ASIIN Seal

Accreditation Report

Bachelor's Degree Programmes
Agronomy
Agricultural Economics & Agribusiness
Soil Science
Aquaculture
Aquatic Resources Management

Provided by
Universitas Gadjah Mada (UGM)

Version: 23.09.2022

Table of Content

A About the Accreditation Process

Name of the degree programme (in original language)	(Official) English translation of the name	Labels applied for [1]	Previous accreditation (issuing agency, validity)	Involved Technical Committees (TC)[2]
Program Studi Agronomi	Bachelor in Agronomy	ASIIN	/	08
Program Studi Ekonomi Pertanian dan Agribisnis	Bachelor in Agricultural Economics and Agribusiness	ASIIN	/	08
Program Studi Ilmu Tanah	Bachelor in Soil Science	ASIIN	/	08
Program Studi Aquakultur	Bachelor in Aquaculture	ASIIN	/	08
Program Studi Manajemen Sumberdaya Akuatik	Bachelor in Aquatic Resources Management	ASIIN	/	08

Date of the contract: 27.07.2021 **Submission of the final version of the self-assessment report:** 21.02.2022 **Date of the onsite visit:** 21.-23.03.2022 **at:** Due to continuing travel and safety restrictions caused by the Covid-19 pandemic, the audit was carried out digitally in agreement with the principal decision of the Accreditation Commission for Study Programmes.	
Peer panel: Prof. Dr. Alexander Stoy, University of Applied Science Kiel Prof. Dr. Roland Bol –Institute of Bio- and Geosciences Agrosphere Prof. Dr. Peter Braun, Geisenheim University	

---

[1] ASIIN Seal for degree programmes

[2] TC 08 - Agriculture, Forestry, Food Scienes, and Landscape Architecture

Prof. Dr. Mochammad Riyanto, Bogor Agricultural University Sinatrya Almansyah, Universal Leaf tobacco Cindy Septiany, Student at Bogor Agricultural University	
Representative of the ASIIN headquarter: Daniel Seegers	
Responsible decision-making committee: Accreditation Commission for Degree Programmes	
Criteria used: European Standards and Guidelines as of 15.05.2015 ASIIN General Criteria as of 28.03.2014 Subject-Specific Criteria of Technical Committee 08 – Agriculture, Forestry, Food Sciences and Landscape Architecture as of 09.12.2011	

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
Agronomy	Sarjana Pertanian / Bachelor in Agriculture	/	6	Full time	/	8 Semester	144-148 CSU 233,1-239,1 ECTS	Once per year
Agricultural Economics & Agribusiness	Sarjana Pertanian / Bachelor in Agriculture	/	6	Full time	/	8 Semester	144-148 CSU 233,1-239,1 ECTS	Once per year
Soil Science	Sarjana Pertanian / Bachelor in Agriculture	/	6	Full time	/	8 Semester	144-148 CSU 233,1-239,1 ECTS	Once per year
Aquaculture	Sarjana Perikanan / Bachelor in Fisheries	/	6	Full time	/	8 Semester	144-148 CSU 233,1-239,1 ECTS	Once per year
Aquatic Resources Management	Sarjana Perikanan / Bachelor in Fisheries	/	6	Full time	/	8 Semester	144-148 CSU 233,1-239,1 ECTS	Once per year

For the Bachelor's degree programme Agronomy (BA) the institution has presented the following profile in the Self-Assessment Report:

"Vision:

To become an excellent study program in the field of agronomy with an orientation toward smart-and-sustainable agriculture and international standard profile while maintaining the nation's cultural treasures.

Mission:

---

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

1. Conducting research-based education to develop graduates that have competencies in applying STA (scientific, technological, and artistic) aspects in agronomy;
2. Conducting researches oriented toward smart and sustainable agriculture, through collaborations with national and international institutions, an extending their results to society to contribute and promote STA as tools to solve local issues;
3. Empowering and improving societal welfare through research-based community service programs;
4. Maintaining and extending collaborations with relevant stakeholders to continuously improve the quality of education, research, and community service."

For the Bachelor's degree programme Agricultural Economics and Agribusiness (BAEA) the institution has presented the following profile in the Self-Assessment Report:

"Vision:

To become an excellent national and international study program for producing highly competitive human resources; developing, and preserving agricultural economics and agribusiness; and applying it to improve the welfare of the community based on the values of Pancasila.

Mission:

1. Conducting research-based education in agricultural economics and agribusiness to produce graduates who are competent in application, development and dissemination of science and technology, as well as adaptive to environmental changes by utilizing information technology;
2. Conducting strategic research in sustainable agricultural and agribusiness economics through collaborations with national and international institutions to support the development of science and technology;
3. Organizing community services with populist-oriented programs for empowering and improving societal welfare; and
4. Developing a study program responsive to scientific and technological developments, government policies and the needs of the national and international communities."

For the Bachelor's degree programme Soil Science (BSS) the institution has presented the following profile in the Self-Assessment Report:

"Vision:

To become an excellent study program for producing high quality human resource's ability to solve soil management problems with environmental conception in preserving natural

resources by improving science and technology, oriented toward national interest and societal welfare based on Pancasila.

Mission:

1. Conducting research-based education in the field of soil science able to identify problems and look for methods to solve them based on principles of soil management and land sustainability;
2. Creating sustainable strategic research based on regional potentials to solve problems in the agricultural sector by using scientific and technological developments;
3. Providing services and ensuring dedication to society with structured and integrated program for social empowerment; and
4. Developing an institution that is perceptive toward the developments of science and technology, government regulation and social needs."

For the Bachelor's degree programme Aquaculture (BAq) the institution has presented the following profile in the Self-Assessment Report:

"Vision:

To become an excellent study program able to compete at the national and international levels, develop aquaculture science and technology, as well as produce professional graduates who have good morals, and are highly competent in the field of aquaculture to improve societal welfare.

Mission:

1. Developing a productive, accountable, high quality, and efficient education to produce professionals and highly competent graduates in aquaculture and fisheries entrepreneurship;
2. Mobilizing progress to improve education quality and advancement of science and technology to achieve a productive, high-quality, efficient, economic, competitive, responsible, and sustainable field of aquaculture;
3. Promoting the application of science and technology or research results through community service, especially those related to aquaculture based on social responsibility;
4. Collaborating with alumni and related domestic and foreign institutions in the framework of implementing the tri darma"

For the Bachelor's degree programme Aquatic Resources Management (BARM) the institution has presented the following profile in the Self-Assessment Report:

"Vision:

To become a distinguished study program that produces quality graduates and develops science and technology in the field of aquatic resources and the implementation of community service.

Mission:

1. Organizing quality higher education in fisheries to educate, build, and maintain national integrity;
2. Developing sustainable and responsible aquatic resource management science and technology through education, research, and community empowerment;
3. Producing tough, superior graduates with high moral values and competence in Aquatic Resource Management, especially in coastal areas without overlooking other public water management issues, they will also be able to compete at the national and international levels while still grounded on national identity;
4. Establishing cooperation in the development of science and technology with other higher education institutions, governments, business, industries, and other domestic and foreign institutions;
5. Improving the quality of organizational management to continuously support activities and services. "

C Peer Report for the ASIIN Seal[4]

1. The Degree Programme: Concept, content & implementation

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

Evidence:

- Self-Assessment Report
- Study plans of the degree programmes
- Module descriptions
- Webpages of the study programmes
- Discussions during the audit

Preliminary assessment and analysis of the peers:

The peers refer to the 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 five Bachelor's degree programmes, as defined by UGM, correspond with the competences as outlined by the SCC. They come to the following conclusion:

All programmes aim to produce qualified graduates who can deeply analyse problems within their respective fields while reflecting current societal problems and needs. Further, graduates are expected to be able to conduct research and to apply their knowledge in practical fields and to respond to technological trends.

The qualification objectives of the <u>Bachelor's degree programme Agronomy</u> should enable graduates to cultivate plants and to develop an idea of good agricultural practices by applying its theories. In addition, graduates should be able to drive innovations in agronomy based on the development of science, technology and arts, design interdisciplinary and

---

[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.

multidisciplinary research in agronomy, formulate and solve problems in national development with regard to agronomy science as well as solve problems and anticipate issues in the development of research and the agricultural industry.

The qualification objectives of the <u>Bachelor's programme Agricultural Economics & Agribusiness</u> should enable graduates to develop entrepreneurial skills in the fields of agricultural economics. Further, graduates are prepared to add value to the value chain of agricultural products and to engage into markets with innovative ideas. In addition, graduates are capable of conducting research in the field of agricultural economics.

Graduates of the <u>Bachelor's programme Soil Science</u> should be able to apply science and technology in the field of soil and water management. They should gain managerial as well as entrepreneurial skills in fields such as land optimization, land planning, soil fertility and fertilizer technology.

The qualification objectives of the <u>Bachelor's programme Aquaculture</u> are designed to prepare graduates to contribute to the production of high quality and sustainable fishery using the latest technology in fresh, marine or brackish waters. Additionally, students gain the knowledge to engage in ethical contexts to provide services for the community as well as bureaucratic tasks that contribute to a sustainable fisheries system.

Graduates of the <u>Bachelor's programme Aquatic Resource Management</u> are prepared to apply science and technology for conducting sustainable and environmental-friendly fisheries. They should gain the skills necessary to manage human resources and to develop their own business strategies. Further, graduates are sensitised to community issues and are prepared to provide support.

The peers hold the view that the objectives and intended learning outcomes of the <u>five degree programmes</u> under review are reasonable and well founded. They learn that various stakeholders (alumni, industrial and governmental representatives) are involved in the constant review and development of the curricula. For example, industrial representatives are regularly invited to give suggestions on the skills and expertise graduates must possess and which new materials or topics should be added to the curricula. While there exists a national standard for designing the curriculum, especially the elective modules allow UGM to adapt to the suggestions from their stakeholders.

This cooperation between UGM and especially their industrial partners, results in good chances for the graduates on the national job markets as well as the opportunity to transfer to other academic programmes or to further their career in research. The employers confirm during the audit discussions that there is a high demand for the graduates of all programmes. Furthermore, they emphasize that graduates from UGM are their first choice

because they are generally better qualified than graduates from other Indonesian universities are. However, they also mention that they wish for graduates with better soft skills such as communication and leadership skills and the ability to apply their knowledge in practice. The peers agree with these suggestions and recommend to further support the development of interdisciplinary soft skills.

Criterion 1.2 Name of the degree programme

Evidence:

- Self-Assessment Report

Preliminary assessment and analysis of the peers:

The peers confirm that the English translation and the original Indonesian names of the Bachelor's degree programme Agronomy, Bachelor's degree programme Agricultural Economics & Agribusiness, Bachelor's degree Soil Science, Bachelor's degree programme Aquaculture and the Bachelor's programme Aquatic Resource Management correspond with the intended aims and learning outcomes as well as the main course language.

Criterion 1.3 Curriculum

Evidence:

- Self-Assessment Report

- Study plans of the degree programmes

- Module descriptions

- Webpages of the study programmes

- Discussions during the audit

Preliminary assessment and analysis of the peers:

According to the self-assessment report, the curricula all five study programmes are based upon the programmes' vision, mission and learning objectives. The latest curriculum review was performed in 2019. Various stakeholders such as lecturers, students, alumni and relevant scientific or professional associations were involved in this process. As a result, the curricula have been changed from a focus on general knowledge competencies to more subject specific courses. UGM provides a detailed list of the changes that were made, displaying the topicality and relevance of the current curricula as well as UGM's cooperation with the stakeholders involved in the review process, especially industrial and governmental partners as well as student and alumni.

The new curriculum of all five study programmes consists of minimum 144 Indonesian Credit points (which equals around 233,1 ECTS) distributed over eight semesters. The composition of the curriculum refers to the Regulation of the Minister of National Education No. 232/2000, consisting of the core curriculum and the institutional curriculum, which are both compulsory.

The curriculum of the degree programmes BA, BAEA, BSS, BAq, BARM consist of several groups of modules: university compulsory modules (UC), faculty compulsory modules (FC), department compulsory modules (DC), study program compulsory modules (SPC) and elective modules (SPE). Modules in the UC group cover general competencies for undergraduates, such as Pancasila (state ideology), citizenship, religion, and community service. The FC-modules cover basic knowledge for constructing logical thinking, such as language, basic science (biochemistry, statistics), design experiments, research methodology, and management. DC-modules cover competencies of specific knowledge in the field of each respective study program and are complemented by the study program compulsory modules that come with a more subject specific focus. An extensive overview for all study programmes can be viewed in the appendix of this report.

Since UGM has the goal to become internationally more visible and wants to further internationalise its degree programmes, the peers discuss with the programme coordinators and students if any classes are taught in English. The programme coordinators explain that the course descriptions and the necessary documents are all available in English and that some classes are taught in English. Furthermore, students are encouraged to attend summer courses that are held in English with international students and guest lecturers. In addition, the thesis can be written in English. The students confirm these statements, which gives the peers the impression that UGM is supporting the English-speaking capabilities of their students.

The students express their sincere wish to further intensify the international scope of the curriculum. While they are generally satisfied with the taught contents, they mostly focus on national issues, such as regional plants or Indonesian fish products. In order to enhance their career opportunities, e.g. working for international organisations and companies or applying for a graduate programme in another country, the students would like to have more courses and modules that also focus on international aspects. The peers agree with the students' assessment.

The members of the teaching staff explain on demand of the peers that they offer possible topics for the Bachelor's or Master's thesis according to their own research interests. All members of the teaching staff supervise theses. The students have to design a research

proposal with a time schedule for the project, which is discussed with the academic advisor. If they agree, the students apply formally for being allowed to work on the suggested topic.

The peers gain the impression that the graduates of all degree programme under review are well prepared for entering the labour market and can find adequate jobs in Indonesia. During the discussion with the peers UGM'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.

Criterion 1.4 Admission requirements

Evidence:

- Self-Assessment Report

- Academic Guidelines

- Decree of Minister of Research, Technology and Higher Education No. 2, 2015

- 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.2, 2015. The requirements, schedule, registration venue, and selection test are announced on UGM'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 UGM:

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 (25 % of the students at UGM 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 35 % of the admitted students at UGM.

3. Written Test (Ujian Tulis), students are selected based on a written test (similar to SBMPTN) specifically held by UGM (40 % of the students at UGM are admitted through this test).

There is a tuition fee for the BP programme with eight different levels (from 0 to 17.5 Mill IDR~ 500€ per Semester) depending on the economic background of the students.

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

UGM presents the numbers of applicants as well as the numbers of accepted students for all study programmes for the last three academic years. It becomes visible that for all five programmes, the number of applicants exceeds by far the number of available places.

The peers inquire of the programme coordinators, why there are so many students applying for studying at UGM. They learn that the offered programmes are very popular subject because the job perspectives are very good. In addition, there are many high school graduates in Indonesia and UGM is one of the most prestigious universities in the country. Consequently, UGM is able to only accept the very 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 motivated students to be one of the strong points of all five programmes.

During the audit, the peers ask if any student does know a disabled person who is studying in one of the programmes. Since the students do not know of any disabled students, the peers recommend to address this aspect of inclusion and to promote the study programme in a way that attracts a more diverse clientele.

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

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

Criterion 1.1

UGM states that there are a variety of programmes that promote students' soft skills. Firstly, there is a programme that teaches students softskills especially in their first year of study. Secondly, the MBKM programme, which was introduced 2019, gives students the opportunity to take courses at other universities or supplement their courses with practical experience in industry. Thirdly, students are supported with funding to participate in competitions that lead to certificates and encourage student creativity.

The peers deem these approaches to be very suitable and support UGM in their plans to improve the students' softskills.

<u>Criterion 1.3</u>

UGM explains that contents that address global concerns as part of their learning objectives are incorporated in several courses in every programme. In addition, the course materials are revised for each semester to keep the contents up to date. UGM submits a list indicating which module addresses specific international issues such as Poverty, Clear Water, Life Below Water, Responsible Consumption and Production etc..

The peers are satisfied with this list and see that the contents are already being implemented in all degree programmes.

<u>Criterion 1.4</u>

UGM states that it has already developed a concept on how to include disabled students. Facilities have been adapted to the needs of disabled people and improvements are already visible. There is also a Student Care Unit that assists students disabled students with their needs. However, the peers recommend that progress continues and look for opportunities to expand the existing scheme so that more disabled students can actually study at UGM.

In summary, the peers deem this criterion to be **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
- Webpages of the study programmes
- Discussions during the audit

Preliminary assessment and analysis of the peers:

Each study programme is designed to be completed in eight semesters. Within these eight semesters, students are supposed achieve the program learning outcomes (PLOs) that are divided into four categories Attitude, General Skills, Specific Skills and Mastery of Knowledge. The sequence of modules ensures that students start with basic courses and proceed with more advanced courses every semester. During their studies, students are able to choose from a list of elective courses. They 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 CSU outside of their study programmes.

From the discussion with the programme coordinators, the peers understand that additions to the curriculum are often offered as elective modules. This includes the suggestions made by the stakeholders concerning innovations in the respective field of the study programme. While the peers are generally glad that UGM manages to act upon these suggestions made, they notice that the curricula of all five degree programmes only encompass very few elective modules. Yet, the elective modules not only give the students insight into trends and innovations of their respective field but also allow them to define an individual focus and course of study and thus to achieve a specific competence profile. Therefore, the peers advice UGM to offer more elective modules.

After analysing the module descriptions and the study plans, the peers confirm that all degree programmes under review are divided into modules and that each module is a sum of coherent teaching and learning units. In addition, the peers gain the impression that the choice of modules and the structure of the curriculum ensures that the intended learning outcomes of the respective degree programme can be achieved.

Mobility:

According to the opinion of the peer group, a critical aspect of the degree programmes under review is the limited academic mobility of the students. The programme coordinators admit that the number of Bachelor's students who participate in international exchange programmes is still low, despite students' high interest.

According to the Self-Assessment Report, the curriculum is structured in a way that allows students to spend a semester abroad and rules to recognize achievements and competences acquired by the students outside UGM are set in place. The AIMS programme (ASEAN International Mobility for Students) has been established in 2013 to facilitate credit

transfer. Through AIMS, students are able to take any subject of the participating universities and transfer them as academic credits. Subjects with 60% similar content with subjects in the students' curriculum will substitute one another, while subjects with different contents can be transferred as elective courses. Nonetheless, relative small number of students (1 to 3 per year per study programme) use the AIMS programme.

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. The peers discuss with UGM's management if there is a strategic concept to increase the international mobility of students and teachers. They learn that UGM has many international partners, has developed a fellowship programme, and provides scholarships for foreign students that want to study at UGM. Finally, summer courses are conducted with international participants and double degree and exchange programmes are established with different countries. The peers support these measures; however, they recommend increasing the effort to further internationalise UGM by establishing more international cooperation and exchange programmes and offering more and better endowed scholarships. During the audit, the peers got the impression that students are not fully aware of their possibilities or lack the self-confidence to make use of the existing programmes. Therefore, the peers recommend to promote the existing programmes more and to encourage students to engage in the programmes.

In summary, the peers appreciate the effort to foster international mobility and support both the Faculties of Agriculture and UGM to further pursuing this path.

Criterion 2.2 Workload and credits

Evidence:
- Self-Assessment Report
- Study plans of the degree programmes
- Module descriptions
- Academic Guidelines
- Discussions during the audit

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 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' work-load per semester, it is determined that 1 CSU is awarded for 170 minutes of workload per week and the relation between the different kind of learning (contact hours, self-studies) is fixed.

According to the Self-Assessment report, most of the students in the BA programme, the BSS programme, the BAq programme and the BARM programme are not able to finish their studies in time. The result of the Internal Quality Audit (AMI) evaluation shows that this issue is often connected to the time students spent on their thesis work. One solution to this problem derived from the evaluation results is to improve collaboration between students and lecturer in research. Most of the students of the BAEA programme can complete their degree without exceeding the expected period. The difference between the BAEA programme and the other programmes may be because this programme does not require extensive research with either plants, soil or animals.

To complete an undergraduate programme, students must take 144 CSU or 233,1 ECTS. To complete the degree programme in time, Bachelor students need to take on average of 18 CSU per semester excluding co-curricular contents. However, the regular schedule usually covers 20-21 CSU per semester to give more space in the last semesters for resits, or more electives. If a student is not satisfied with his GPA, she or he can repeat the classes, but this will lead to a prolongation of the study time.

The peers gain the impression that workload for all degree programmes is generally suitable, that modules are adequately credited and that the programmes operate within an appropriate duration. One exception to this overall good impression is the workload of the undergraduate thesis. During the audit, the students state that they are spending a high amount of hours to design and execute their own research projects while earning six CSU. This confirms the findings of the AMI evaluation. Therefore, the peers conclude that the actual workload students put into the research and writing process of the undergraduate thesis does not match with the awarded credit points. They ask UGM either to award more

credit points for the thesis or to support students in their research progress to reduce the actual workload.

Criterion 2.3 Teaching methodology

Evidence:

- Self-Assessment Report

- Study plans of the degree programmes

- Module descriptions

- Discussions during the audit

Preliminary assessment and analysis of the peers:

All degree programmes adopt outcome-based education as their main learning method, an approach that emphasises the continuity of the learning process innovatively and interactively.

UGM further has the goal to support the transition from a teacher-centered to a student-oriented teaching method, in order to involve all students in the learning process and to develop their thinking and analytical skills. In addition, blended learning is introduced as a modern way of teaching. The use of e-learning elements in the learning process allows for class activity without physical attendance. At UGM, it is possible to use e-learning for a maximum of 30 % of the course. To provide support and guidance to the teachers in utilizing these instruments, all members of teaching staff attended workshops on blended learning. To facilitate the use of blended learning, UGM has developed a moodle-based e-learning system (eLok) and has subscribed for using the webinar platform Cisco Webex.

All degree programmes make use of several different education methods for each course, such as lecturers, laboratory work, seminars or peer group presentations.

To ensure that students follow most teaching and learning activities, the faculty of agriculture requires students to meet a minimum of 75% of class attendance for each course they take. Students who fail to comply with the requirement will not be allowed to take the course exam. Furthermore, a failure in completing the required course component will also result in an incomplete grade for the course.

In addition to teaching and learning activities, all programmes also support students' personal development activities through company visits, seminars, workshops, trainings as well as research and community development grants.

In summary, the peer group judges the teaching methods and instruments to be suitable to support the students in achieving the intended learning outcomes.

Criterion 2.4 Support and assistance

Evidence:

- Self-Assessment Report

- Academic Guidelines

- Discussions during the audit

Preliminary assessment and analysis of the peers:

UGM offers a comprehensive advisory system for all undergraduate students. At the start of the first semester, every student is assigned to an academic advisor. 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 general, students stress that the teachers are open-minded and communicate well with them and take their opinions and suggestions into account and changes are implemented if necessary.

All students at UGM have access to the digital academic portal (SIMASTER) which is integrated with the Registration Information System, the Academic Information System, the Library Information System, and the Scholarship Information System. The students' profiles (student history, study plan, academic transcript and grade point average/GPA, lecturer evaluation, course list) are available via SIMASTER.

As the peers could learn during the audit, some of the administrative tasks keep students waiting and should therefore be improved. In addition, the flow of information on the university level is reported to be rather slow. The students suggest using social media platforms to ensure that information can be shared quicker.

There is also medical, social, and psychological support for students at UGM (Gadjah Mada Medical Center/GMC and UGM Hospital). Furthermore, there is the alumni and career center that gives advice to students how to start and run a business.

Finally, there are several student organizations at UGM; 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. Overall, 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 even though the information about events could be communicated more smoothly.

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

Criterion 2.1

UGM states that it is trying to increase the numbers of students participating in international exchange programmes. Therefore, it is trying to attract funding collaborations and sponsors. The Faculty of Agriculture is working on improving the financial situation in order to provide better financial support for students who want to go abroad. The MBKM programme has created more opportunities for students to participate in short and therefore not so expensive exchange programmes.

The peers appreciate these efforts but keep maintain their recommendation as the number of students participating in the exchange programmes is currently rather low.

Criterion 2.2

UGM elaborates that it has already taken action with regard to the rather high workload of the undergraduate thesis. On the one hand, students can set up a research collaboration in the MBKM programme to prepare their thesis research and receive credits for their work. On the other hand, students can work on their research proposal in the research methods course in semester 6, to develop their research proposal. In this way, the workload for the undergraduate thesis is divided and additionally credited. In addition, students are supported in the writing stage of their theses through regular seminars.

The peers consider these measures to be appropriate to ensure that students can write their thesis in time and that all phases of their work are also credited.

Criterion 2.4

UGM explains that it has already adjusted its information flow. It has developed the platform "Simaster" to manage academic activities. It also uses Instagram to publish information and offers virtual academic services via Zoom.

Overall, the peers consider this criterion to be **fulfilled.**

3. Exams: System, concept and organization

Criterion 3 Exams: System, concept and organization

Evidence:

- Self-Assessment Report

- Module descriptions

- Academic Guidelines

- Academic Calendar

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.

If a student fails, he or she must 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 the Academic Guidelines.

The peers discuss with the students how many and what kind of exams they have to take each semester. They learn that for each course there is one mid-term exam and one final exam in every semester. Usually, there are additional practical assignments or oral tests. The final grade is the sum of the sub-exams. The students appreciate that there are a several short exams instead of one big exam, they state that they are well informed about the precise type and amount of exams at the start of every semester.

If a student fails, student must 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 the Academic Guidelines.

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

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

UGM does not provide any additional documents or information.

In summary, the peers deem this criterion to be **fulfilled**.

4. Resources

Criterion 4.1 Staff

Evidence:

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

Preliminary assessment and analysis of the peers:

At UGM, 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 of the BA programme consists of 1 professor, 7 associate professors, 11 assistant professors and 7 lecturers; the BAEA programme holds 3 professors, 3 associate professors, 11 assistant professors and 5 lecturers; the BSS programme consists of 2 professors, 3 associate professors, 6 assistant professors and 4 lecturers; the BAq programme of 1 professor, 5 associate professors, 6 assistant professors and the BARM programme employs 4 associate professors, 6 assistant professors and 2 lecturers.

As the peers deem the number of full professors rather low, they asked the teaching staff if they would like to further qualify themselves to be full professors in the future. They learn that the full professorship can only be attained by collecting scores due to publications and teaching experience. The score will be better for publications in renowned journals or if the publication gains international recognition. Taking the next step to the associate or full-professorship level can therefore take several years. As the peers could learn during the audit, UGM provides a variety of services and initiatives to support their motivated lecturers in the promotion process.

The lecturer activities related to education (teaching, examining, and supervising) and research are monitored and evaluated each semester. In addition, there are a number of

visiting professors from national and international institutions whose visits are planned according to the scientific need of the programs.

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

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 peers 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.

Criterion 4.2 Staff development

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

Preliminary assessment and analysis of the peers:
UGM 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 (to keep up with current developments and trends in the fields of the study programmes under review), whereas other training courses are intended to further improve the teachers' didactic skills and to introduce new teaching methods (e.g. blended learning).

The professional and scientific development of the staff members is coordinated by the Vice Dean for Finance, Administration and Human Resources and the Vice Dean for Academic and Student Affairs. There are financial resources available for staff members to go abroad for a limited time and to take part at conferences or other events in order to stay up to date with the scientific development in their area of expertise. In addition, the faculty

hosts international scientific events, facilitates sabbatical leaves, and invites international professors to further the international framework of the study programmes.

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

Criterion 4.3 Funds and equipment

Evidence:

- Self-Assessment Report

- On-site visit of the facilities

- Discussions during the audit

Preliminary assessment and analysis of the peers:
Basic funding of the degree programme and the facilities is provided by UGM and the Faculty of Agriculture. Additional funds, e.g. for research activities or special equipment, can be provided by UGM or the Indonesian Government, but the teachers have to apply for them. In addition, around 40% of the capital is received through third-party funding.

As the audit was conducted online, the peers were not able to visit the laboratories and teaching spaces. Instead, UGM 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 UGM 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 UGM generally holds enough work spaces and laboratories and that all laboratories are equipped with modern and sophisticated instruments. The peers recommend ensuring that all of these modern devices and tools are accessible for students of the degree programmes under review.

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

<u>Criterion 4.3</u>

UGM states that the use of all equipment and labs is available to all students in the degree programmes under review. UGM has set up an online waiting list to further improve the application process.

The peers are satisfied with the statement and regard the criterion as **fulfilled**.

5. Transparency and documentation

Criterion 5.1 Module descriptions

Evidence:
- Self-Assessment Report
- Module descriptions
- UGM's web page: www.ugm.ac.id

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 the awarded credit points, the intended learning outcomes, the content, the applicability, the admission requirements, and details explaining how the final grade is calculated.

They notice, however, that the module descriptions for the final theses as well as the individual workload are missing and ask UGM to include this in the module descriptions as well. Furthermore, they were not able to access lists of elective courses and ask UGM to publish these lists on their website to make them accessible for all stakeholders.

Criterion 5.2 Diploma and Diploma Supplement

Evidence:
- Self-Assessment Report

- Sample Diploma 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 all five degree 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

- All relevant regulations as published on the university's webpage: www.ugm.ac.id

- Preliminary assessment and analysis of the peers:

Preliminary assessment and analysis of the peers:

The peers 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:

Criterion 5.1

UGM submits an extensive list of elective modules for every study programme, both for regular elective modules and MBKM modules. However, the peers cannot access the requested information on the programmes' websites. They request UGM to publish the list of elective courses and the complete module descriptions on the websites or to indicate where on the websites the information can be accessed.

The peers regard this criterion to be **partly 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 peers discuss the quality management system at UGM 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 UGM is conducted by the Office of Quality Assurance (KJM), which is supported by the Quality Assurance Unit (K3A) at faculty level and the Semester Coordination Team (TKS) at department 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 (EDOM). Giving feedback on the classes is compulsory for the students; otherwise, they cannot access their account on the digital platform SIMASTER. There are 12 categories in the questionnaire (e.g. schedule, course materials, workload, and motivation). 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.

In addition to the surveys, there is an annual Internal Quality Audit (AMI) in order to evaluate whether the general learning objectives have been achieved. AMI is held annually, assessing all aspects of the educational process conducted by the degree programme. The assessment is carried out by two auditors, which are appointed by KJM. In the course of the AMI, lecturers, students, administrative staff, and degree programme management are interviewed by the auditors.

Students are also involved in the quality assurance system. Besides the EDOM questionnaires and informal feedback, there is a students' coordinator for each entrance year in all programmes; the Faculty of Agriculture appoints the coordinator. Moreover, each TKS has

a student member and students receive a questionnaire from each laboratory to evaluate the performance and technical equipment.

The results of internal quality assessments are evaluated on faculty level during the Management Review Meetings (RTM), attended by the dean, vice deans, heads of departments, heads of laboratories, degree programme managements and the Quality Assurance Unit. The RTM takes the final decision on all audit findings and initiates corrective actions if necessary.

During the audit, the peers learn that the results of the surveys are accessible by the members of the teaching staff but not by the students. If there is negative feedback, the Dean talks to the respective teacher, analyses the problem, and offers guidance. Furthermore, there is a complain box for the students that can be used for suggestions or criticism. The peers gain the impression that the students' feedback is taken seriously by the faculties and changes are made if there is negative feedback. However, they ask UGM to make sure that students are able to access the results of the evaluation and that the results are discussed in class.

External quality assessment of the degree programmes is provided by the Board of National Accreditation (BAN-PT). In addition, the BAEA and the BSS degree programmes have been accredited by the ASEAN University Network Quality Assurance (AUN-QA).

The peers discuss with the representatives of UGM's partners from public institutions and private companies that there are regular meetings with the partners on faculty level, where they discuss the needs and requirements of the employers and possible changes to the degree programmes. Besides this informal feedback, there is also advisory board. The peers see that due to the feedback from the employers, changes in the curriculum are implemented.

As the peers consider the input of the employers to be very important for the further improvement of the degree programmes, they appreciate the existing culture of quality assurance with the involvement of all stakeholders in the quality assurance process. Moreover, UGM and the Faculty stay in close contact with their alumni who also support the Faculty by raising funds.

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

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

UGM states that the faculty carries out the survey mechanism and students in every programme *can* be informed about the results on the faculty website. The faculty also hold a meeting with the student executive board to discuss the results of the evaluation of the MBKM-internship lecturers in collaboration with industrial partners.

While the peers acknowledge that students are generally involved in the quality management system of UGM, they ask UGM to communicate the results of the evaluation with the involved students within the evaluated course itself. Therefore, it has to be mandatory for lecturers or the faculty to either publish or discuss the results. It is not sufficient that faculties "can" share the results with the students.

The peers see this criterion to be **partly fulfilled.**

D Additional Documents

No additional Documents needed

E Comment of the Higher Education Institution (03.08.2022)

The institution provided a detailed statement.

F   Summary: Peer recommendations (30.08.2022)

Taking into account the additional information and the comments given by UGM 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 Agronomy	With requirements for one year	30.09.2027	–	/
Ba Agricultural Economics & Agribusiness	With requirements for one year	30.09.2027	–	/
Ba Soil Science	With requirements for one year	30.09.2027	–	/
Ba Aquaculture	With requirements for one year	30.09.2027	–	/
Ba Aquatic Resources management	With requirements for one year	30.09.2027	–	/

Requirements

A 1.   (ASIIN 5.1) Rewrite the module descriptions to include information about the content of the undergraduate theses, and the individual out of class workload.

A 2.   (ASIIN 5.1) Ensure that the list of elective modules is accessible for all stakeholders.

A 3.   (ASIIN 6) Ensure that the results of the evaluation surveys are discussed in class or published and thus accessible for students.

Recommendations

E 1.   (ASIIN 1.4) It is recommended to develop a concept to include more disabled students.

E 2.   (ASIIN 2.1) It is recommended to further promote the academic mobility of students.

G Comment of the Technical Committee 08 – Agriculture, Forestry, Food Science and Landscape Achitecture (14.09.2022)

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, Forestry, Food Science 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 Agronomy	With requirements for one year	30.09.2027	–	/
Ba Agricultural Economics & Agribusiness	With requirements for one year	30.09.2027	–	/
Ba Soil Science	With requirements for one year	30.09.2027	–	/
Ba Aquaculture	With requirements for one year	30.09.2027	–	/
Ba Aquatic Resources management	With requirements for one year	30.09.2027	–	/

H Decision of the Accreditation Commission (23.09.2022)

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 Agronomy	With requirements for one year	30.09.2027	–	/
Ba Agricultural Economics & Agribusiness	With requirements for one year	30.09.2027	–	/
Ba Soil Science	With requirements for one year	30.09.2027	–	/
Ba Aquaculture	With requirements for one year	30.09.2027	–	/
Ba Aquatic Resources management	With requirements for one year	30.09.2027	–	/

Requirements

A 1. (ASIIN 5.1) Rewrite the module descriptions to include information about the content of the undergraduate theses, and the individual out of class workload.

A 2.   (ASIIN 5.1) Ensure that the list of elective modules is accessible for all stakeholders.

A 3.   (ASIIN 6) Ensure that the results of the evaluation surveys are discussed in class or published and thus accessible for students.

Recommendations

E 1.   (ASIIN 1.4) It is recommended to develop a concept to include more disabled students.

E 2.   (ASIIN 2.1) It is recommended to further promote the academic mobility of students.

Appendix: Programme Learning Outcomes and Curricula

According to the Self-Assessment Report the following **learning outcomes (intended qualifications profile)** shall be achieved by <u>all degree programmes</u>:

Program Learning Outcomes (PLOs) of Attitude and General Skills Criteria for the five study programs involved.

Attitude	
S1	Demonstrate a Pancasila attitude and awareness of the interests of the nation and state.
S2	Demonstrate an attitude of honesty, responsibility, confidence, emotional maturity, ethics, and an awareness of being a lifelong learner.
General Skills	
KU1	Are able to apply logical, critical, systematic, and innovative thinking by utilizing information technology to produce solutions according to the respective areas of expertise with integrity and manifested in scientific documents.
KU2	Are able to develop network, adapt, be creative, provide contributions, supervise, evaluate, and create decisions in both written and oral formats to exhibit individual and group performance in order to implement science in the society.

According to the Academic Guidebook the following **learning outcomes (intended qualifications profile)** shall be achieved by the bachelor's degree programme <u>Agronomy</u>:

Knowledge	
P1	Are able to explain the basic theoretical concepts of agronomy and plant breeding, including plant science cultivation of plants, technology of plant production, factors that affect plant growth (planting materials, soil and water, climate, plant disturbing organisms), by considering human and social aspects.
P2	Are able to identify and analyze science and technology in agronomy/plant breeding to increase sustainable plant production based on Good Agriculture (GAP) approach.
P3	Are able to evaluate problems and create solutions in the field of agronomy/plant breeding based on experimental method and technology approach.

Special Skills	
KK1	Are able to apply technologies for plant production, including planting materials, integrated pest and disease management, soil, irrigation, and climate through technology and the latest tool utilization based on sustainable agriculture development.
KK2	Are able to design and implement technologies in the crop production sector, from assembling new cultivars through breeding activities to cultivating plants by considering several ecological environments, economic, and social aspects through conventional system, organic-farming, and smart-farming based on Good Agricultural Practices (GAP) approach.
KK3	Are able to solve general issues in integrated farm management for sustainable agriculture, particularly in plantation crops and agriculture systems by utilizing technology.

The following **curriculum** is presented
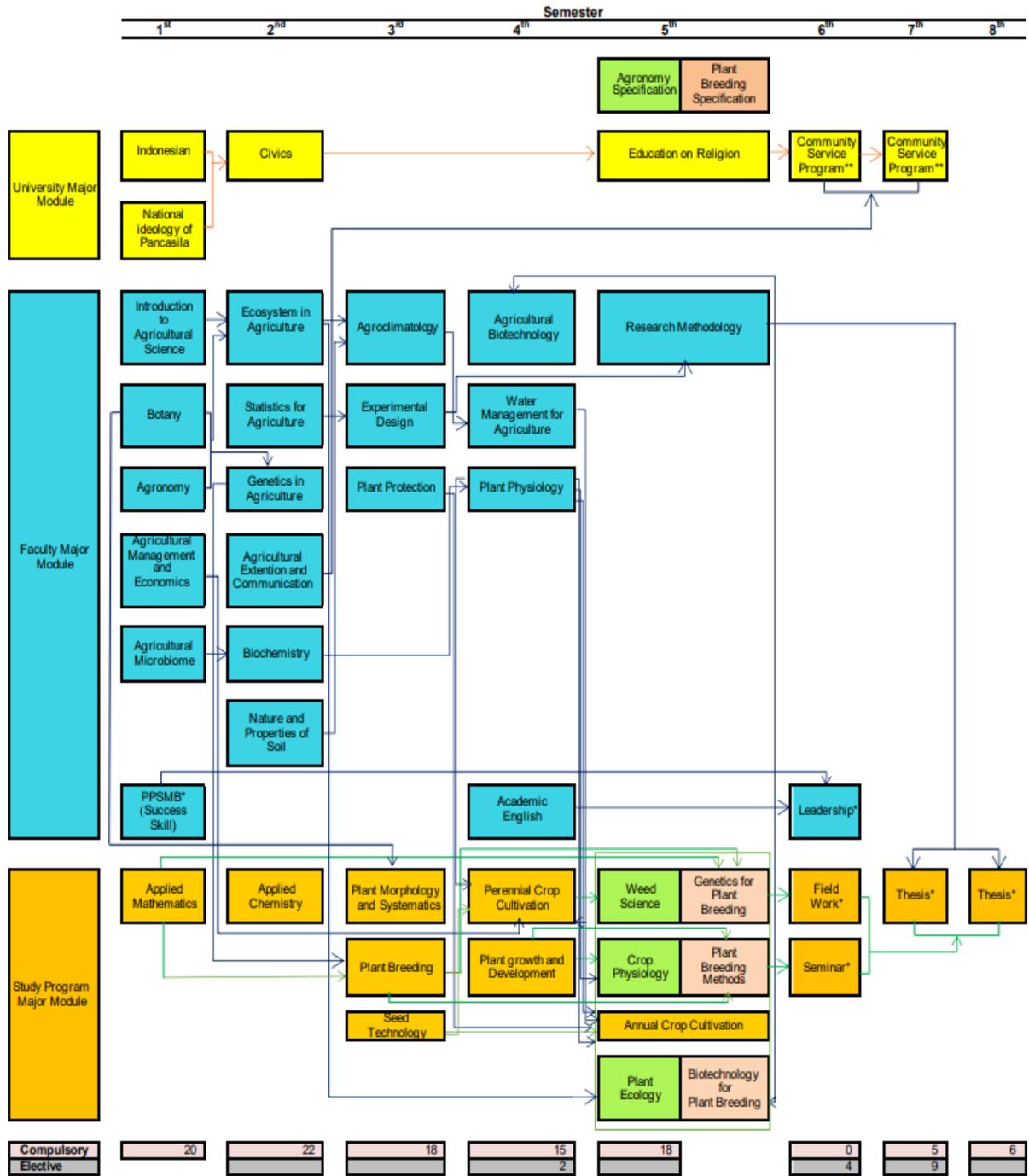
According to the Academic Guidebook the following **learning outcomes (intended qualifications profile)** shall be achieved by the bachelor's degree programme Economics and Agribusiness:

Knowledge	
P1	Are able to explain general theoretical concepts about plant biology, agricultural cultivation, plant protection, soil management, climatology, and agricultural socio-economics in supporting integrated and sustainable farming, in both oral and written formats with multimedia and other appropriate teaching aids.
P2	Are able to apply and evaluate concepts and factual knowledge about tropical farming systems, local wisdom, sustainable agribusiness, and global challenges.
P3	Are able to apply and evaluate theoretical concepts, methodologies, operational designs, and analytical tools for solving problems in the field of agricultural economics and agribusiness management to realize agricultural development that is people-oriented and sustainable.
Special Skills	
KK1	Are able to apply agricultural and agribusiness economic theories in sustainable agriculture by utilizing the latest technology.
KK2	Are able to identify and find solutions to problems that arise in the implementation of small- and large-scale agricultural businesses (national & multinational) through data & information analyses, conclude and provide recommendations with technical approaches, agricultural institutions, socio-cultural characteristics, and agricultural economics by utilizing the latest technology.
KK3	Are able to analyze market potentials, initiate, and manage agribusiness and its risks based on popular, sustainable agriculture and integrated agriculture systems.
KK4	Have skills in effectively communicating agricultural and agribusiness economic concepts and taking advantage of developments in information technology.

The following **curriculum** has been presented:
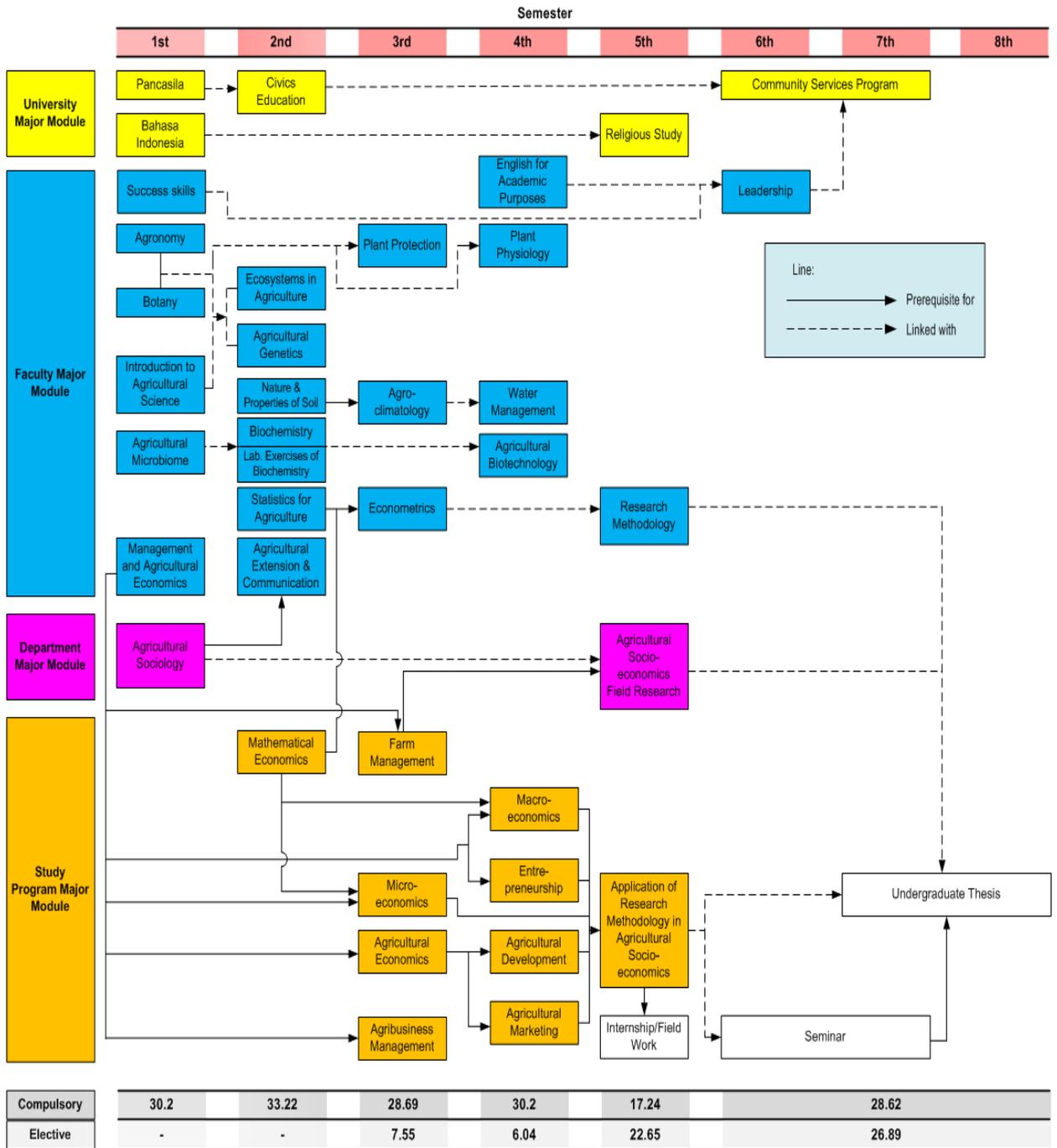
|	1st	2nd	3rd	4th	5th	6th & 7th
Compulsory	30.2	33.22	28.69	30.2	17.24	28.62
Elective	-	-	7.55	6.04	22.65	26.89

According to the Academic Guidebook the following **learning outcomes (intended qualifications profile)** shall be achieved by the bachelor's degree programme <u>Soil Science</u>:

Knowledge	
P1	Are able to explain general theoretical concepts about biological plants, plant cultivation, plant protection, soil management, climatology, and socio-economic agriculture in supporting integrated and sustainable farming, in both oral and written formats using multimedia and other appropriate teaching aids.
P2	Are able to analyze, in detail, the process of soil formation, soil morphology, soil quality and use of land based on pedo-geospatial concepts.
P3	Are able to evaluate theoretical concepts for solving problems in land conservation, land degradation and reclamation, as well as sustainable land utilization, through a scientific approach by using information technology in accordance with the interests of the community.
Special Skills	
KK1	Are able to apply the science and technology of plant cultivation and post-harvest, including planting materials, integrated pest and disease management, soil, water and climate by utilizing the latest technology and tools following the principles of sustainable agriculture.
KK2	Are able to design surveys and soil mapping, soil classification, land capability / suitability classes, and ability to interpret soil characteristics as well as its potentials and constraints, and to choose alternative uses based on field observations, laboratory and landscape analysis and cartographic mapping using pedo-geospatial technology, so as to be able to maintain the ecological functions of soils as the basis for sustainable land use planning.
KK3	Are able to conduct laboratory and/or visual investigations on the symptoms of soil nutrient deficiency, soil toxicity, water availability constraints, and its alternative solutions to solve those problems for various types of plants; ability to formulate fertilizer recommendations such as specific types and dosage of fertilizers on various types of soil and cultivated plants; ability to investigate various problems pertaining to soil, water, and land, for crop cultivation in various conditions by applying the principles of soil science.

KK4	Are able to apply organic agriculture management on volcanic soils, wetlands, karst, beach sand and other suboptimal soils in a sustainable manner with appropriate principles of soil and water management supported by field and laboratory observations based on sustainable agriculture principles.

The following **curriculum** is presented:
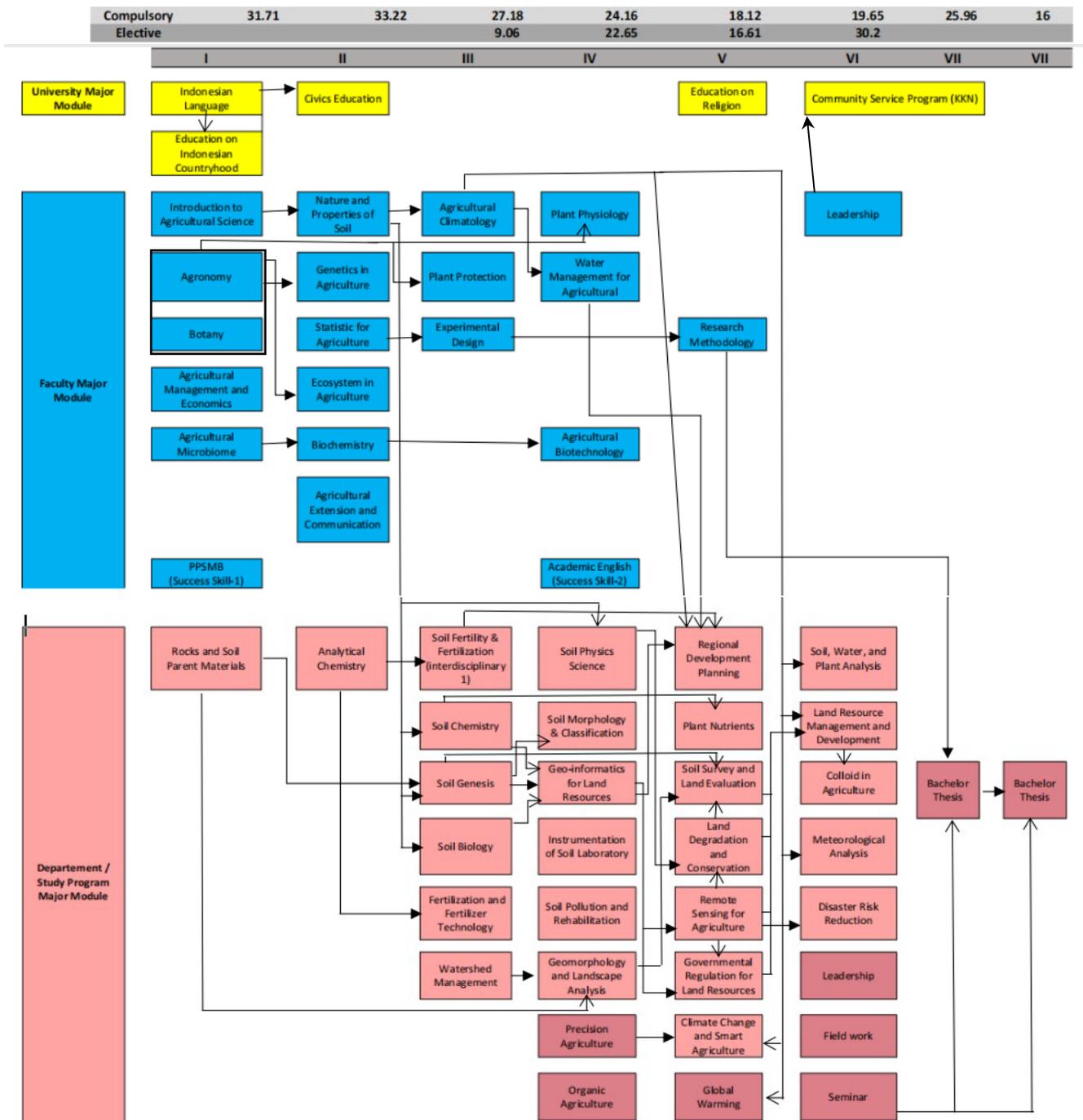
According to the Academic Guidebook the following **learning outcomes (intended qualifications profile)** shall be achieved by the bachelor's degree programme <u>Aquaculture</u>:

Knowledge	
P1	Are able to explain about sustainable fisheries and marine systems including management and utilization of aquatic resources, socio-economics, fish culture, and processing of fishery products.
P2	Are able to explain problems in fisheries system management using scientific approaches, including identification aspects and problem formulation, data collection and analysis, conclusions and alternative problem-solving.
P3	Are able to evaluate the theoretical concepts of techniques and management of aquatic organism cultivation in fresh, brackish and/or marine waters that are productive, high quality, and sustainable using the latest technology, including preparation of infrastructure, management of water, fish-seeds, feed, health, and harvest.
Special Skills	
KK1	Are able to apply science and technology in sustainable fisheries and marine business systems including management and utilization of aquatic resources, socio-economics, fish culture, fishery product processing and fisheries policies to produce high quality fishery products.
KK2	Are able to solve problems in the fisheries system by following the steps of problem identification, data collection and analysis, conclusions and alternative problem-solving.
KK3	Are able to conduct aquaculture activities starting from the design and construction of aquaculture containers and supporting facilities, management for producing fish-seed, feeds, health, water quality and harvesting freshwater, brackish water and marine organisms through good fish hatchery practices and good aquaculture practices in the environment, as well as analyses of socio-economic aspects.

The following **curriculum** is presented:
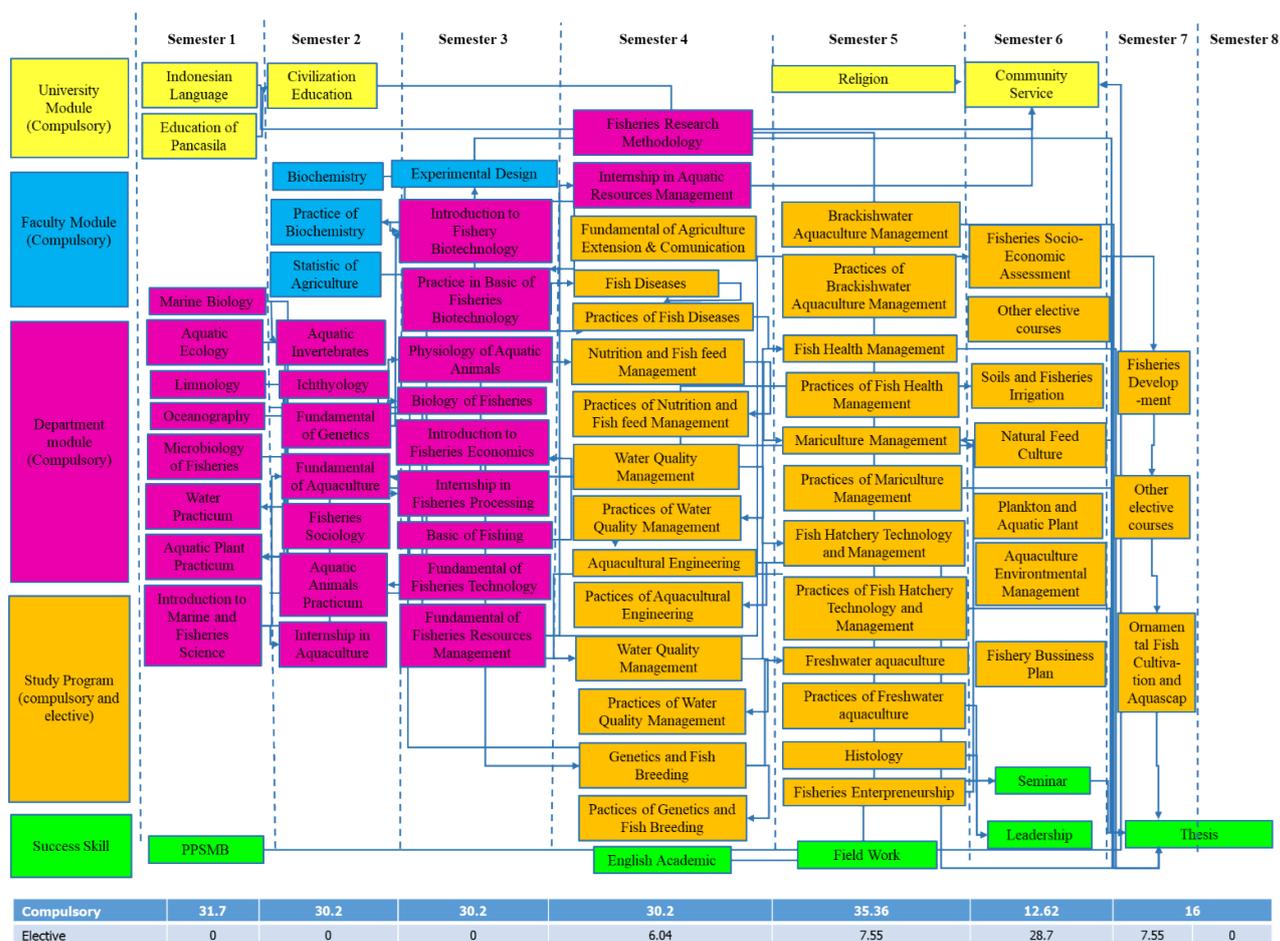
	Semester 1	Semester 2	Semester 3	Semester 4	Semester 5	Semester 6	Semester 7	Semester 8
Compulsory	31.7	30.2	30.2	30.2	35.36	12.62	16	
Elective	0	0	0	6.04	7.55	28.7	7.55	0

According to the Academic Guidebook the following **learning outcomes (intended qualifications profile)** shall be achieved by the bachelor's degree programme <u>Aquatic Resources</u>:

Knowledge		
P1		Are able to examine sustainable fisheries and marine systems, including management and utilization of aquatic resources, socioeconomics, fish aquaculture, and processing of fishery products.
P2		Are able to distinguish problems in the management of fishery systems using scientific approaches, including problem identification, data collection and analysis, conclusions, and alternative solutions to problems.
P3		Are able to analyze and assess of the quality of the aquatic environment and environmentally friendly fishing methods that pay attention to local wisdom based on data and information by utilizing science and technology for sustainable management of fisheries and marine resources.

P4	Are able to organize in-depth socio-economic and business concepts for developing entrepreneurship in the field of fisheries.
Special Skills	
KK1	Are able to apply science and technology in sustainable fisheries and marine business systems, including management and utilization of aquatic resources, socio-economics, fish culture, fishery product processing, and fisheries policies to produce quality fishery products.
KK2	Are able to solve problems in the fishery system by following steps of problem identification and formulation, data collection and analysis, making conclusions and alternative solutions to problems.
KK3	Are able to apply the latest scientific and technological advancements to optimally achieve sustainable capture fisheries management and aquatic resource conservation.
KK4	Are able to carry out socio-economic analyses and business developments in the fisheries sector.

The following **curriculum** is presented:

Semester							
I	II	III	IV	V	VI	VII	VIII

University module (compulsory)
- Indonesia language
- Pancasila education
- Citizenship education
- Religion education
- Community service
- Community service

Faculty module (compulsory)
- Statistic
- Biochemistry
- Practicum biochemistry
- Experimental design
- Methodology research
- Agricultural extension and communication
- Entrepre-neurship
- Leadership

Department module (compulsory)
- Introduction fisheries & marine science
- Marine biology
- Limnology
- Practicum aquatic plant
- Fisheries microbiology
- Aquatic Ecology
- Oceanography
- Practicum of water properties
- Sociology of fisheries
- Aquatic invertebrate
- Ichthyology
- Practicum of aquatic animal
- Basic of genetics
- Basic of aquaculture
- Internship of aquaculture
- Basic of fishery Res.Manag.
- Introduction to fisheries economics
- Fisheries biology
- Basics of fisheries technology
- Practicum of basics fish technology
- Basic of fish capture
- Aquatic animal physiology
- Internship of fisheries product processing
- Internship of fisheries resource
- Practicum of fisheries socio-economic

Study Program module (compulsory and elective)
- Fish dynamic population
- Fishing gear & material
- GIS in fisheries
- Ocean climatology
- Underwater observation methodology
- Practicum of fisheries resource assessment
- Fishing technique
- Practicum in Fish capture
- Water pollution control
- Conservation of fisheries resource
- Practicum of aquatic environment management
- Practicum in underwater observation
- Entrepreneurship in fisheries
- Marketing in fisheries product
- Management of aquatic resource
- Management of fisheries resource
- Practicum of fisheries management
- Seminar
- Undergraduate thesis
- Undergraduate thesis

Success skill
- PPMSB (success skill)
- Scientific English (International communication)
- Leadership
- Field work
- Seminar

	I	II	III	IV	V	VI	VII	VIII
Compulsary	37.1	30.20	30.20	21.14	19.63	17.78	17.51	16
Elective	-	-	-	12.08	13.59	24.16	15.10	0