



ASIIN Seal

Accreditation Report

Bachelor's Degree Programme
Nutrition Science
Capture Fisheries

Provided by
Hasanuddin University (UNHAS)

Version: 24.06.2023

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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
Program Studi S1 Ilmu Gizi	Nutrition Science Study Programme	ASIIN	LamPTKES (2017-2022)	08
Pemanfaatan Sumberdaya Perikanan	Capture Fisheries Study Programme	ASIIN	BAN-PT/ National Accreditation Agency of Higher Education (2021-2025)	08
<p>Date of the contract: 02.04.2021</p> <p>Submission of the final version of the self-assessment report: 30.09.2021</p> <p>Date of the onsite visit: 07.-09.03.2022</p> <p>at: online</p>				
<p>Peer panel:</p> <p>Muhammad Farisan Auzan, Student at Brawijaya University</p> <p>Prof. Dr. Siegfried Bolenz, Neubrandenburg University of Applied Sciences</p> <p>Dr. Ingy Hashad, Nutrition Consultant at Hero Baby Egypt</p> <p>Prof. Dr. Harry Palm, University of Rostock</p>				
<p>Representative of the ASIIN headquarter: Christin Habermann</p>				

¹ ASIIN Seal for degree programmes

² TC: Technical Committee for the following subject areas: TC 01 - Mechanical Engineering/Process Engineering; TC 02 - Electrical Engineering/Information Technology; TC 03 - Civil Engineering, Geodesy and Architecture; TC 04 - Informatics/Computer Science; TC 05 - Physical Technologies, Materials and Processes; TC 06 - Industrial Engineering; TC 07 - Business Informatics/Information Systems; TC 08 - Agriculture, Nutritional Sciences and Landscape Architecture; TC 09 - Chemistry; TC 10 - Life Sciences; TC 11 - Geosciences; TC 12 - Mathematics; TC 13 - Physics.

A About the Accreditation Process

Responsible decision-making committee: Accreditation Commission for Degree Programmes	
Criteria used: European Standards and Guidelines as of May 15, 2015 ASIIN General Criteria, as of December 10, 2015 Subject-Specific Criteria of Technical Committee 08 – Agriculture, Nutritional Sciences and Landscape Architecture as of March 27, 2015	

B Characteristics of the Degree Programmes

a) Name	Final degree (original/English translation)	b) Areas of Specialization	c) Corresponding level of the EQF ³	d) Mode of Study	e) Double/Joint Degree	f) Duration	g) Credit points/unit	h) Intake rhythm & First time of offer
Nutrition Science	Sarjana Gizi (S.Gz) Bachelor of Nutrition	/	6	Full time	/	8 Semester	144 SKS 244.8 ECTS	Once a year 22.09.2005
Capture Fisheries	S.Pi. Bachelor of Fisheries	/	6	Full time	Full time	/	8 Semester	Once a year 02.09.1996

For the Bachelor's degree programme Nutrition Science the institution has presented the following profile in the self-assessment report:

„Nutrition and Science Study Programme (NSSP) is a study programme under the public health faculty at Hasanuddin University. It was established through the Ministry of Higher Education Decree no.3127/D/T/2005 on 22 September 2005. NSSP was established to fulfill the needs of bachelors in nutrition to contribute to nutrition problem solving in Indonesia, especially in Eastern Indonesia.

NSSP objectives are to build outstanding and highly competitive graduates in nutrition and be able to apply science and technology in nutrition with emphasis on maritime-based nutrition and health problems. The objective of this program is in line with the NSSP vision and mission, as follow:

Vision: To be a center of excellence in nutrition science with an international reputation based on the Indonesia maritime continent in 2024.

To achieve the vision, therefore NSSP established the following missions:

1. To conduct skillful, competitive, and qualified nutritional science education based on international standard

³ EQF = The European Qualifications Framework for lifelong learning

2. To develop appropriate nutritional research to produce international level scientific work based on the Indonesian maritime continent concept
3. To conduct professional community services in order to increase community nutritional status
4. To produce a sustainable quality management system in study program governance”

For the Bachelor’s degree programme Capture Fisheries the institution has presented the following profile in the self-assessment report:

„The Capture Fisheries Study Program (CFSP) is considered an important field of expertise in the Faculty of Marine Science and Fisheries (FIKP), Hasanuddin University (UNHAS). It was established on July 11, 1996, based on the Decree of Ministry of Education and Culture No. 24/DIKTI/KEP/1996. This study program is one of the study programs under the Department of Fisheries, Faculty of Marine Science and Fisheries, Hasanuddin University. [...] This study Program is located in central Indonesia with unique environmental characteristics for deep-sea capture fisheries with the multi-gear and multispecies fishery in terms of geographical position. Therefore, its existence plays a fundamental role in developing science, technology, and art within the scope of sustainable capture fisheries, especially in the central and eastern part of Indonesia.

Vision: To become a center of excellence in science, technology, and management of sustainable capture fisheries based on the Indonesian maritime continent by 2030.

To achieve the vision, the CFSP mission is compiled, namely "To prepare human resources who master and are able to apply the science and technology of sustainable capture fisheries" by:

1. Organizing education that masters science and technology in the field of sustainable capture fisheries.
2. Conduct research in the field of sustainable fisheries resource utilization.
3. Carry out community service and develop partnerships/collaborations with leading national and international institutions.”

C Peer Report for the ASIIN Seal⁴

1. The Degree Programme: Concept, content & implementation

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

Evidence:

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

Preliminary assessment and analysis of the peers:

The auditors refer to the respective ASIIN Subject-Specific Criteria (SSC) of the Technical Committee Agriculture, Nutritional Sciences and Landscape Architecture (TC 08) as a basis for judging whether the intended learning outcomes of the Bachelor's programmes as defined by Hasanuddin University (UNHAS) correspond with the competencies outlined in the SSC. For this, UNHAS has provided detailed descriptions of all Programme Learning Outcomes (PLO) and Intended Learning Outcomes (ILO) as well as matrices that show the relations between PLO and ILO and how the PLO and ILO are substantiated in the courses of the study programmes. After carefully reviewing these documents and discussing them with the programme coordinators, the auditors come to the following conclusion:

For the Nutrition Science programme (NSSP), UNHAS explains that the programme learning outcomes have been constructed based on core and elective competencies related to the roles and functions of nutritionists in Indonesia. Alumni tracer studies and consultations

⁴ This part of the report applies also for the assessment for the European subject-specific labels. After the conclusion of the procedure, the stated requirements and/or recommendations and the deadlines are equally valid for the ASIIN seal as well as for the sought subject-specific label.

with stakeholders have provided input for the continuous development of the learning outcomes. Since Indonesia is experiencing a double burden of nutritional problems in relation to transitions in epidemiology, food technology and economic growth, the demand for the nutrition profession is increasing. As such, the Nutrition Science programme is committed to producing graduates that can take on the following professions, abbreviated as SMILE: Supervisor, Manager, Innovator and Researcher, Leader and Researcher. For each of these four professions or roles, UNHAS has created specific programme learning outcomes that can be found in detail in the annex of this report.

In addition to the programme learning outcomes, UNHAS has also formulated intended learning outcomes that relate to all defined professions. They were constructed referring to the evaluation of the latest curriculum and consultations with related organisations, such as the Indonesian Association of Nutrition Professor or the Association of Nutrition Education Institution of Indonesia and are furthermore aligned with the National Standard for Higher Education (SN-DIKTI). In addition, formulation of these intended learning outcomes was based on input from the programme's stakeholders (alumni, government, industries, private institutions, educational institutions) through a series of workshops as well as benchmark visits to other national institutions, such as Bogor Agricultural Institute or Kagawa Nutrition in Japan. . These learning outcomes have been divided into the areas "generic" and "specialised" and cover the domains of "attitude", "knowledge" and "skills". "Attitude" refers to the attitude possessed by higher education graduates, "knowledge" is the mastery of nutrition knowledge that graduates must have, and "skills" are a combination of workability and elements of authority and responsibility. All intended learning outcomes can be found in the annex of this report.

The auditors confirm that the objectives and intended learning outcomes of the Nutrition Study programme are reasonable and well founded. While there exists a national standard for designing the curriculum, especially the elective modules allow UNHAS to adapt to the suggestions from their stakeholders. That 70% of all students get a job within the first six months of graduation is further proof for the auditors that the study programme teaches the students the necessary skill to further their career in an adequate profession. As 15% also continue with a Master's programme emphasizes that the programme also allows students to further their education.

In their self-assessment report, UNHAS explains the objectives and learning outcomes of the Capture Fisheries programme (CFSP) derive from the programme's vision and mission. The vision, in short, is for the programme to "become a centre of excellence in science, technology and management of sustainable capture fisheries based on the Indonesian maritime continent by 2030". The mission focuses on educating and producing graduates that can serve in one of the following professional roles: organising education in the field of

sustainable capture fisheries, conducting research in the field of sustainable fisheries resource utilization as well as carrying out community service and developing partnerships and collaborations with leading national and international institutions.

The design of this programme and especially its graduate profiles – researchers, managers, educators and entrepreneurs – was carried out through focus group discussions, involving both external stakeholders (alumni, professional association, fisheries industries, research institutes, non-governmental organisations, other universities) and internal stakeholders (students, supporting staff, lecturers and the leaders of Marine Science and Fisheries Faculty). For each of these four professions or profiles – researcher, manager, educator, entrepreneur - UNHAS has created specific programme learning outcomes that can be found in detail in the annex of this report.

Along with the graduate profiles, intended learning outcomes (ILO) were also formulated. They show that all graduates must have fundamental insights into the area of Capture Fisheries as well as moral and social responsibilities as pertains their work environment. As researchers and educators, graduates mainly need to learn about sustainable fishing technology, design of fishing gear and vessels and capture fisheries information systems. In addition, they also gain competencies in planning and applying fishing science and technology and fisheries information systems, creating strong capture fisheries networks and making the correct decision in dealing with various sustainable capture fisheries problems. Meanwhile, as entrepreneurs and managers, graduates must be able to plan capture fisheries businesses, apply science and technology to capture fisheries and make optimal decisions related to problems in this area. As is common, the ILOs thus cover the areas of “attitude”, “knowledge”, “skill” and “competence.” All intended learning outcomes can be found in the annex of this report.

The auditors confirm that the objectives and intended learning outcomes of the Capture Fisheries Study programme are reasonable and generally well founded. While there exists a national standard for designing the curriculum, especially the elective modules allow UNHAS to adapt to the suggestions from their stakeholders. They see that capture fisheries holds a very high relevance for South Sulawesi as well as for the entire Indonesian archipelago as Indonesia is one of the three largest fish producing nations in the world.

In the profile of the study programme, UNHAS states its main focus as sustainable coastal and deep-sea capture fisheries. While this focus is mostly supported by the curriculum (cf. criterion 1.3 of this report) it is not reflected in the qualification objectives and learning outcomes of the programme. The auditors notice, however, that UNHAS states the main focus of the programme to be sustainable coastal and deep-sea fisheries, a focus that is also clearly reflected in the curriculum of the programme. Since the profile is not only

suitable geographically but also distinguishes this programme from similar programmes at other universities in Indonesia, the auditors believe that the qualification objectives must be adjusted accordingly and must address the sustainable coastal and deep-sea capture fisheries profile in the future.

The auditors further confirm that while there exists a national standard for designing the curriculum, especially the elective modules allow UNHAS to adapt to the suggestions from their stakeholders. That 60% of all students get a job within the first six months of graduation is further proof for the auditors that the study programme teaches the students the necessary skill to further their career in an adequate profession. As 15% also continue with a Master's programme emphasizes that the programme also allows students to continue their education.

Criterion 1.2 Name of the degree programme

Evidence:

- Self-Assessment Report
- Diploma Supplements

Preliminary assessment and analysis of the peers:

The names of both degree programmes follow the rules for naming study programmes set by the Indonesian Ministry of Education. The peers hold the opinion that the English translation and the original Indonesian names of the Bachelor's degree programme Nutrition Science and Bachelor's degree programme Capture Fisheries correspond with the intended programme and learning outcomes as well as the main course language.

Criterion 1.3 Curriculum

Evidence:

- Self-Assessment Report
- Study plans of the degree programmes
- Curriculum guidebook of the degree programmes
- Academic guidelines
- Module descriptions
- Objective-module-matrices
- Discussions during the audit

Preliminary assessment and analysis of the peers:

The curricula of the degree programmes are designed to comply with the programme objectives and learning outcomes and they are subject to constant revision processes. As such, the curricula are reviewed regularly and commented on by students and teachers as well as by external stakeholders such as alumni or partners from schools and the private sector. Regular changes are made to ensure that the curricula are up to modern standards. Besides the objectives and learning outcomes defined by UNHAS itself, the curricula also take into account the Indonesian standards of higher education and the Indonesian national qualifications framework as well as the recommendations from industry.

The curriculum of the NSSP covers 144 Indonesian credits (244.8 ECTS) and is supposed to be finished within eight semesters (four years). The curriculum (which can be found in the annex of this report) is divided into five pillars that support the intended learning outcomes: public health nutrition, food science, clinical nutrition, nutrition programme management as well as research science. The curriculum is designed to support the realization of these five pillars, as such, each offered course was clearly mapped in accordance with the five pillars and the programme as well as the intended learning outcomes. A sequential approach is set up to guarantee that achievement of the learning outcomes by dividing courses into the categories “introductory”, “reinforced” and “mastery”.

First-year students are directed to undertake basic knowledge not only to provide support for the specialised courses but also to form a similar starting point and foundation of knowledge during the first two semesters. There are 20 introductory courses that amount to 43 credits. The reinforced stage is designed to provide a foundation for more specific materials in the field of nutrition. The specialised courses are major courses for Nutrition Science, aimed at equipping students with basic to comprehensive knowledge, skills and attitudes in the nutrition area. These courses are offered from semesters three to six and cover 100 credit hours. For the mastery stage, beginning in semester five, students are allowed to take 10 credits, equal to 5 elective courses, based on their individual interests. The final project can be started once the compulsory and elective courses have been completed.

Since 2016, the Nutrition Science programme applied a so-called “evidence-based learning (EBL)” approach in implementing the curriculum, which means that several courses are grouped together into one cluster or block, and several blocks are run each semester. There are nine blocks, covering a total of 99 credits (168.3 ECTS) that cover the following areas and objectives:

Semester	Block	Block name	Block objective	Credit
I	I	The basic of health sociology	Understanding nutritional issue	9
II	II	Basic nutrition		15
III	III	Nutritional status	Determination of nutritional problem	12
	IV	Nutritional ecology		11
IV	V	Food processing and entrepreneurship	Nutritional intervention	16
V	VI	Dietetic nutrition		10
	VII	Nutrition counseling		7
VI	VIII	Nutrition Program	Monitoring and evaluation	6
	IX	Nutrition information system		13
Total of credit				99

The curriculum of the Capture Fisheries programme covers 144 Indonesian credits (244.8 ECTS) and is supposed to be finished within eight semesters (four years). It covers 128 credits of compulsory courses that are further divided into 7 courses (18 credits) that have to be taken by all students at the university, 4 courses (7 credits) that have to be taken by all students from the Faculty of Marine Science and Fisheries, 7 courses (20 credits) from another study programme at the faculty and 29 courses (83 credits) that are specific to this study programme. In addition, students also have to choose 14 elective courses.

The auditors learn during the audit that the curriculum has been designed following three profile lines that are based upon the research and teaching focus of the faculty: fishing gear and vessel design, fishing technology, marine fisheries information system and geospatial. The auditors suggest emphasizing these profiles in the curriculum, especially with regard to the elective modules so that students, if interested, can deepen their knowledge in one of these three areas. For example, the modules in the curriculum could be color-coded to indicate assignment to the three profile lines. Likewise, the modules in the module hand-book could be clustered accordingly.

In addition, the auditors notice that while UNHAS claims to lay a focus on the sustainable aspect of capture fisheries, there is a lack of topics in the curriculum that directly address the environmental impact of fisheries as well as the ethical conflicts between different stakeholders in the area of fisheries or related marine areas such as aquaculture. In a modern capture fisheries programme, aspects of sustainability should however be obligatory or at least a mandatory part.

In summary, the auditors gain the impression that the graduates of both programmes under review are well prepared for entering the labour market and can find adequate jobs in Indonesia. During the discussion with the auditors, UNHAS's partner from the industry/public sector confirm that the graduates have a broad scientific education, are very adaptable, and have manifold competences, which allows them to find adequate jobs. The

auditors realise that it is normal for Indonesia that only a small percentage of students continue on with their Master's programme. They believe it suitable, however, to support these students that want to further their career by offering an elective module in the last year of study that teaches research methodology and research design. This would allow the students to learn these skills important for a Master's programme already in their Bachelor's degree and thus serves as a sort of "bridge" between the two degree programmes. They are thus glad to learn that UNHAS already offers a compulsory course in research methodology.

Criterion 1.4 Admission requirements

Evidence:

- Self-Assessment Report
- Academic Guidelines
- Students handbook
- Academic guidelines
- Websites
- Discussions during the audit

Preliminary assessment and analysis of the peers:

According to the self-assessment report, admission of new students to UNHAS is possible via different modes of entry (national and local modes). The different modes of entry are designed not only to select the top-quality students from high schools, but also to provide opportunities for high school students from all over Indonesia, especially those from rural areas.

The different modes of entry are:

1. SNMPTN (National Entry Selection of Public Universities), based on academic performance during high school.
2. SBMPTN (Joint Entry Selection of Public Universities), based on a nationwide selection test that is held every year for university candidates.
3. Local admission, these students are selected under special consideration of their education, local origin, social background, achievements in sports or science, and financial means.
4. ADik-3T (Affirmative Track), a special admission track for students who live in the remote and the underdeveloped regions of Indonesia to provide an equal opportunity among society in Indonesia.

For each academic year, the university determines the ratio of students admitted through these four ways. Generally, the number of applications is considerably higher than the number of admitted students. For the academic year 2019/20, there were 1689 applicants while 62 were admitted into the Nutrition Science programme. In the Capture Fisheries programme, there were 551 applicants for the same year and 92 of those were admitted. For the academic year 2020/21, there were 1394 applicants while 76 were admitted into the Nutrition Science programme. In the Capture Fisheries programme, there were 333 applicants for the same year and 96 of those were admitted.

The tuition fees for the programmes are determined by the Ministry of Finance based on a proposal from UNHAS. There are different levels for these fees, depending on the parents' income. For students from underprivileged families, there is no tuition fee. Furthermore, there are various options for scholarships that cover the tuition fees.

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

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

Criterion 1.1 – Learning Outcomes of Ba Capture Fisheries

UNHAS clarifies that the Capture Fisheries Study Programme (CFSP) has two main distinguishing characteristics: First, from a geographical standpoint, this study programme mostly focusses on exploitation of marine resources in the areas of either coastal or deep-sea fisheries. Second, from the exploitation approach, it specifically explores and exploits fish resources at the sustainable level based on utilizing the fisheries information system approach. UNHAS develops and highlights how to capture fish resources at sustainable levels in and our hotspot habitats (hotspot detection-based information system), including eddy field, frontal areas, upwelling locations and areas of optimum environmental conditions). The modules that directly support the second distinguishing characteristics are capture fisheries information system, capture fisheries mapping techniques, population dynamics and stock assessment, capture fisheries remote sensing, fisheries acoustics, capture fisheries exploration, and new adjusting modules (environmental friendly fishing, fishing management and conservation, costal and deep-sea fishing ground). Most of the research and publication in CFSP results from the fisheries exploitation based-fisheries information

system. UNHAS has updated both the curriculum, the profile of the study programme and its learning objectives in order to match the auditors' feedback (cf. annex to this report).

Criterion 1.3 – Curriculum of Ba Capture Fisheries

The curriculum of the CFSP has been updated and structured in a way that allows to recognize the three profile lines of the programme based upon the research and teaching focus of the programme: fishing gear and vessel design, fishing technology, marine fisheries, information system and geospatial. Now, students can quickly see, which modules belong to which profile line and deepen their knowledge in this specific areas, if wanted.

With regard to the auditors' recommendation to include more modules or topics on environmental impact and stakeholder conflicts as well as methodology on stock assessment, UNHAS comments that they fully agree with the point made and have adjusted their curriculum accordingly by adjusting/changing several modules' titles and content. For example, the module Fishing Management and Conservation describes topics such as the layout of spatial zoning for fishing areas, aquaculture, conservation area or general shipping line. This includes regulations on zoning plans for coastal areas and small islands. In addition, a new module – Environmental Friendly Fishing – has been added to the curriculum. This module discusses e.g. the principles of sustainable fisheries, related worthy fish size, effective fishing gears, impact of fisheries activities and destructive fishing on environment, illegal-unreported-unregulated fishing.

In summary, the auditors regard criterion 1 as fulfilled.

2. The degree programme: structures, methods and implementation

Criterion 2.1 Structure and modules

Evidence:

- Self-Assessment Report
- Study plans of the degree programmes
- Module descriptions
- Objective-Module-Matrices
- Student handbook

- Discussions during the audit
- Partnership agreements with other universities
- Overview of student's mobility

Preliminary assessment and analysis of the peers:

The structure of the programmes under review is clearly outlined on the subject specific website for each study programme. The programmes consists of modules, which comprise a sum of teaching and learning. The module descriptions are also published on the subject specific website. Based on the analysis of the sequence of modules and the respective module descriptions the peers concluded that the structure of both programmes ensures that the learning outcomes can be reached. The programmes also offers several elective courses, which allows students to define an individual focus. Based on the analysis of the curriculum and the module descriptions the peers confirmed that the objectives of the modules and their respective content help to reach both the qualification level and the overall intended learning outcomes.

For the Capture Fisheries programme, however, the auditors suggest that some modules could be rearranged within the curriculum according to the educational progress of the students. For example, the modules "Laws and Regulation in Marine Science and Fisheries" as well as "Counselling and Communications in Fisheries and Marine Sciences" appear too early in the curriculum (second semester). They could be exchanged e.g. with the module "Meteorology and Climatology in Capture Fisheries", which is an important basic module for capture fisheries but appears only in the fourth semester.

Internship / Practical Work

For the FSSP, students have to partake in three different internships, all throughout the seventh semester, namely public health nutrition internships, food service internships and dietetics internships. These internships are conducted through collaborations with external institutions, such as hospital and community health centres. For the CFSP, students also have to partake in mandatory three-months long internships that takes place in the sixth semester and can be carried out in the fishing industry or national fishing ports in various locations across Indonesia. This program aims to match and link the needs of the university, research institutions and the fishing industry. All students in Indonesia must also hold the so-called community service: Here, students stay in the field for about two months and are expected to conduct problem-solving processes in the community.

While the peers are generally satisfied that the students have to undertake mandatory internships they see a need for improvement for the FSSP programme. In order to successfully train students in the field of clinical nutrition, students must have the opportunity to

regularly visit hospitals and nutrition clinics and gain hands-on experience in assessing patients. Only then will it be possible that students reach a level of expertise necessary for a successful career upon graduation. The auditors thus ask UNHAS to implement such regular visit in the curriculum.

Mobility

In order to support the international mobility of students the faculty has established several student exchange programmes with international universities and offers organizational and financial support for students studying abroad.

UNHAS has also implemented the Independent Learning Campus (MBKM), an initiative started by the Ministry of Education and Culture of the Republic of Indonesia aimed at student exchange. The Independent Student Exchange is an inter-island student exchange for one semester that provides an experience of the archipelago's diversity and a credit transfer system between universities equivalent to 20 credits (34 ECTS).

While the auditors indubitably see that UNHAS is working hard to support the international mobility of their students they believe that there is still a lot more that could be done. From the discussion with the students, the auditors learn for example that they wish for more international collaborations and opportunities for student exchanges, also outside the Asian world. In addition, it would be beneficial if UNHAS would invite international guest lecturers (such as DAAD / German Academic exchange Service long term guest lecturers), seek collaboration with international research institutes and provide international webinars both for the students and the lecturers.

Criterion 2.2 Work load and credits
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Evidence:

- Self-Assessment Report
- Study plans of the degree programmes
- Samples of module assessment
- Survey of student satisfaction
- Module descriptions
- Discussions during the audit
- Student handbook

Preliminary assessment and analysis of the peers:

Based on the National Standards for Higher Education of Indonesia (SNPT), both programmes use a credit point system called SKS. In comparison to ECTS credit system,

wherein 1 ECTS equals 25-30 hours of students' workload per semester, it is determined that 1 CSU is awarded for 170 minutes of student workload per week and the relation between the different kind of learning (contact hours, self-studies) is fixed. With a duration of 16 weeks per semester one SKS correspond to 45,3 hours of student workload. For a bachelor's degree programme with 145 CSU the total time of study is round 6500 h in four years with an average of some 800 hours per semester. For bachelor's degree programmes a possible range from 140 to 150 SKS is defined by governmental regulations.

The peers welcomed the Indonesian system wherein the student's workload per semester depends on their average grades in the former semester. The students' individual study plans are indeed different from each other, but have to be approved by their academic advisors. The peers also positively noted that the module handbook describes consistently in all modules the credit points and the workload distinguishing between contact time and time of self-study.

Comparing to the objectives and the content of the courses the workload defined for the single modules in general seems to be realistic for the peers besides for the internships and the final theses. The students confirmed this impression.

The auditors also discuss with the programme coordinators the drop-out rates and learn that only one or two students leave the programme, yet they do not entirely leave the university but simply change to another programme at UNHAS. Similarly, all students finish their degree within the allotted time of eight semesters. This is especially due to the fact that UNHAS is a prestigious university in Indonesia and only about 7% of all applicants in these programs are even accepted. Those who get a place work hard and are motivated to follow through with their studies.

Criterion 2.3 Teaching methodology

Evidence:

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

Preliminary assessment and analysis of the peers:

The staff members of UNHAS apply various teaching and learning methods like interactive lecture, small group discussion, demonstration, collaborative learning, discussion, case study, project based learning, laboratory practice, presentation and software simulation.

The peers appreciate the small projects implemented in different modules in all programmes in order to establish project based learning. In general, the peers see a wide variety of teaching methods and didactic means used to promote achieving the learning outcomes and support student-centered learning and teaching.

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 both programmes comprises a variety of teaching and learning forms as well as practical parts that are adapted to the respective subject culture and study format. It actively involves students in the design of teaching and learning processes (student-centred teaching and learning).

Criterion 2.4 Support and assistance

Evidence:

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

Preliminary assessment and analysis of the peers:

Hasanuddin University offers a comprehensive advisory system for all students. Before entering the University, an orientation week is held to introduce students to the university environment and academic culture. It also provides students the chance to interact with each other. During this orientation week, a group of tutors is assigned to guide new students and give all information students need to adapt to the new academic environment. Every student will be supported by an academic advisor that will monitor their student's academic performance through Information Management System (SIM). The academic advisor not only give support regarding academic process but also deals with non-academic issues that may influence the performance of the students.

Students confirm in the discussion with the peers that the advisory system works very well, that they meet their academic advisors regularly and that they always may contact them personally for support or advice. In general, students stress that the teachers are open

mindful, communicate well with them and take their opinions and suggestions into account and changes are implemented if necessary.

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

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

Criterion 2.1 – Structure of Ba Capture Fisheries

UNHAS fully agrees with the auditors' recommendation to re-design the curriculum so that basic modules are taught in the beginning of the programme and build up towards more specific courses. UNHAS has already revised the curriculum. Now, the mentioned modules Laws and Regulations in Marine Science and Fisheries as well as Counselling and Communications in Fisheries and Marine Science have been moved from the second to the fourth semesters, while the modules Meteorology and Climatology in Capture Fisheries have been moved from the fourth to the second semester.

In summary, the auditors regard criterion 2 as **mostly fulfilled**.

3. Exams: System, concept and organisation

Criterion 3 Exams: System, concept and organisation
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Evidence:

- Self-Assessment Report
- Module descriptions for each degree programme
- Websites
- Academic calendar
- Exam regulations
- Exemplary written exams and final theses

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, project works, presentations, mid-term exam, and the final exam at the end of each semester. In general, exams are written tests. But in several courses also oral presentations of lab reports or homework are required. Also group discussions and practical exams in courses with high laboratory practice are conducted. In several courses students have to pass laboratory practice before entering the final exam. The form and length of each exam is mentioned in the module descriptions.

The written exams can be multiple choice, quizzes, or essays. In addition, there are oral exams. The students are informed about mid-term and final exams via the Academic Calendar. The final grade is the result of the different activities in the course.

If students fail, they have to repeat the entire module in the following semesters in general. Under certain conditions, it is possible to repeat the failed exam in the same semester. From the point of view of the peers, more opportunities to repeat exams within the same semester could reduce the study time needed by students.

The students appreciate that there are a several short exams instead of one big exam and confirm that they are well informed about the examination schedule, the examination form, and the rules for grading. From the point of view of the students the requirements in the exams are hard but fair.

The peers also inspect a sample of examination papers and final theses and are overall satisfied with the general quality of the samples. The requirements in the exams, projects and theses correspond in general with the qualification level of the two programmes. However, some of the exams are focussed on the assessment of knowledge. From the point of view of the peers, even in the first semesters the understanding of the context should be assessed as well.

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

The faculty of CFSP agrees with the auditors assessment and states that it has improved the qualification level of the exam related to the modules offered in the first semesters, especially the modules Applied Physics and Mathematics as well as Fishery Products. In these modules, the exams now use not only the assessment of knowledge (text) but also assessment of skills (understanding of the capture fisheries context).

In summary, the auditors regard criterion 3 as **fulfilled**.

4. Resources

Criterion 4.1 Staff

Evidence:

- Self-Assessment Report
- Staff Handbook
- Samples of lecturer evaluation by students
- Study plans of the degree programmes
- Module descriptions
- Websites
- Discussions during the audit

Preliminary assessment and analysis of the peers:

At UNHAS, 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 involved in the FSSP consists of 18 full-time lecturers (3 full professors, 5 associate professors and 8 assistant professors and 2 instructors). In the CFSP, there are currently 19 full-time lecturers (4 professors, 5 associate professors, 6 assistant professors and 3 instructors). In addition to the CFSP teaching staff, the curriculum is also supported by lecturers from other department of the university, such as the Marine Science Department or the Mathematics and Natural Science Faculty.

The peers learned that the government finance determine the number of staff for each programme based on the number of students.

All members of the teaching staff are obliged to be involved in teaching/advising, research and community service. As the peers learn during the audit, all teachers have a workload

between 12 to 16 credits per semester. However, the workload can be distributed differently between the three areas from teacher to teacher. In all labs a special lab staff for supporting the student practice is involved. The lecturers student ration is in all programmes around 1:16.

The university supports research activities of the teaching staff by giving incentives for publishing scientific articles in reputable international journals, financing participations on national and international scientific conferences and giving grants for research projects.

Over all the peers see an appropriate network of the university and the department with national and international research institutions.

Criterion 4.2 Staff development

Evidence:

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

Preliminary assessment and analysis of the peers:

UNHAS encourages the training of its academic and technical staff, so it has developed a programme for improving the didactic abilities and teaching methods. One part of the capacity-building programme focuses on subject-specific skills, whereas other training courses are intended to further improve the teachers' didactic skills and to introduce new teaching methods. There are financial resources available for staff members to go abroad for a limited time and to take part at conferences or other events in order to stay up to date with the scientific development in their area of expertise.

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, 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. The auditors notice, however, that there are not opportunities for the faculty members to improve their English-speaking skills.

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

Although many of the teaching staff already speak English very well and have, for example, completed their doctorates in English-speaking countries, this is not the case for all of them. However, students in particular would like to see more modules offered in English so that they can practice their international competencies as well as their language skills and be better prepared for a career in an increasingly international world. However, this wish fails because not all lecturers are able to speak English at an appropriate level. To change this, UNHAS would have to offer language courses for faculty, but this is not currently being done, but in the view of the evaluators is a crucial step for the future development of the university and its students. In addition, where possible and with adequate English skills by the lecturers, selected modules should be entirely taught in English.

Criterion 4.3 Funds and equipment

Evidence:

- List of laboratories and equipment
- Photos and videos of the facilities
- Self-Assessment Report
- Discussions during the audit

Preliminary assessment and analysis of the peers:

The auditors learn that financial sources for UNHAS originate from government research funding, societal funds and tuition fees. The operational funds are distributed to the faculties bases on a specific formula that is, among other things, dependent upon the number of students. From the documents provided and especially UNHAS' strategy for the next years, the auditors are convinced that the financial means are sufficient and secure for the timeframe of accreditation.

As the audit was conducted online, the peers were not able to visit the laboratories and teaching spaces. Instead, UNHAS has provided extensive documentation, including lists of laboratories and equipment and a variety of videos. In addition, during the audit, members of the teaching staff gave a live-tour through some of the many laboratorial spaces UNHAS hold and answered questions the peers had. In addition, the Self-Assessment Report also provided details regarding the overall infrastructure of the university and its campuses. The

peers are convinced that the teaching and office facilities, the libraries and the computer labs are sufficient for all students and staff members.

In summary, the peers confirm that the current funding allows for maintaining the standards as well as purchasing further instruments, if necessary, and that UNHAS generally holds enough work spaces and laboratories and that all laboratories are equipped with modern and sophisticated instruments.

However, from the documents submitted, the videos submitted, and the interviews with program faculty, students, and instructors, it is not apparent to the reviewers whether students in the Nutrition Science programme can actually gain sufficient practical, hands-on experience in the labs. While they recognize that there are appropriate labs, they lack information about the extent to which these labs and the equipment they contain are actually used by the students or whether the instructors merely demonstrate them to the students. Likewise, a concrete list of the equipment contained in the labs would help the evaluators to classify whether there is enough so that all students can work with it individually.

For the Capture Fisheries programme the peers are generally satisfied with the equipment available to the students both at UNHAS and within the university's cooperating institutes, e.g. governmental research institutes or regional capture fisheries. In 2019, a new four-floor teaching building for the faculty of fisheries and marine sciences has been opened, that includes classrooms, lecturer rooms as well as laboratories and meeting rooms. While the programme holds three laboratories on campus, focusing on marine fisheries information system, fishing technology, fishing gear and vessel design, students have also access to laboratories of other faculties, e.g. the laboratory of marine biology. In addition, students are familiar with a marine research station that is visited at least once during their course of study.

While generally very satisfied with the infrastructure of this study programme, the auditors nonetheless recommend investing in more computers in order to teach students capture fisheries' technology (e.g. GIS) as well as purchasing a seagoing research vessel. Currently, students join fishermen on their vessels for one to three days, yet not all students can follow practical activities on governmental research vessels. If UNHAS wants to become a leading institute in the field of not only capture fisheries but also related fields, such as marine biology or fisheries, they should invest in a vessel that allows both students and faculty members a longer period of sea going time for research purposes.

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

Criterion 4.2 – English knowledge of staff members

UNHAS states that it agrees that in order to become a world-class university, it is important to prepare learning materials in English as well. Thus, CFSP has already prepared teaching sessions for the following topics entirely in English: capture fisheries information system, fishing technology and fishing vessel design for the fisheries information system and marine geospatial laboratory, fishing technology laboratory and fishing gear as well as vessel design laboratory.

UNHAS rector has also officially approved to regularly improve the Capture Fisheries Study Programme (CFSP), Faculty of Marine Science and Fisheries students, and lectures on English skills. This commitment aims to increase the ability and competitiveness of students and lecturers in learning activities, research and publications, and international scientific activities. While this is a very good start, the auditors wish to see concrete plans on what courses are offered for the faculty members.

Criterion 4.3

UNHAS is very excited to announce that the rector has agreed to purchasing a marine-fisheries research vessel within the fiscal year of 2022/2023. This shall aim to support the practical activities of the students and also serve research purposes of the teaching staff.

Regarding the computers needed for learning activities, the faculty has stated that it already managed to purchase more computers.

In summary, the auditors regard criterion 4 as **partially fulfilled**.

5. Transparency and documentation

Criterion 5.1 Module descriptions
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Evidence:

- Module descriptions
- Websites

Preliminary assessment and analysis of the peers:

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

After studying the module descriptions, the peers confirm that they include all necessary information about the persons responsible for each module, the teaching methods and work load, the awarded credit points, the intended learning outcomes, the content, the applicability, the admission and examination requirements, and the forms of assessment and details explaining how the final grade is calculated.

Criterion 5.2 Diploma and Diploma Supplement

Evidence:

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

Preliminary assessment and analysis of the peers:

The peers confirm that the students of both programmes are awarded a Diploma and a Diploma Supplement after graduation. The Diploma consists of a Diploma Certificate and a Transcript of Records. The Diploma Supplement contains all necessary information about the degree programme including acquired soft skills and awards (extracurricular and co-curricular activities). The Transcript of Records lists all the courses that the graduate has completed, the achieved credits, grades, cumulative GPA, and mentions the seminar and thesis title.

Criterion 5.3 Relevant rules

Evidence:

- Self-Assessment Report
- Academic Guidelines
- Performance indicator of ILO
- Discussions during the audit

Preliminary assessment and analysis of the peers:

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

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

The auditors believe criterion 5 to be **fulfilled**.

6. Quality management: quality assessment and development

Criterion 6 Quality management: quality assessment and development

Evidence:

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

Preliminary assessment and analysis of the peers:

The auditors discuss the quality management system at Hasanuddin University with the programme coordinators and the students. They learn that there is a well-structured continuous process in order to improve the quality of the degree programmes and it is carried out through internal and external evaluation.

Internal evaluation of the quality of the degree programmes is mainly provided through student and alumni surveys. The students give their feedback on the courses by filling out the questionnaire online. There are several categories in the questionnaire (e.g. schedule, course materials, workload, and motivation). 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 results of internal quality assessments are evaluated on faculty level attended by the dean, vice deans, heads of departments, heads of laboratories, degree programme managements and the Quality Assurance Unit.

During the audit, the peers learn that the results of the surveys are accessible by the students and the members of the teaching staff. If there is negative feedback, the Dean talks to the respective teacher, analyses the problem, and offers guidance. The auditors gain the impression that the students' feedback is taken seriously by the faculties and changes are made if there is negative feedback.

In summary, the peer group confirms that the quality management system is suitable to identify weaknesses and to improve the degree programmes. All stakeholders are involved in the process.

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

The auditors believe criterion 6 to be **fulfilled**.

D Additional Documents

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

- Information on how stock assessment and stock separation is taught, e.g. which practical activities every student has to undertake

E Comment of the Higher Education Institution (19.05.2022)

The institution provided a detailed statement, which has been included in the report (grey boxes).

F Summary: Peer recommendations (03.06.2022)

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	Maximum duration of accreditation	Subject-specific label	Maximum duration of accreditation
Ba Nutrition Science	With requirements for one year	30.09.2027	–	/
Ba Capture Fisheries	With requirements for one year	30.09.2027	–	/

Requirements

For all degree programmes

A 1. (ASIIN 4.2) English language courses must be offered to faculty members.

For the Bachelor's degree programme Nutrition Science

- A 1. (ASIIN 4.3) It must be ensured that all students gain hands-on experience in the laboratories. Hence, it must be guaranteed that funding is available for sufficient equipment and that students are actually allowed to utilize it.
- A 2. (ASIIN 2.1) In order to successfully train students in clinical nutrition, students must regularly visit hospitals and nutrition clinics and gain experience in assessing patients.

Recommendations

For all degree programmes

- E 1. (ASIIN 2.1) It is recommended to further develop the internationalization strategy of the university with regard to strengthen international collaboration and enhance international exchange (e.g. seek for the involvement of international guest lecturers).
- E 2. (ASIIN 2.1) It is recommended to offer more classes that are taught entirely in English.

For the Bachelor's degree programme Capture Fisheries

- E 3. (ASIIN 4.3) It is recommended to invest in a seagoing research vessel, allowing class sizes of approximately 20 students (20-25 m).

For the Bachelor's degree programme Nutrition Science

- E 4. (ASIIN 1.3) It is recommended to offer an elective module in the last semester, focusing on research methodology and design, for those students interested in furthering their education with a Master's degree.

G Comment of the Technical Committee Agriculture, Nutritional Science and Landscape Architecture (13.06.2022)

Assessment and analysis for the award of the ASIIN seal:

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

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

Degree Programme	ASIIN Seal	Maximum duration of accreditation	Subject-specific label	Maximum duration of accreditation
Ba Nutrition Science	With requirements for one year	30.09.2027	–	/
Ba Capture Fisheries	With requirements for one year	30.09.2027	–	/

H Decision of the Accreditation Commission (24.06.2022)

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

The accreditation commission discusses the procedures and follows the assessment of the auditors and the technical committee.

The Accreditation Commission decides to award the following seals:

Degree Programme	ASIIN Seal	Maximum duration of accreditation	Subject-specific label	Maximum duration of accreditation
Ba Nutrition Science	With requirements for one year	30.09.2027	–	/
Ba Capture Fisheries	With requirements for one year	30.09.2027	–	/

Requirements

For all degree programmes

A 1. (ASIIN 4.2) English language courses must be offered to faculty members.

For the Bachelor's degree programme Nutrition Science

A 2. (ASIIN 4.3) It must be ensured that all students gain hands-on experience in the laboratories. Hence, it must be guaranteed that funding is available for sufficient equipment and that students are actually allowed to utilize it.

A 3. (ASIIN 2.1) In order to successfully train students in clinical nutrition, students must regularly visit hospitals and nutrition clinics and gain experience in assessing patients.

Recommendations

For all degree programmes

- E 1. (ASIIN 2.1) It is recommended to further develop the internationalization strategy of the university with regard to strengthen international collaboration and enhance international exchange (e.g. seek for the involvement of international guest lecturers).
- E 2. (ASIIN 2.1) It is recommended to offer more classes that are taught entirely in English.

For the Bachelor's degree programme Capture Fisheries

- E 3. (ASIIN 4.3) It is recommended to invest in a seagoing research vessel, allowing class sizes of approximately 20 students (20-25 m).

For the Bachelor's degree programme Nutrition Science

- E 4. (ASIIN 1.3) It is recommended to offer an elective module in the last semester, focusing on research methodology and design, for those students interested in furthering their education with a Master's degree.

I Fulfilment of Requirements (24.03.2023)

Analysis of the peers and the Technical Committee/s (16.06.2023)

Requirements

For all degree programmes

A 1. (ASIIN 4.2) English language courses must be offered to faculty members.

Initial Treatment	
Peers	fulfilled Justification: English language courses are now offered to faculty members.
TC 08	fulfilled Justification: The technical committee follows the assessment of the experts.

For the Bachelor's degree programme Nutrition Science

A 2. (ASIIN 4.3) It must be ensured that all students gain hands-on experience in the laboratories. Hence, it must be guaranteed that funding is available for sufficient equipment and that students are actually allowed to utilize it.

Initial Treatment	
Peers	fulfilled Justification: UNHAS has improved the situation. Funding is now available for sufficient equipment and the students gain hands-on experience in the laboratories.
TC 08	fulfilled Justification: The technical committee follows the assessment of the experts.

A 3. (ASIIN 2.1) In order to successfully train students in clinical nutrition, students must regularly visit hospitals and nutrition clinics and gain experience in assessing patients.

I Fulfilment of Requirements (24.03.2023)

Initial Treatment	
Peers	fulfilled Justification: Regular visits to hospitals and nutrition clinics are now part of the curriculum.
TC 08	fulfilled Justification: The technical committee follows the assessment of the experts.

Decision of the Accreditation Commission (24.03.2023)

Degree programme	ASIIN-label	Subject-specific label	Accreditation until max.
Ba Nutrition Science	All requirements fulfilled	/	30.09.2027
Ba Capture Fisheries	All requirements fulfilled	/	30.09.2027

Appendix: Programme Learning Outcomes and Curricula

According to the self-assessment report the following **objectives** and **learning outcomes (intended qualifications profile)** shall be achieved by the Bachelor's degree programme Nutrition Science:

Programme Learning Outcomes (PLO):

1. PLO1: Supervisor: Being able to carry out supervision, monitoring, and evaluation in nutrition programs or services in health institutions; being able to assess individuals, groups, and communities' nutrition services
2. PLO2: Manager: Being able to lead, direct, and plan nutrition services for individuals, groups, and communities; being able to develop a business in the culinary fields
3. PLO3: Innovator and researcher: Being able to think critically, creatively, and innovatively in nutrition science and technology application; being able to conduct research/experiments in nutrition fields to solve nutritional problems
4. PLO4: Leader: Being able to formulate organizational vision; being able to make a decision within the organization; being able to solve problems encountered in the work environment
5. PLO5: Educator: Being able to communicate effectively and efficiently in providing nutrition education in educational institutions, health services, and in the community; being able to develop learning media effectively and efficiency.

Table A1.1 Correlation of PLOs in NSSP versus the 6th level of IQF

PLOs	The 6 th level of IQF			
	Capable to apply science, technology, and art within her/his expertise and adaptable to various situations faced during solving a problem	Mastering in depth general and specific theoretical concept of a certain knowledge and capable to formulate related problem-solving procedure	Capable to take strategic decision based on information and data analysis and provides direction in choosing several alternative solutions	Responsible for her/his own job and can be assigned to take responsibility of the attachment of organization's performances
PLO1	M	S	M	S
PLO2	M	S	S	S
PLO3	S	M	S	M
PLO4	S	S	S	S
PLO5	S	S	M	S

S: Strong, M: Moderate

The following **curriculum** is presented:

According to the self-assessment report the following **objectives** and **learning outcomes (intended qualifications profile)** shall be achieved by the Bachelor's degree programme Capture Fisheries:

Programme Learning Outcomes (PLO):

Program Learning Outcome (PLO)	Description
RESEARCHER (PLO-1)	Graduates who are able to investigate problems in the field of capture fisheries in the development of science and technology, to solve marine fisheries problems that occur in Indonesia and internationally.
MANAGER (PLO-2)	Graduates who are able to act as a manager and a leader in marine fisheries resource management and fishing business activities to provide optimal and sustainable results and profits.
EDUCATOR (PLO-3)	Graduates who are able to demonstrate role models to motivate, teach, facilitate, design, and evaluate learning processes and receive feedback related to the knowledge and competence in the field of capture fisheries.
ENTREPRENEUR (PLO-4)	Graduates who have the ability to get opportunities and develop businesses in the marine fisheries sector.

Intended Learning Outcomes (ILO):

Domain	Code	Intended Learning Outcome
Attitude	A1 (ILO 1)	Have a religious attitude, Pancasila, respect the diversity of the social environment and have an archipelago perspective in the work environment in the capture fisheries sector
	A2 (ILO 2)	Demonstrate a professional, independent, responsible and ethical attitude in the capture fisheries work environment
Knowledge	K1 (ILO 3)	Understand and explain the theoretical concepts of sustainable fishing technology
	K2 (ILO 4)	Understand and explain the theoretical concepts of sustainable fishing gear and vessel design technology
	K3 (ILO 5)	Understand and explain theoretical concepts, data analysis, and information system technology in the field of sustainable capture fisheries
	K4 (ILO 6)	Understand and explain the theoretical concepts of capture fisheries business
	K5 (ILO 7)	Understand and explain the theoretical concepts and planning of capture fisheries infrastructure
Skill	S1 (ILO 8)	Able to make optimal decisions in solving problems in the capture fisheries sector
	S2 (ILO 9)	Able to communicate and develop networks in the capture fisheries sector
	S3 (ILO 10)	Able to conduct capture fisheries entrepreneurship

0 Appendix: Programme Learning Outcomes and Curricula

Competence	C1 (ILO 11)	Able to plan fishing operations
	C2 (ILO 12)	Able to make fishing gear design and fishery infrastructure facilities
	C3 (ILO 13)	Able to design and utilize capture fisheries information system technology

The following curriculum is presented:

SEMESTER	CURRICULUM STRUCTURE														CP	
VIII						Student Community Service 4 CP/ 6.8 ECTS	Seminar 1 CP/ 1.7 ECTS	Final Project (Undergraduate Thesis) 6 CP/ 10.2 ECTS								11
VII						Student Community Service 4 CP/ 6.8 ECTS	Seminar 1 CP/ 1.7 ECTS	Final Project (Undergraduate Thesis) 6 CP/ 10.2 ECTS								
VI			Work Practices of Capture Fisheries Information System 2 CP/ 3.4 ECTS	Work Practices of Fishing Techniques 2 CP/ 3.4 ECTS	Work Practices of Fishing Gear and Vessel Design 2 CP/ 3.4 ECTS	Rescue and Work Safety at the Sea (E) 3 CP/ 5.1 ECTS	Fisheries Acoustics (E) 3 CP/ 5.1 ECTS	Fishing Boat Engine (E) 3 CP/ 5.1 ECTS	Quality Test of Fisheries Product (E) 3 CP/ 5.1 ECTS	Diversification and Development of Fisheries Product (E) 3 CP/ 5.1 ECTS	Industry and Capture Fisheries Project (E) 3 CP/ 5.1 ECTS	Fish Response to Fishing Gear (E) 3 CP/ 5.1 ECTS			27	
V	Population Dynamics and Stock Assessment 3 CP/ 5.1 ECTS	Fishing Operation 3 CP/ 5.1 ECTS	Capture Fisheries Information System 3 CP/ 5.1 ECTS	Seamanship 3 CP/ 5.1 ECTS	Fishing Gear Construction 3 CP/ 5.1 ECTS	Capture Fisheries Exploration 3 CP/ 5.1 ECTS	Fishing Auxiliary Technology (E) 3 CP/ 5.1 ECTS	Fisheries Remote Sensing (E) 3 CP/ 5.1 ECTS	Refrigeration Technology of Fisheries Product (E) 3 CP/ 5.1 ECTS	Contemporary Issues of Capture Fisheries (E) 3 CP/ 5.1 ECTS	Capture Fisheries Network Based System (E) 3 CP/ 5.1 ECTS	Catch Handling 3 CP/ 5.1 ECTS	Design of Fishing Auxiliary (E) 3 CP/ 5.1 ECTS	Methodology of Captures Fisheries Research 3 CP/ 5.1 ECTS	42	
IV				Entrepreneurship in Fisheries and Marine Science 2 CP/ 3.4 ECTS	Fishing Ground 3 CP/ 5.1 ECTS	Fishing Boat Design 3 CP/ 5.1 ECTS	Design of Fishing Gear 3 CP/ 5.1 ECTS	Meteorology and Climatology of Capture Fisheries 3 CP/ 5.1 ECTS	Fishing Technology 3 CP/ 5.1 ECTS	Capture Fisheries Mapping Techniques 3 CP/ 5.1 ECTS	Capture Fisheries Data Processing 3 CP/ 5.1 ECTS				23	
III				Statistics 3 CP/ 5.1 ECTS	Ichthyology 3 CP/ 5.1 ECTS	Fisheries Oceanography 3 CP/ 5.1 ECTS	Fishing Gear and Materials 3 CP/ 5.1 ECTS	Fish Behavior 3 CP/ 5.1 ECTS	Fishing Port Management 3 CP/ 5.1 ECTS	Navigation 3 CP/ 5.1 ECTS	Introduction to Economics 2 CP/ 3.4 ECTS				23	
II			Bahasa 2 CP/ 3.4 ECTS	English 2 CP/ 3.4 ECTS	Fundamentals of Aquatic Management 2 CP/ 3.4 ECTS	Fundamentals of Aquaculture 2 CP/ 3.4 ECTS	Fundamentals of Fishing 2 CP/ 3.4 ECTS	Fundamentals of Post Harvest Technology 2 CP/ 3.4 ECTS	Aquatic Ecology 3 CP/ 5.1 ECTS	Introduction to Oceanography 2 CP/ 3.4 ECTS	Marine Biology 3 CP/ 5.1 ECTS	Laws and Regulations in Marine Science and Fisheries 2 CP/ 3.4 ECTS	Counseling and Communication in Fisheries and Marine (E) 2 CP/ 3.4 ECTS		24	
I				Religious Education 2 CP/ 3.4 ECTS	Insight in Maritime Social Culture 2 CP/ 3.4 ECTS	Insight of Science and Technology 2 CP/ 3.4 ECTS	Citizenship 2 CP/ 3.4 ECTS	Pancasila 2 CP/ 3.4 ECTS	Co-Curricular 1 CP/ 1.7 ECTS	Applied Physics Mathematics 3 CP/ 5.1 ECTS	Introduction to Marine Science and Fisheries 2 CP/ 3.4 ECTS	Fishery Products 3 CP/ 5.1 ECTS			19	
TOTAL															169	

Legend :

-  : Hasanuddin University Courses
-  : Faculty of Marine Science and Fisheries Courses
-  : The Core Courses of Capture Fisheries Study Program
-  : Supporting Courses from the other study Program
-  : Elective courses for Capture Fisheries Study Program
-  : Final Project
- (E) : Elective Course