at the Faculty of Fisheries and Marine Sciences website <https://fpik.unpad.ac.id>. Mainly in the SNMPTN selection (national written test), the performance of students in these areas could be improved; however, this is not up to the university.

Criterion 1.5 Workload and Credits

Regarding the final research project in order to achieve the students to graduate in time, we agree with peers to improve the study rate and already develop several approaches below:

1. Joint research collaboration with lecturer and partners, this strategy will support the student research fund and make the deliverable based the schedule.
2. Simultaneous internship and researches will be developed that link to the MBKM program.
3. Scheduling and rearrangement of the seminar as well as final exam (thesis defend). This approach has succeed improving to achieve the student rate to graduate in time with more than 50% in 2019.

Resources

Criterion 3.2 Funds and equipment

Universitas Padjadjaran and Faculty of Fisheries and Marine Sciences are committed to conduct high quality education services and research. The facilities revitalization will be part of our commitment.

UNPAD agree with peers to revitalize the field station of “freshwater aquaculture” and upgraded and expanded the RAS and Aquaponics research facilities for students. Upgrading the facilities will be proposed and to be prioritized in the upcoming years.

Transparency and documentation

Criterion 4.1 Module descriptions

The critique and comments from peers in line with the criterion 1.3, the module descriptions need to be adjusted. We agree with the peers the titles of the modules and the description will be adjusted that correspond with the modules and program’s learning outcomes to ensure students are sufficiently informed about the education lines of the programs. Moreover, all information listed will be displayed at the faculty and study program website.

The inconsistencies of the learning outcomes will be evaluated and adjusted to be linked to the PEO, LO’s, modules, and integrating of continuation from bachelor degree to master degree. The adjustment program will be discussed at the workshop engaging, lecture, students, alumni, and all partners in the future.

Criterion 4.2 Diploma and Diploma Supplement

The transcript from Faculty of Fisheries and Marine Sciences listed all the courses is received by the graduates to confirm the completion of study. The achieved credits are shown in grades level (A= 4, B = 3, C = 2 and D = 1), and cumulative GPA, regarding the absent of relative grades, the transcripts is following the UNPAD standardization. Therefore, it takes time to change and adjust. Due to the incomplete of diploma supplement, the detail information can be accessed on https://drive.google.com/drive/folders/1D2Am_4EvHasoOm5FbgYpaKV2NbmDIjAh

Criterion 4.3 Relevant rules

To address the peers' comment for the relevant information about the degree programs (e.g., intended learning outcomes, profile, curriculum, module descriptions, and academic guideline, mobility window) in English, we realize the display still developed for user friendly.

The relevant rules and document are displayed at the website, the detail information for each study program as follow:

1. Marine Science Program (MSP): <https://fpik.unpad.ac.id/en/program-studi-ilmu-kelautan/>
2. Fisheries Program (FP): <https://fpik.unpad.ac.id/en/program-studi-perikanan/>
3. Fisheries Program Campus Pangandaran (FPCP): <https://fpik.unpad.ac.id/en/program-studi-perikanan-psdku-pangandaran/>
4. Marine Conservation Master Program (MCMP): <https://fpik.unpad.ac.id/en/magister-konservasi-laut/>
5. Fisheries Master Program (FMP): <https://fpik.unpad.ac.id/en/prodi-magister-ilmu-perikanan/>

F Summary: Peer recommendations (18.11.2022)

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

Degree Programme	ASIIN-seal	Subject-specific label	Maximum duration of accreditation
Ba Fisheries Sciences	With requirements for one year	-	30.09.2028
Ba Fisheries Sciences (Pangandaran Campus)	With requirements for one year	-	30.09.2028
Ba Marine Sciences	With requirements for one year	-	30.09.2028
Ma Marine Conservation	With requirements for one year	-	30.09.2028
Ma Fisheries Sciences	With requirements for one year	-	30.09.2028

Requirements

For all study programmes

- A 1. (ASIIN 1.5) Structure the final thesis project in a manner that ensures that students can finish their studies on time.
- A 2. (ASIIN 4.1) The module descriptions need to be revised in a way that they reflect the content and the name of the module.
- A 3. (ASIIN 4.2) The transcript of records needs to list all courses with their credits (SKS and ECTS) and needs to include information about the final grade and relative grades.

For the Master's degree programmes Fisheries

- A 4. (ASIIN 1.3) Restructure the curriculum in a way that it reflects a meaningful continuation of the bachelor programmes. Content such as methodologies in stock assessment, fish parasitology and fish morphometrics need to be included.

For the Bachelor's degree programmes Fisheries (Bandung Campus) and (Fisheries Pangandaran Campus)

- A 5. (ASIIN 1.1, 1.3, 4.1) Ensure that the focus of the two degree programmes – “Inland Fisheries and Aquaculture” and “Sustainable coastal and oceanic fisheries” – correspond with the intended learning outcomes and contents. This must be clearly visible within the title of the courses and module descriptions.

For the Bachelor's degree programme Marine Sciences

- A 6. (ASIIN 1.3) It has to be ensured that the three lines of education (Conservation, Hydro-oceanography and Biotechnology) are reflected in the curriculum and prepare students for a consecutive master in the respective field.

Recommendations

For all programmes

- E 1. (ASIIN 1.3) It is recommended to strengthen the university's internationalization efforts, for instance by establishing more international collaborations and providing more information, support and funding opportunities for student mobility and by teaching more courses in English.
- E 2. (ASIIN 1.3) It is recommended to improve the entrepreneurial skills of the students.
- E 3. (ASIIN 1.3) It is recommended to increase the number of elective courses.

For the Bachelor's degree programmes Fisheries

- E 4. (ASIIN 3.2) It is recommended to update the research facility for inland fisheries/freshwater aquaculture, especially upgrading the system with a recirculation aquaculture system (RAS) and aquaponics.
- E 5. (ASIIN 1.3) It is recommended to increase the share of elective courses.

For the Bachelor's degree programme Marine Sciences

E 6. (ASIIN 1.3) It is recommended to restructure the curriculum.

For the Master's degree programmes Fisheries

E 7. (ASIIN 1.3) It is recommended to introduce elective courses on fishing economy, product and product development, and impact of fisheries and aquaculture on aquatic environments.

E 8. (ASIIN 1.3) It is recommended to revise the structure of the curriculum.

G Comment of the Technical Committee (21.11.2022)

Technical Committee 08 – Agriculture, Forestry, Food Sciences, and Landscape Architecture

Assessment and analysis for the award of the ASIIN seal:

The Technical Committee discusses the procedure and follows the assessment of the auditors.

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

Degree Programme	ASIIN-seal	Subject-specific label	Maximum duration of accreditation
Ba Fisheries Sciences	With requirements for one year	-	30.09.2028
Ba Fisheries Sciences (Pangandaran Campus)	With requirements for one year	-	30.09.2028
Ba Marine Sciences	With requirements for one year	-	30.09.2028

Degree Programme	ASIIN-seal	Subject-specific label	Maximum duration of accreditation
Ma Marine Conservation	With requirements for one year	-	30.09.2028
Ma Fisheries Sciences	With requirements for one year	-	30.09.2028

Requirements

For all study programmes

- A 1. (ASIIN 1.5) Structure the final thesis project in a manner that ensures that students can finish their studies on time.
- A 2. (ASIIN 4.1) The module descriptions need to be revised in a way that they reflect the content and the name of the module.
- A 3. (ASIIN 4.2) The transcript of records needs to list all courses with their credits (SKS and ECTS) and needs to include information about the final grade and relative grades.

For the Master's degree programmes Fisheries

- A 4. (ASIIN 1.3) Restructure the curriculum in a way that it reflects a meaningful continuation of the bachelor programmes. Content such as methodologies in stock assessment, fish parasitology and fish morphometrics need to be included.

For the Bachelor's degree programmes Fisheries (Bandung Campus) and (Fisheries Pangandaran Campus)

- A 5. (ASIIN 1.1, 1.3, 4.1) Ensure that the focus of the two degree programmes – “Inland Fisheries and Aquaculture” and “Sustainable coastal and oceanic fisheries” – correspond with the intended learning outcomes and contents. This must be clearly visible within the title of the courses and module descriptions.

For the Bachelor 's degree programme Marine Sciences

- A 6. (ASIIN 1.3) It has to be ensured that the three lines of education (Conservation, Hydro-oceanography and Biotechnology) are reflected in the curriculum and prepare students for a consecutive master in the respective field.

Recommendations

For all programmes

- E 1. (ASIIN 1.3) It is recommended to strengthen the university's internationalization efforts, for instance by establishing more international collaborations and providing more information, support and funding opportunities for student mobility and by teaching more courses in English.
- E 2. (ASIIN 1.3) It is recommended to improve the entrepreneurial skills of the students.
- E 3. (ASIIN 1.3) It is recommended to increase the number of elective courses.

For the Bachelor's degree programmes Fisheries

- E 4. (ASIIN 3.2) It is recommended to update the research facility for inland fisheries/freshwater aquaculture, especially upgrading the system with a recirculation aquaculture system (RAS) and aquaponics.
- E 5. (ASIIN 1.3) It is recommended to increase the share of elective courses.

For the Bachelor's degree programme Marine Sciences

- E 6. (ASIIN 1.3) It is recommended to restructure the curriculum.

For the Master's degree programmes Fisheries

- E 7. (ASIIN 1.3) It is recommended to introduce elective courses on fishing economy, product and product development, and impact of fisheries and aquaculture on aquatic environments.
- E 8. (ASIIN 1.3) It is recommended to revise the structure of the curriculum.

H Decision of the Accreditation Commission (09.12.2022)

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

The Accreditation Commission discusses the procedure. They agree with the assessment of the auditors and the technical committee.

The Accreditation Commission decides to award the following seals:

Degree Programme	ASIIN-seal	Subject-specific label	Maximum duration of accreditation
Ba Fisheries Sciences	With requirements for one year	-	30.09.2028
Ba Fisheries Sciences (Pangandaran Campus)	With requirements for one year	-	30.09.2028
Ba Marine Sciences	With requirements for one year	-	30.09.2028
Ma Marine Conservation	With requirements for one year	-	30.09.2028
Ma Fisheries Sciences	With requirements for one year	-	30.09.2028

Requirements

For all study programmes

- A 1. (ASIIN 1.5) Structure the final thesis project in a manner that ensures that students can finish their studies on time.
- A 2. (ASIIN 4.1) The module descriptions need to be revised in a way that they reflect the content and the name of the module.
- A 3. (ASIIN 4.2) The transcript of records needs to list all courses with their credits (SKS and ECTS) and needs to include information about the final grade and relative grades.

For the Master's degree programmes Fisheries

- A 4. (ASIIN 1.3) Restructure the curriculum in a way that it reflects a meaningful continuation of the bachelor programmes. Content such as methodologies in stock assessment, fish parasitology and fish morphometrics need to be included.

For the Bachelor's degree programmes Fisheries (Bandung Campus) and (Fisheries Pangandaran Campus)

- A 5. (ASIIN 1.1, 1.3, 4.1) Ensure that the focus of the two degree programmes – “Inland Fisheries and Aquaculture” and “Sustainable coastal and oceanic fisheries” – correspond with the intended learning outcomes and contents. This must be clearly visible within the title of the courses and module descriptions.

For the Bachelor's degree programme Marine Sciences

- A 6. (ASIIN 1.3) It has to be ensured that the three lines of education (Conservation, Hydro-oceanography and Biotechnology) are reflected in the curriculum and prepare students for a consecutive master in the respective field.

Recommendations

For all programmes

- E 1. (ASIIN 1.3) It is recommended to strengthen the university's internationalization efforts, for instance by establishing more international collaborations and providing more information, support and funding opportunities for student mobility and by teaching more courses in English.
- E 2. (ASIIN 1.3) It is recommended to improve the entrepreneurial skills of the students.
- E 3. (ASIIN 1.3) It is recommended to increase the number of elective courses.

For the Bachelor's degree programmes Fisheries

- E 4. (ASIIN 3.2) It is recommended to update the research facility for inland fisheries/freshwater aquaculture, especially upgrading the system with a recirculation aquaculture system (RAS) and aquaponics.
- E 5. (ASIIN 1.3) It is recommended to increase the share of elective courses.

For the Bachelor's degree programme Marine Sciences

E 6. (ASIIN 1.3) It is recommended to restructure the curriculum.

For the Master's degree programmes Fisheries

E 7. (ASIIN 1.3) It is recommended to introduce elective courses on fishing economy, product and product development, and impact of fisheries and aquaculture on aquatic environments.

E 8. (ASIIN 1.3) It is recommended to revise the structure of the curriculum.

I Fulfilment of Requirements (08.12.2023)

Comments of the peers and the Technical Committee (21.11.2023)

Requirements

For all programmes

- A 1. (ASIIN 1.5) Structure the final thesis project in a manner that ensures that students can finish their studies on time.

Initial Treatment	
Peers	Fulfilled Justification: UNPAD has undertaken significant initiatives to revamp the final thesis project across all programs, aiming to facilitate timely completion of students' studies.
TC 08	fulfilled Vote: unanimous Justification: The technical committee discusses the procedure and follows the assessment of the expert team.

- A 2. (ASIIN 4.1) The module descriptions need to be revised in a way that they reflect the content and the name of the module.

Initial Treatment	
Peers	Fulfilled Justification: UNPAD has made substantial enhancements to the module handbooks, achieving a harmonized structure that aligns single module descriptions, their content, and module names.
TC 08	fulfilled Justification: The technical committee discusses the procedure and follows the assessment of the expert team.

- A 3. (ASIIN 4.2) The transcript of records needs to list all courses with their credits (SKS and ECTS) and needs to include information about the final grade and relative grades.

Initial Treatment	
Peers	Fulfilled Justification: UNPAD has revised the transcripts, ensuring they now include all necessary information.
TC 08	fulfilled Justification: The technical committee discusses the procedure and follows the assessment of the expert team.

For the Master's degree programmes Fisheries

- A 4. (ASIIN 1.3) Restructure the curriculum in a way that it reflects a meaningful continuation of the bachelor programmes. Content such as methodologies in stock assessment, fish parasitology and fish morphometrics need to be included.

Initial Treatment	
Peers	Fulfilled Justification: UNPAD has adapted the curriculum of the master's degree programme in Fisheries, resulting in a meaningful continuation from the bachelor program.
TC 08	fulfilled Justification: The technical committee discusses the procedure and follows the assessment of the expert team.

For the Bachelor's degree programmes Fisheries (Bandung Campus) and (Fisheries Pangandaran Campus)

- A 5. (ASIIN 1.1, 1.3, 4.1) Ensure that the focus of the two degree programmes – “Inland Fisheries and Aquaculture” and “Sustainable coastal and oceanic fisheries” – correspond with the intended learning outcomes and contents. This must be clearly visible within the title of the courses and module descriptions.

Initial Treatment	
Peers	Fulfilled Justification: UNPAD has made significant changes by renaming and redesigning the Fisheries program at the Pangandaran campus. The new name, "Bachelor in Tropical Marine Fisheries," better aligns with the program's content and adds value by establishing a more differentiated and standalone program. The Fisheries program at the Bandung Campus has been accordingly adjusted, now presenting a clearer focus.

I Fulfilment of Requirements (08.12.2023)

TC 08	fulfilled Justification: The technical committee discusses the procedure and follows the assessment of the expert team.
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For the Bachelor 's degree programme Marine Sciences

- A 6. (ASIIN 1.3) It has to be ensured that the three lines of education (Conservation, Hydro-oceanography and Biotechnology) are reflected in the curriculum and prepare students for a consecutive master in the respective field.

Initial Treatment	
Peers	Fulfilled Justification: UNPAD conducted a thorough review of the Bachelor in Marine Sciences curriculum, incorporating interdisciplinary courses to offer students a comprehensive understanding of the relationships between the three disciplines. This restructuring allows students to specialize in their areas of interest and better prepares them for advanced studies in a consecutive master's program.
TC 08	fulfilled Justification: The technical committee discusses the procedure and follows the assessment of the expert team.

Decision of the Accreditation Committee (08.12.2023)

Degree Programme	ASIIN seal	Subject-specific labels	Maximum duration of accreditation
Ba Marine Sciences	All requirements fulfilled	-	30.09.2028
Ba Fisheries Sciences	All requirements fulfilled	-	30.09.2028
Ba Tropical Marine Fisheries (Pangandaran Campus)	All requirements fulfilled	-	30.09.2028
Ma Marine Conservation	All requirements fulfilled	-	30.09.2028

I Fulfilment of Requirements (08.12.2023)

Degree Programme	ASIIN seal	Subject-specific labels	Maximum duration of accreditation
Ma Fisheries Sciences	All requirements fulfilled	-	30.09.2028

Appendix: Curricula

The following **curriculum** is presented for the Bachelor's degree programme in Marine Sciences:

Semester 1	Semester 2	Semester 3	Semester 4	Semester 5	Semester 6	Semester 7	Semester 8
Religious Education (2 credits; 3.02 ECTS)	Computer and Big Data (3 credits, 4.53 ECTS)	Numerical Analysis (3 credits, 4.53 ECTS)	Marine Survey (4 Credits, 6.04 ECTS)	Hydro-Oceanographic Research (Elective Courses)	Entrepreneurship (3 credits, 4.53 ECTS)	Internship (12 Credits, 18.12 ECTS)	Undergraduate Thesis (6 Credits, 9.06 ECTS)
Pancasila And Civic Education (2 credits; 3.02 ECTS)	Statistics (2 credits; 3.02 ECTS)	Physical Oceanography (3 credits, 4.53 ECTS)	Meteorology and Climatology (2 credits; 3.02 ECTS)	Ecological and Marine Resources Conservation Research (Elective Courses)	Research Proposal Seminar (2 credits; 3.02 ECTS)	Marine Strategic Issues (3 credits, 4.53 ECTS)	
English (2 credits; 3.02 ECTS)	Physics (3 credits, 4.53 ECTS)	Chemical Oceanograph (3 credits, 4.53 ECTS)	Marine Remote Sensing (3 credits, 4.53 ECTS)	Marine Biotechnology Research (Elective Courses)	Hydro-Oceanographic Research (Elective Courses)	Mandarin or Japanese Language (2 credits; 3.02 ECTS)	
Bahasa Indonesia (2 credits; 3.02 ECTS)	Chemistry (3 credits, 4.53 ECTS)	Marine Biology (2 credits; 3.02 ECTS)	Marine Ecotoxicology (3 credits, 4.53 ECTS)	Scientific writing and research Method (2 credits; 3.02 ECTS)	Ecological and Marine Resources Conservation Research (Elective Courses)	Community Service (3 credits, 4.53 ECTS)	
Sport, Fitness and Creativity (2 credits; 3.02 ECTS)	Marine Organism Biology (3 credits, 4.53 ECTS)	Marine Microbiology (3 credits, 4.53 ECTS)	Tropical Marine Ecology (2 credits; 3.02 ECTS)		Marine Biotechnology Research (Elective Courses)		
Sedimentology (3 credits, 4.53 ECTS)	Biochemistry (3 credits, 4.53 ECTS)	Organic Chemistry of Marine Natural Materials (3 credits, 4.53 ECTS)	Diving Knowledge (3 credits, 4.53 ECTS)				
Introduction to Marine Science (2 credits; 3.02 ECTS)	Cellular and Molecular Biology (3 credits, 4.53 ECTS)	Bioinformatics (2 credits; 3.02 ECTS)	Marine Organism Taxonomy (2 credits; 3.02 ECTS)				
Scientific Writing Ethics (2 credits; 3.02 ECTS)			Natural Material Technology (3 credits, 4.53 ECTS)				
Mathematic and Calculus (2 credits; 3.02 ECTS)							
(20 Credits, 30.2 ECTS)	(20 Credits, 30.2 ECTS)	(19 Credits, 28.69 ECTS)	(22 Credits, 33.22 ECTS)	(20 Credits, 30.2 ECTS)	(20 Credits, 30.2 ECTS)	(20 Credits, 30.2 ECTS)	(6 Credits, 9.06 ECTS)

The following **curriculum** is presented for the Bachelor's degree programmes in Fisheries:

Semester 1	Semester 2	Semester 3	Semester 4	Semester 5	Semester 6	Semester 7
Sports, Art and Entrepreneurship (4.53 ECTS)	Planktonology (4.53 ECTS)	Natural Food Cultivation (4.53 ECTS)	Fisheries Sociology and fishery counselling (4.53 ECTS)	Fish nutrition (4.53 ECTS)	Fishery Resource Economics (4.53 ECTS)	Management of Fishery Industry Product (4.53 ECTS)
Religion (3.02)	Oceanography (4.53)	Fishing Navigation (4.53 ECTS)	Parasites and Fish Diseases (4.53 ECTS)	Fisheries Product Packaging Technology (4.53 ECTS)	Population Dynamics (4.53 ECTS)	Fisheries Development (4.53 ECTS)
Indonesian Language (3.02 ECTS)	Ichthyology (4.53 ECTS)	Aquatic Ecology (4.53 ECTS)	Fish Biotechnology (4.53 ECTS)	Aquatic Productivity (4.53 ECTS)	Fish Hatchery Technology (4.53 ECTS)	Fisheries Waste Utilization (4.53 ECTS)
Civil Education and pancasila (3.02 ECTS)	Fishing Boats and Gears (4.53 ECTS)	Statistic (4.53 ECTS)	Fish Genetics (4.53 ECTS)	Research Proposal Seminar (3.02 ECTS)	Aquaculture Engineering (4.53 ECTS)	Land Public Water Management (4.53 ECTS)
English (3.02 ECTS)	Aquatic Animal Physiology (4.53 ECTS)	Handling of Fisheries Product Technology (4.53 ECTS)	Fisheries Products Processing Technology (4.53 ECTS)	Community Service Program (4.53 ECTS)	Field Work Practices (4.53 ECTS)	Bachelor Theses (9.06 ECTS)
Aquatic Invertebrate (4.53 ECTS)	Fishery Microbiology (4.53 ECTS)	Physiology of Fisheries Post Harvest Products (4.53 ECTS)	Research Methodology and Scientific Research (4.53 ECTS)	2 Elective Course (9.06 ECTS)	2 Elective Course (9.06 ECTS)	
Limnology (4.53 ECTS)	Aquatic Biochemistry (4.53 ECTS)	Fisheries Biology (4.53 ECTS)	Experimental Design (4.53 ECTS)			
Introduction to Fisheries and Marine Sciences (3.02 ECTS)						
28.69 ECTS	31.71 ECTS	31.71 ECTS	31.71 ECTS	30.2 ECTS	31.71 ECTS	31.71 ECTS

0 Appendix: Curricula

The following **curriculum** is presented for the Master's degree programme in Marine Conservation:

1 st Semester	2 nd Semester	3 rd Semester	4 th Semester	
<p>International Law on Conservation 3 Credits (4.53 ECTS)</p> <p>Human Ecology 3 Credits (4.53 ECTS)</p> <p>Climate Change Mitigation 3 Credits (4.53 ECTS)</p> <p>Theoretical Ecology 3 Credits (4.53 ECTS)</p> <p>The Economic of Conservation 3 Credits (4.53 ECTS)</p> <p>Compulsory Credits</p>	<p>Application of Ecological Modelling on Marine Conservation 2 Credits (3.02 ECTS)</p> <p>Recent Development on Biodiversity 2 Credits (3.02 ECTS)</p> <p>Management of Marine Pollution and Ecotoxicology 2 Credits (3.02 ECTS)</p> <p>Application of Remote Sensing on Marine Conservation 2 Credits (3.02 ECTS)</p> <p>Tropical Marine Biocomplexity 2 Credits (3.02 ECTS)</p> <p>Student Project 3 Credits (4.53 ECTS)</p> <p>Compulsory Credits</p>	<p>International Conference 3 Credits (4.53 ECTS)</p> <p>Master thesis (Seminar) 2 Credits (3.02 ECTS)</p> <p>Compulsory Credits</p> <p>Habitat Restoration and Conservation 3 Credits (4.53 ECTS)</p> <p>Genetic Conservation and Molecular Ecology 3 Credits (4.53 ECTS)</p> <p>Disaster Mitigation 3 Credits (4.53 ECTS)</p> <p>Optional Credits</p>	<p>Master Thesis 6 Credits (9.06 ECTS)</p> <p>Compulsory Credits</p>	<p>TOTAL: 42 Credits (63.47 ECTS)</p>
15 Credits (22.67 ECTS)	13 Credits (19.64 ECTS)	8 Credits (12.08 ECTS)	6 Credits (9.06 ECTS)	

The following **curriculum** is presented for the Master’s degree programme in Fisheries:

1st semester	2nd semester	3rd semester	4th semester
Compulsary credits	Compulsary credits	Compulsary credits	Compulsary credits
Science phylosophy (2 credits, 3.02 ECTS)	Advanced Fisheries Resource Economics (3 credits, 4.53 ECTS)	Digital Fisheries (2 credits, 3.02 ECTS)	Master thesis (6 credits, 9.06 ECTS)
Statistical Analysis (3 credits, 4.53 ECTS)	Ecobiology of Aquatic Organisms (3 credits, 4.53 ECTS)	Seminar (1 credit)	
Aquatic Ecosystem (3 credits, 4.53 ECTS)	Aquaculture System (3 credits, 4.53 ECTS)	Optional credits (Select 2 Courses)	
Research Methods and Scientific Writing (3 credits, 4.53 ECTS)	Ecophysiology of Cultivated Organisms (3 credits, 4.53 ECTS)	Fish breeding (3 credits, 4.53 ECTS)	
	Fisheries Industry (3 credits, 4.53 ECTS)	Management of Public and Marine Aquaculture (3 credits, 4.53 ECTS)	
		Feed Technology (3 credits, 4.53 ECTS)	
(11 credits, 16.61)	(15 credits, 22.65)	(9 credits, 13.59)	(6 credits, 9.06 ECTS)