



**ASIIN Seal**

## **Accreditation Report**

**Bachelor's Degree Programmes**

***Soil Science***

***Agribusiness***

***Forestry***

***Agroindustrial Technology***

Provided by

**Universitas Lambung Mangkurat (ULM)**

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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 <sup>1</sup>	Previous accreditation (issuing agency, validity)	Involved Technical Committees (TC) <sup>2</sup>
Ba Ilmu Tanah	Soil Science	ASIIN	BAN-PT, until 11 Jul 2025	08
Ba Agribisnis	Agribusiness	ASIIN	BAN-PT, until 09 Oct 2023	08
Ba Kehutanan	Forestry	ASIIN	BAN-PT, until 16 Oct 2024	08
Ba Teknologi Industri Pertanian	Agroindustrial Technology	ASIIN	BAN-PT, until 06 Oct 2025	08
<b>Date of the contract:</b> 13.12.2021  <b>Submission of the final version of the self-assessment report:</b> 14.03.2022  <b>Date of the onsite visit:</b> 05.-06.09.2023  <b>at:</b> Universitas Lambung Mangkurat (ULM), Campus Banjarbaru, Faculty of Agriculture, Faculty of Forestry.  <b>Location:</b> Banjarbaru, Indonesia.				
<b>Expert panel:</b>  Prof. Dr. Jürgen Pretzsch, Dresden University of Technology  Prof. Dr. Bernhard Seggewiß, Neubrandenburg University of Applied Sciences  Prof. Dr. Matthias Kleinke, Rhine-Waal University of Applied Sciences  Dr. Dessy Adriani, Universitas Sriwijaya  Ms Yayang Vionita, Verstegen Spices & Sauces BV  Ms Fitria Yasmin Mazaya, student at Universitas Gadjah Mada				

<sup>1</sup> ASIIN Seal for degree programmes

<sup>2</sup> TC: Technical Committee for the following subject area: TC 08 - Agriculture, Forestry, Food Sciences, and Landscape Architecture.

<b>Representative of the ASIIN headquarter:</b> Christian Daniels	
<b>Responsible decision-making committee:</b> Accreditation Commission for Degree Programmes	
<b>Criteria used:</b>  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, Forestry, Food 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 <sup>3</sup>	d) Mode of Study	e) Double / Joint Degree	f) Duration	g) Credit points/unit	h) Intake rhythm & First time of offer
Ba Agribusiness	S.P. (Sarjana Pertanian / Bachelor of Agriculture)	—	Level 6	Full time	—	4 years / 8 semesters	147 SKS equivalent to approx. 194 ECTS	2009, annually in August
Ba Agroindustrial Technology	S.T.P. (Sarjana Teknologi Pertanian / Bachelor of Agricultural Technology)	—	Level 6	Full time	—	4 years / 8 semesters	145 SKS equivalent to approx. 192 ECTS	2007, annually in August
Ba Forestry	S.Hut. (Sarjana Kehutanan / Bachelor of Forestry)	—	Level 6	Full time	—	4 years / 8 semesters	147 SKS equivalent to approx. 194 ECTS	2010, annually in August
Ba Soil Science	S.P. (Sarjana Pertanian / Bachelor of Agriculture)	—	Level 6	Full time	—	4 years / 8 semesters	146 SKS equivalent to approx. 193 ECTS	2007, annually in August

The Universitas Lambung Mangkurat (ULM) is a public university located in Banjarmasin and Banjarbaru, South Kalimantan, Indonesia. Founded in 1958, ULM incorporates 12 faculties providing 67 undergraduate programs, 13 professional and specialist programs, 25 master's programs, two diploma programs and seven doctoral study programs in total. More than 30.000 students are enrolled at ULM as per the writing of this report. Of these, about 2000 study at its Faculty of Agriculture, and about 900 at its Faculty of Forestry.

By 2027, the University aspires to be a leading institution renowned for its expertise in wetland environment studies. The University's mission revolves around the *Tridharma* principle of providing education, conducting research, and engaging in community service. Furthermore, the University aims to establish itself ahead of the moving of Indonesia's capital to Borneo's neighbouring East Kalimantan province within the next decades.

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<sup>3</sup> EQF = The European Qualifications Framework for lifelong learning

For the Bachelor's degree programme in **Agribusiness (AGB)**, the ULM's Faculty of Agriculture has presented the following profile in the self-assessment report:

**"Mission of the study program"**

1. Implementation of quality, professional and competitive higher education activities in the field of wetland agribusiness;
2. The realization of PS Agribusiness as one of the centers for the development and application of national science and technology in the field of wetland agribusiness;
3. The realization of governance and academic quality assurance of strong study programs with a management system that is credible, transparent, accountable, responsible, and fair.

**Program educational objectives (PEO)**

- PEO 1- Agribusiness actors/entrepreneurs who are professional, innovative, creative, and able to develop sustainable agricultural management.
- PEO 2- Agribusiness academics/consultants/researchers who are able to develop knowledge analysis as part of long-life learning through further studies at academic and professional levels in order to provide solutions to complex problems in the agribusiness field."

For their Bachelor's degree programme in **Agricultural Product Technology (AIT)**, the Faculty of Agriculture has presented the following profile in the self-assessment report:

**"Mission of the study program"**

1. Produce graduates of Agricultural Industrial Technology Study Program who:
  - a. Having good moral and personality as well as having managerial ability in the field of agro-industry, especially in the wetland environment, dedicated, responsive to the development of science and technology and actively participates in sustainable national development.
  - b. Ability to plan, design, implement, control and develop integrated agro-industry systems.
  - c. Realizing an educational system in the agro-industry sector that is responsive to the dynamics of science and technology development based on local wisdom and oriented to the wetland environment and has an entrepreneurial spirit.
2. Produce science and technology that can be applied to the development of agro-industry.
3. Contribute to improving people's quality of life through agro-industry development.

**Program educational objectives (PEO)**

- PEO 1- Mastering technology, management, system engineering, and the agricultural industry environment holistically and innovatively contribute to solving problems in sustainable agricultural technology.
- PEO 2- Understand the process of engineering materials based on chemistry, physics, and mathematics.

PEO 3- Having superior leadership character, honest, idealistic, courageous, empathetic, collaborative, dreamer, committed, diligent, and able to solve problems.

PEO 4- Capable of technopreneurship and innovative independent work in the fields of technology, management, systems engineering, and the agricultural industry environment.”

For their Bachelor’s degree programme in **Soil Science (SS)**, the Faculty of Agriculture has presented the following profile in the self-assessment report:

**“Mission of the study program**

1. Manage the tri dharma program of higher education in an effective, efficient, transparent and accountable manner.
2. Organizing innovative, superior and competitive academic education at the national level, in the field of soil science and technology in wetlands and drylands, by mainstreaming sustainable biomass production.
3. Develop soil science and technology on wetlands and drylands, through basic, applied and policy research, to improve the quality of wetlands and drylands for sustainable biomass production.
4. Implement community service programs in the field of soil technology in wet and dry land to empower and improve the quality of society and the environment.

**Program educational objectives (PEO)**

PEO 1- Educators and researchers can develop knowledge and technology, play an essential role in mainstreaming environmental care principles in national and community development, and play a strategic role in providing scientific foundations and practical information on the development of soil and environmental science technology

PEO 2- Consultants who are able to provide assessment and guidance in order to determine alternative land resource management, especially land

PEO 3- Managers who are able to manage land resources, especially soil, in the context of sustainable biomass production.”

For their Bachelor’s degree programme in **Forestry (FOR)**, ULM’s Faculty of Forestry has presented the following profile in the self-assessment report:

**“Mission of the study program**

1. Produce graduates who have superior character and are able to compete in the development of science and technology in the field of tropical rain forest management;
2. Produce research, development and application of science and technology in the field of tropical rain forest management;
3. Implementation of community service activities;

4. The implementation of cooperation with stakeholders in developing science and technology for tropical rain forest management.

**Program educational objectives (PEO)**

- PEO 1- Forestry Managers who are able to manage, develop and rehabilitate sustainable forest and land.
- PEO 2- Environmentally inferior, independent, innovative, and competitive forestry entrepreneur.
- PEO 3- Forestry instructor that dedicated him/herself to empowering forest village communities.
- PEO 4- Researchers in the field of Wet Tropical Forest Management who are able to develop science and technology.”



## C Expert Report for the ASIIN Seal

### 1. The Degree Programme: Concept, content & implementation

<b>Criterion 1.1 Objectives and learning outcomes of a degree programme (intended qualifications profile)</b>
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**Evidence:**

- Self-Assessment Report
- University Website ([here](#), [here](#), [here](#), [here](#))
- Curricula, all programmes
- Module Handbooks, all programmes
- Subject-Specific Criteria (SSC) – Learning Objectives (LO) Interaction Matrices, all programmes
- Discussions with programme coordinators, lecturers, students, and industry representatives during the audit.

**Preliminary assessment and analysis of the experts:**

**Learning Outcomes**

For each of the study programmes under review, the University distinguishes between

- Program educational objectives (PEOs), i.e. the aspired graduate profiles (as outlined under [section B](#)), which inform the
- Program Learning Outcomes (PLOs), which, in accordance with the Indonesian National Qualification Framework (*Kerangka Kualifikasi Nasional Indonesia*, KNNI), are distinguished as aspects of Attitude (*sikap*), Knowledge (*pengetahuan*), General Skills (*kemampuan umum*), and Special Skills (*kemampuan khusus*); as well as
- Course Learning Outcomes (CLOs) for each module:

On the programme level, PEOs and PLOs are delineated in the self-assessment report (SAR). Tabular mappings of linkages between PEOs and PLOs as well as between PLOs and ASIIN's applicable subject-specific criteria are equally provided in the SAR for all programmes under scrutiny. In connection to this, however, the auditors observe that the programme

learning objectives appear to be difficult to access or unavailable on the respective programme website, and issue a requirement accordingly.

On the module level, course learning objectives are defined and broken down into sub-CLOs in the respective module handbooks. As the assessors learn during the audit, the achievement of course learning outcomes is measured through the students' performance in the respective formative and final course assignments, whose link (assignment – CLO) is also documented in the individual module descriptions.

In the course of their assessment of the respectively documented PEOs, PLOs, and CLOs, the experts assess that there are no major deficiencies on the level of programme and course objectives. Based on this, the experts conclude that the learning outcomes of the programmes under review correspond to level 6 (Bachelor) of the European Qualification Framework (EQF), and suffice the respective Subject-Specific Criteria of ASIIN's Technical Committee 08 for subjects in the field of Agriculture, Forestry and Food Sciences. Further discussion on a curriculum level will follow in chapter 1.3.

### **Graduate Qualification Profiles**

Asked during the audit by the expert group about their perceived room for improvement of their graduates' qualification profiles, the programme coordinators respond that a better understanding of their students' careers post-graduation was needed, as tracer studies had only been commenced a year ago. Due to this, information on students continuing their learning through Master's and PhD studies were as of yet unavailable. In view of this, the experts encourage the Faculties to intensify their efforts in tracing their alumni's development after graduation, to be able to strengthen University-industry relations as well as to draw valuable insights for the development and offering of continuing Master's and PhD programmes.

On a further note, the programme coordinators agreed on the need for their graduates to obtain better English language proficiency. As a first step towards this, the experts learn that both Faculties have introduced a minimum English proficiency threshold equalling a TOEFL score of 450 required for graduation. The experts welcome these efforts and encourage the Faculties to take further steps in this regard, noting that the indicated TOEFL score equals an early B1 (i.e. early intermediate) level as per the Common European Framework of Reference (CEFR) for language proficiency only.

During the experts' exchanges with students and alumni of the programmes under review, an overall satisfaction with the programmes, the learning they seek to impart as well as future job perspectives emerged. This being said, a majority of the students present stated

their intention to obtain a Master's degree following their graduation, frequently pointing to potential graduate studies abroad.

As recurring aspects during their exchange, students and alumni underlined the need for stronger English language proficiency, as well as the need to foster soft skills such as leadership and public speaking competencies.

On their part, local industry representatives from both private and public institutions confirmed their frequent employment of graduates from the programmes under review, particularly from Forestry and Soil Science, commending their practical abilities. In this regard, the experts are pleased to learn that linkages between industry representatives and the Faculties' alumni associations exist, through which vacancies are relayed to students and graduates.

With regards to the competence profiles of the programmes' graduates, the industry representatives echo – while noting improvements over the last years – the alumni's call for improved English language proficiency as well as enhanced teamwork and leadership skills. In addition to this, the industry representatives variously highlight the need for software skills such as ArcGIS and MineScape to aid emerging areas of work such as precision farming and reclamation design. The experts recommend the Faculty to consider this, e.g. through integration into courses or practicums.

### **Review of Learning Outcomes**

As elaborated further in [chapter 1.3](#), a review of all curricula as well as their envisaged graduate profiles and associated learning outcomes takes place every five years involving faculty staff, students, alumni, as well as external stakeholders with the aim of ensuring the programmes' relevance and responsiveness to academic and societal needs.

In summary and in view of the provided student and industry feedback, the experts gain the impression that, while various recommendations could be discerned from the exchanges as described above, the imparted qualification profiles overall satisfy expectations on all sides, and allow the students to take up employment corresponding to their qualification.

<b>Criterion 1.2 Name of the degree programme</b>
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**Evidence:**

- Self-Assessment Report
- Curricula, all programmes
- Module Handbooks, all programmes.

### **Preliminary assessment and analysis of the experts:**

As outlined by the University in the self-assessment report, the titles of the four programmes under review align with the nomenclature for study programmes stipulated in the corresponding decree no. 232/B/HK/2019 of the Indonesian Ministry of Research, Technology, and Higher Education.

In light of the provided documentation, the experts confirm that the English translation and the original Indonesian names of the study programmes under review are appropriate and correspond to the programmes' intended aims and learning outcomes.

<b>Criterion 1.3 Curriculum</b>
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#### **Evidence:**

- Self-Assessment Report
- Curricula, all programmes
- Module Handbooks, all programmes
- Discussions with programme coordinators, lecturers, students, and industry representatives during the audit.

### **Preliminary assessment and analysis of the experts:**

#### **Curriculum Composition**

The curricula, structure and composition of the study programmes under review, which are based on the Indonesian National Qualification Framework, are presented in the University's provided self-assessment report and "Curriculum" document.

The Bachelor's programmes Agribusiness, Agroindustrial Technology, and Soil Science are offered by the Faculty of Agriculture, while the Bachelor's programme in Forestry is offered by the Faculty of Forestry. Each of the curricula consists of 144-147 Indonesian credits (*satuan kredit semester*, SKS).

The expected study duration is eight semesters (four years). Each semester is equivalent to 14 weeks of learning activities. Besides these learning activities, there is one week for midterm exams and one week for final exams. The odd semester starts in August and ends January of the following year, while the even semester lasts from February to July. In addition, there is an optional summer semester, which is intended for students who need to make up for missed or failed courses.

All five programmes contain varying amounts of credits to be obtained through elective courses. Moreover, the programmes include a number of compulsory courses which are

fixed within the curricula due to national requirements, amongst them Indonesian language, Religion, Pancasila, English, and Civic Education.

All of the mentioned programmes include the writing of a final Bachelor's thesis, along with an accompanying seminar.

The **Ba Agribusiness (AGB)** curriculum teaches modules such as

*Introduction to Agricultural Sciences, Fundamentals of Agronomy, Fundamentals of Management, Fundamentals of Soil Science, Agricultural Statistics, Entrepreneurship, Rural Sociology, Theory of Micro Economics, Agroclimatology, Fundamentals of Communication, Agricultural Economic and Agribusiness, Agribusiness Management, Theory of Macro Economics, Agricultural Production Economics, Fundamentals of Accounting, Agricultural Marketing, Extension and Development of Agribusiness Community, Farming and Plantation Management, International Trade, Consumer Behaviour, Business Strategy and Policy, Analysis of Agricultural Projects, Econometrics, Marketing Management, Regional Development Planning, Non-parametric Statistics, Agribusiness Development and Policy, Resource Economics and Environment, Introduction to Agricultural Technology, Agricultural Engineering, Negotiations and Business Leadership, and more.*

The **Ba Agroindustrial Technology (AIT)** curriculum includes modules such as

*Basic of Process Engineering, Basic of Bioprocess Engineering, Engineering Drawing, Analysis of Agroindustrial Materials and Products, Computer Application, Industrial Environmental Management, Innovation and Entrepreneurship, Packaging and Storage Technology, Agroindustrial Machinery, Production Planning and Inventory Control, Industrial Layout and Material Handling, Occupational Health and Safety, Engineering Economics, Quality Control and Assurance, Industrial Waste Processing Technology, Oil Palm Products Technology, Flavor Technology and Food Additive, Supply Chain and Risk Management, Optimization Engineering, Cleaner Production, Rubber, Gum, and Resin Technology; Starch, Sugar, and Sucrochemistry Technology; Horticulture, Legume, and Cereal Technology; Bioindustrial Technology, Air Pollution Control Technology, and more.*

The **Ba Soil Sciences (SS)** curriculum offers modules such as

*Agricultural Biology, Agricultural Physics, Agricultural Chemistry, Basic Soil Science, Basic Agronomy, Basic Plant Protection, Introduction to Economics, Agricultural Statistics, Entrepreneurship, Basics for Sub-Optimal Land Management, Agro-climatology, Agro-geology, Soil Physics, Soil Chemistry, Soil Biology, Soil Measurement and Cartography, Morphology and Soil Classification, Soil Fertility, Soil, Water and Plant Analysis; Fertilizers and Fertilization, Soil and Water Conservation, Agribusiness Management, Land Based Sector GHG Emissions, Land Survey and Land Evaluation, Land and Water Management, Land Degradation and Rehabilitation, Remote Sensing and GIS, Cultivation of Annual Crops, Tidal and Non-tidal Wetland Management, Post Mine Reclamation, and more.*

The **Ba Forestry (FOR)** curriculum is comprised of modules such as

*Forest Biology, Introduction to Wetland Environment, Fundamentals of Forestry and Environmental Economics, Forestry Climatology, Plant Physiology, Dendrology, Wood Chemistry and Biological Materials, Forest Biometrics, Forest and Wetlands Environment Ecology, Fundamentals of Forest Product Technology, Forest Soil Science, Occupational Health and Safety, Land Surveying and Mapping, Forest Product Processing Industry, Forestry Trial Design, Forest Protection, Silviculture, Forest Resource Inventory, Environmental Management Fundamentals, Harvesting Forest Product, Forest Resources Conservation, Forest Planning, Forestry Policies, Forest Hydrology, Nature Conservation and Wildlife Protection, Wet Tropical Forest Management, Economics of Natural Resources and Environment, Forestry Geographic Information System, Forest and Land Fire Control, Forest Certification, Entrepreneurship, Social Forestry, Watershed Management, and more.*

Forestry students opting to pursue the specialisation (“interest”) in Silviculture moreover attend modules such as

*Tropical Silviculture, Nursery Engineering, Forestry Entrepreneurship, Forestry Geographic Information System (SIG), Forest and Land Rehabilitation, Forest Pests and Diseases, or Plantation Forest Practice (PHT);*

while students deciding to pursue the specialisation (“interest”) in Forest Product Technology attend additional courses in

*Wood Physics and Mechanics, Biocomposite, Wood Anatomy, Pulp and Paper Technology, Forestry Industrial Management, Cultivation of Non-Timber Forest Products, Wood Drying and Conservation, or Wood Gluing.*

During their perusal of the pertinent documentation, however, the experts note that there are frequent discrepancies between the curriculum structures, number of module credits as well as semesters stated in the SAR (taking the university requirement courses as an example) as compared to the information provided in the “Curriculum” document, the module handbooks and semester learning plans. Likewise, they note that various course codes stated in the “Curriculum” document appear to be partially missing from the module handbooks/semester learning plans (or module titles being allocated to other course codes), and that translations of module titles are not uniform across the mentioned documents. The experts hence see the need for a thorough revision of the mentioned documents, as will also be highlighted again in [chapter 5.1](#).

Ahead of the accreditation audit and based on the provided documentation, the expert panel observes an apparent absence of modules explicitly addressing sustainability, such as climate change mitigation and adaptation, land use change, and livelihood satisfaction. During the audit, however, the experts come to understand that many of these topics are

apparently addressed in an upcoming, revised version of the curricula. The experts hence ask the Faculties to provide further information in regard.

In the audit, the expert panel moreover inquires to what extent Indonesia's indigenous minorities are represented within the curricula. The coordinators from the Forestry study programme respond that local minorities, including Dayak, Banjar, and Transmigrants, are indeed considered within the "Social Forestry" module of the curriculum. The experts suggest that this aspect should also be included in the other study programs, for example within their "Social and Cultural Change" or "Social and Basic Cultural Sciences" modules.

Another commendable aspect is the evident attention to health and safety instruction, especially in the Forestry study programme, as substantiated during the *Occupational Health and Safety* (FMPB102) course in the students 5<sup>th</sup> semester and safety trainings during their wood technology practicum.

### **Curriculum Review**

As per the self-assessment report provided by the University and confirmed by the teaching staff during the audit, periodic reviews of all curricula as well as their PEOs and PLOs take place every five years involving a curriculum review taskforce. Besides the Dean, faculty staff, and the programme coordinators; these reviews also consult students, alumni, as well as further stakeholders such as government representatives and community members. Moreover, annual feedback loops are conducted in which minor adjustments such as those relating to syllabi are debated (see also [chapter 6](#)).

As examples of outcomes of this revision process, the programme coordinators inform the experts during the audit that various topics have been integrated more strongly in the curricula over the last years, such as Industrial Waste Processing (Agroindustrial Technology), Tropical Silviculture (Forestry), Land-Based Greenhouse Gas Emissions (Soil Science), and E-Commerce (Agribusiness).

### **Conclusion**

Based on the provided documentation and the discussions during the audit, the expert group assesses that the knowledge, skills and competences to be imparted are structured transparently into sensible modules within the respective curricula, which serve to enable students to achieve the intended programme learning outcomes. Moreover, the experts are content with the provided information concerning the programmes' curricular review procedures.

During the audit, however, the experts learn that all programmes under review will introduce revised curricula following a curriculum revision in 2021 due to the government-

mandated introduction of the MBKM programme (cf. [chapter 2.1](#)). The experts hence make the programme coordinators aware that the new curricula need to be submitted to ASIIN in due time for revision against the accreditation outcome.

#### Criterion 1.4 Admission requirements

##### Evidence:

- Self-Assessment Report
- University Website ([here](#))
- Academic Guidelines (*Pedoman Akademik*) of ULM ([here](#)), the Faculty of Agriculture ([here](#)), and the Faculty of Forestry ([here](#))
- Discussions with programme coordinators, lecturers, students, and industry representatives during the audit.

##### Preliminary assessment and analysis of the experts:

As outlined in the University's self-assessment report, the Universitas Lambung Mangkurat admits new students through three different selection pathways each year:

- 1) The *National Joint Selection for State Higher Education Entrance (Seleksi Nasional Masuk Perguruan Tinggi Negeri, SNMPTN)*, a national admission system for graduating high schools students with excellent performance.
- 2) The *Joint Selection for State Higher Education Entrance (Seleksi Bersama Masuk Perguruan Tinggi Negeri, SBMPTN)*, a national entrance examination (UTBK) organised by the Indonesian government every year for high school candidates.
- 3) The *Lambung Mangkurat University Entrance Exam (Ujian Saringan Masuk Bersama, UTAMA)*, an admission process facilitated entirely by ULM.

From the information provided, however, the assessors are missing further information as to the percentage of students admitted through the abovementioned pathways. Moreover, they would like to be provided with further details on the UTAMA admission track, how it is facilitated by the ULM, and who is involved in this process. The experts hence request further information in this regard.

Admission numbers for the recent years are displayed in the table below.

YEAR	SS-SP			AGB-SP			FOR-SP			AIT-SP		
	Apl	Adm	Reg	Apl	Adm	Reg	Apl	Adm	Reg	Apl	Adm	Reg
2017	241	57	42	1165	163	123	576	226	170	481	71	47
2018	260	60	50	1216	117	88	913	202	135	610	72	49
2019	236	68	58	700	74	71	472	197	131	285	59	48



<b>2020</b>	132	54	48	505	85	83	527	263	216	285	51	49
<b>2021</b>	145	56	41	548	97	96	637	308	245	227	62	52

*Admission Results 2017-2021, Source: Universitas Lambung Mangkurat (ULM)*

All prospective students for the Study Programmes of Agribusiness, Agroindustrial Technology, Soil Science, and Forestry must have completed their studies from a Senior High School, a Vocational High School, or an overseas High School which is accredited and recognised by competent Indonesian authorities.

With regard to admission policies, the experts appreciate that students from economically disadvantaged backgrounds with adequate academic achievements can apply for the governmental Bidikmisi scholarship scheme. Moreover, the assessors are interested to learn during the audit that special admission conditions exist for applicants from local indigenous tribes, and ask the university to provide further details in this regard.

Upon being asked whether any admission restrictions exist for applicants with colour blindness, the programme coordinators explain to the auditors that restrictions exist in all subjects under review with the exception of Agribusiness, as not being colour blind is of importance in various courses such as those involving lab titration, and that students may need to switch courses or drop out in such cases. This is seen as highly problematic by the assessors, remarking that that ways to accommodate such problems exists and are utilised by other universities or within the industry. The auditors hence ask the Faculty to look into ways of supporting students with colour blindness better, so as not to exclude them from studying their subjects of interest based on this condition.

Apart from this, the auditors find the terms of admission to be binding and transparent.

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

The experts thank the Faculty of Agriculture and the Faculty of Forestry for the provided statements concerning criterion 1.

#### ***Accessibility of programme educational objectives (PEOs) and programme learning objectives (PLOs)***

Upon consultation of the University's additional statement and verification of the provided links, the experts confirm that the educational and learning objects have been made accessible in English and Bahasa Indonesia, and that they correspond to the objectives presented to the assessors for review (Soil Science: [here](#) | [here](#), menu: Akademik → Kurikulum OBE; Agribusiness: [here](#) | [here](#), menu: Akademik → PEO / CPL; Agroindustrial

Technology: [here](#), menu: Akademik → Program S1; Forestry: [here](#) | [here](#), menu: Program Studi).

***Integration of climate change, sustainability, forest and land fire control, mining rehabilitation, landscape approach as well as digitalization in the curricula***

Regarding the question of how contemporary subjects such as climate change, sustainability, forest and land fire control, mining rehabilitation, landscape approach as well as digitalization are represented in the current curricula, the experts appreciate the list of courses provided by the Faculties, containing:

- **for the Soil Science programme:** Current Issues of Soil and Environment (ETKK 315), GHG Emissions in the Land-Based Sector (ETKK 316), Land Degradation and Rehabilitation (ETPB 303), Post-mining Land Reclamation (ETKK 419);
- **for the Forestry programme:** Introduction To Forestry And Wetland Environments (FMKK 103), Forest Climatology (FMKK 104), Forest Biometrics (FMKK 110), Forest Ecology And Wetland Environment (FMKK 112), Geodesy And Cartography (FMKB 101), Land And Forest Fire Control (FMKB 112), Forest Protection (FMKB 103), Nature Resources Conservation (FMKB 107), Soil Fertility And Fertilization (FMKB 402), Nursery Technique (FMKB 403), Geographic Information System (FMKB 111), Forest And Land Rehabilitation (FMKB 404), Ecotourism And Environmental Services (FMKB 201), Climate Change (FMKB 202), Natural Resources And Environment Management (FMKB 305), Forestry Land Suitability (FMKB 408), as well as Remote Sensing (FMKB 308).

In light of the above, however, the experts note that no further details appear to have been provided for the remaining study programmes in Agroindustrial Technology as well as Agribusiness. The assessors hence encourage the Faculty of Agriculture to equally highlight aspects of sustainability and digitalisation in these programmes stronger in the future.

***Admission Regulations***

In regard to the outlined admission pathways, the experts understand that ULM sources new students to 30% based on the high school performance-based track (SNMPTN), to 40% based on the national admission examination (SBMPTN), and to a maximum of 30% based on its own university entrance examination (UTAMA).

Concerning the UTAMA track in particular, the experts learn that it is facilitated by an admissions committee led by the Vice Rector for Academic Affairs, which is responsible for preparing and conducting the examination, as well as for announcing the list of student admitted through the UTAMA track. As per the provided Rector's Decision and as highlighted by the programme coordinators in their statement, the University is able to

give consideration to additional criteria through the UTAMA's various skills- and knowledge-based components, such as to applicants with noteworthy athletic or artistic achievements, or to students who have memorised the Quran.

From the provided documentation and contrary to the University's statement, however, it is not apparent how applicants from local tribes can be considered especially through the UTAMA track.

Aside the above, however, the experts confirm their preliminary assessments.

## 2. The degree programme: structures, methods and implementation

### Criterion 2.1 Structure and modules

#### Evidence:

- Self-Assessment Report
- Curricula, all programmes
- Module Handbooks, all programmes
- Student and Graduate Statistics, various programmes
- Discussions with programme coordinators, lecturers, students, and industry representatives during the audit.

#### Preliminary assessment and analysis of the experts:

As outlined in the University's self-assessment report, all study programmes at ULM are governed by various governmental regulations, including the Indonesian National Qualification Framework (*Kerangka Kualifikasi Nasional Indonesia*, KKNi).

Each of the curricula consists of 144-147 Indonesian credits (*satuan kredit semester*, SKS), compulsory and elective courses. Each semester, students are able to take between 16-24 credits, with the maximum credit load allowed to be taken determined by the students' current grade point average (GPA). The number of SKS per programme is depicted below:

Types of Courses	Soil Science	Agribusiness	Forestry	Agroindustrial Technology
Compulsory Courses	130	134	135	130
Elective Courses	16*	13**	12***	15****
Total Courses	146	147	147	145

* Selected from 19 credits; ** Selected from 33 credits; *** Selected from 28 credits ; **** Selected from 30 credits
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*Credits per Study Programme, Source: Self-Assessment Report, Universitas Lambung Mangkurat (ULM)*

All of the Bachelor's programmes under review require students to choose between elective modules as displayed in the [appendix](#). As for the Ba Forestry, students moreover need to choose between two specialisations, in Silviculture and Forest Product Technology, which they pursue through different sets of modules during their fifth and sixth semester as displayed in [chapter 1.3](#) and the [appendix](#). If desired, students can turn to their assigned academic advisors (cf. [chapter 2.4](#)) for advice before choosing their electives.

### **Internships**

Based on the provided documentation and their exchanges with the programme coordinators and students during the audit, the experts learn that, as of yet, only the reviewed Bachelor's programmes in Forestry (module: FMKB 116 Internship) and Agroindustrial Technology (module: EIKB 415 Field Practice) implement mandatory internships. However, they also learn that the remaining programmes in Agribusiness and Soil Science equally intend to do so for students commencing their studies within the next years. Given that this is, as of now, however merely a future aspiration, the experts issue a recommendation in this regard as further encouragement for the Faculty to go through with this desirable development.

Besides the above, ULM participates in the Indonesian government's "Independent Learning - Independent Campus" (Merdeka Belajar - Kampus Merdeka, MBKM) scheme, which enables students to pursue various activities outside their department / faculty / university through internships, mobilities, teaching assistance, entrepreneurship, or project work, which are eventually credited as equivalent modules.

### **Student Mobility**

In regard to student mobility, the auditors learn during the audit that, apart from sporadic participation in cultural exchange programmes, students of the study programmes under review are hardly participating in student mobility; neither through exchange agreements nor the MBKM scheme. No institutional exchange agreements are understood to exist at the Faculty of Agriculture, with equally only few such agreements on the part of the Faculty of Forestry.

The experts hence issue a recommendation for both faculties to establish national as well as international mobility agreements, and to look into international student exchange schemes such as the ASEAN International Mobility for Students (AIMS) programme.

### **Conclusion**

All in all, based on the provided documentation, the additional information outlined in in [chapter 1.3](#) and the [appendix](#), as well as the discussions during the audit, the expert group recognises that modules within the given study programmes embody sensible teaching and learning units, respectively imparting distinct clusters of knowledge and competencies. Moreover, the experts commend the existence (and soon re-integration) of various compulsory within the curricula under review.

At the same time, they attest that the Faculties need to strengthen their internationalisation efforts. In connection to this, the experts moreover ask the Faculties' to clarify if – and if so, which – regulations exist for recognition of the achievements and competences acquired outside ULM, e. g. in the course of student mobility or students transferring to ULM from other universities.

<b>Criterion 2.2 Work load and credits</b>
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**Evidence:**

- Self-Assessment Report
- Curricula, all programmes
- Module Handbooks, all programmes
- Academic Guidelines (*Pedoman Akademik*) of ULM ([here](#)), the Faculty of Agriculture ([here](#)), and the Faculty of Forestry ([here](#))
- Decree of the Minister of Education and Culture, Number 3 of 2020, on National Higher Education Standards ([here](#))
- Discussions with programme coordinators, lecturers, students, and industry representatives during the audit.

**Preliminary assessment and analysis of the experts:**

In accordance with the pertinent ministerial Decree No.3 of the Ministry of Research, Technology, and Higher Education from 2020 regarding National Standards for Higher Education (*Standar Nasional Pendidikan Tinggi, SNPT*), the Bachelor's programmes under review consist of a minimum of 144 Indonesian credit points (*Satuan Kredit Semester, SKS*). One credit point equates to a weekly 170-minute workload across 14 course weeks, consisting of 50 minutes for scheduled face-to-face teaching delivery, 60 minutes for structured assignments, and 60 minutes for independent study. In general, the workload for each semester varies between 20-24 credits; with the exception of the last semester, within which students are asked to focus entirely on their final theses.

Lecturers in charge of each module organise the student workload in the module description or the semester learning plan. This module description is shared and discussed

with the students during their initial meeting. Upon inquiry of the expert panel during the audit, the students did not report any critical imbalances or excessive workload.

Based on the above, the experts generally assess that a credit system is in place, which they find to be based on student workload and to encompass both contact hours and self-study time of all obligatory elements of the study programme under review.

However, the experts learn upon further inquiry during the audit that no structured mechanism for the monitoring of students' workload is in place besides lecturers' individual discretion and exchanges with students. In response to this, the experts highlight that a structured, recurring surveying of students' workload needs to take place, e.g. integrated into the usual course evaluation surveys, to ensure that the level of requirement, workload and the credits awarded match for each course.

During their perusal of the provided documentation, moreover, the assessors saw themselves unable to understand the ECTS conversion proposed by the University by means of the limited information provided, and hence ask the Faculties for a detailed tabular display of the calculations applied.

As a further significant matter of concern, the experts discuss the apparent recurring exceeding of students' envisaged regular duration of studies: Despite all programmes under review being designed as four-year programmes, the auditors learn during the audit that the average study completion time for Bachelor's students at the Faculty of Agriculture is five-and-a-half years, while at the Faculty of Forestry it current stands at about five years. In the course of their investigation of this matter with the programme coordinators, students, and lecturers; the auditors discern various factors contributing to this observation:

On the one hand, as outlined in chapter 2.1, University regulations limit students' ability to enrol into larger number of modules depending on their GPA. While student with excellent grades are able to take up to 24 credits – and hence theoretically finish their students quicker than the envisaged study time -, students with GPAs at the lower end of the scale may only take up to 16-20 credits, hence falling short of the average number of credits to be attended in a given semester and inevitably causing their studies to prolong. Upon internal discussion with the Indonesian auditors amongst the expert panel, such limitations were understood to be commonplace in Indonesia.

On the other hand, various aspects pointed to difficulties when it comes to the students timely completion of their final thesis, ranging from weak writing skills, failed experiments, financial issues to students postponing to commence their thesis following the completion of their course load. Asked about compulsory deadlines for their thesis

project, the lecturers stated that, in fact, multiple progressive deadlines are integrated into the students' thesis endeavour to ensure their steady progress.

All in all, the experts gain the impression that the matter of exceeded study durations is multi-faceted, and should be looked into by the Faculties' more closely. The experts hence recommend the Faculties to look into this matter more deeply in the future.

<b>Criterion 2.3 Teaching methodology</b>
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**Evidence:**

- Self-Assessment Report
- Appendix 2.2 to the SAR on Teaching and Learning Methods
- Module Handbooks
- Discussions with programme coordinators, lecturers, students, and industry representatives during the audit.

**Preliminary assessment and analysis of the experts:**

Teaching staff in the programmes under review utilise a variety of teaching methods in alignment with the respective modules with student-centred learning in mind. Learning methods in the five programmes include lectures, practical components (e.g. field practice), laboratory practice, contextual learning (integrating real-world scenarios to foster learning), cooperative learning (involving group work within teams of students with the aim of improving understanding of a subject), as well as project-based learning (where students gain knowledge by investigating a problem over an extended period).

Following their perusal of the Faculties' provided self-report, the auditors were curious to understand better to which degree online teaching still plays a role in the programmes under review. During the audit, they learn that, as per Government guidelines, a maximum of 35% of sessions per course are permitted to be offered as hybrid learning formats. Furthermore, they learn that between 10-30% of courses in the respective programmes still make use of this ability.

In terms of English-taught courses, the auditors are told by students that – while lecturers frequently use presentation slides in English for their teaching – classroom language remains Bahasa Indonesia, and that no courses taught entirely in English exist. In view of the concerns alluded to in [chapter 1.1](#), the University's ambitions as well as the lack of student exchange in mind, the experts accordingly issue a recommendation encouraging the Faculties to looking into establishing entirely English-taught subject matter courses as opportunities for students to practice and develop their language proficiency.

With regard to practicums, students of both Faculties confirmed that, within the subjects applicable, they conduct laboratory work self-dependently under the supervision of lab assistants. Lab group sizes were said to vary, depending on the subject, between 5-10 and 15-20 people. While the students mention that laboratory capacities are limited, they however explain that these capacities are utilized efficiently to allocate sufficient time for both lab practicums and students conducting their thesis research.

Asked by the assessors about how scientific skills are imparted into the students, lecturers pointed to the corresponding modules (SS, FOR: Scientific Method(ology), AIT: Research Methods, AGB: Business Research Methods) in the students 5<sup>th</sup> and 6<sup>th</sup> semesters, as well as to the ability to consult with their academic advisor and their thesis supervisors.

In turn, however, the expert group was unable to discern if and how teaching in the respective study programmes is informed by research, and thus ask the Faculties to provide further information on this ahead of the auditors' final assessment of this criterion.

Apart from this, the expert group considers the teaching methods and instruments to be suitable to support the students in achieving the intended learning outcomes. In addition, they confirm that the study concept comprises a variety of teaching and learning forms as well as practical parts that are adapted to the respective subject culture and study format.

<b>Criterion 2.4 Support and assistance</b>
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**Evidence:**

- Self-Assessment Report
- Discussions with programme coordinators, lecturers, students and industry representatives during the audit.

**Preliminary assessment and analysis of the experts:**

Students at the Faculties of Agriculture and Forestry are assigned to an academic advisor at the start of the first semester. Each academic advisor is a member of the academic staff and is responsible for 3 to 5 students from his classes, and acts as a go-to person for advice on academic matters as well as personal matters. Besides general academic advice, they may also advise on elective courses, internships, and possible career paths. During the discussion with the expert panel, multiple students confirm that their academic advisors are highly supportive and approachable.

The fourth-year students who are due to engage in their final thesis are moreover assigned a so-called thesis guidance lecturer, who provides advice on identifying a suitable topic as well as on questions of proper conduct.



Besides the above, the experts learn during the audit about multiple further support facilities, such as the University's Career Development Center (CDC), which advises students on job vacancies and entrepreneurial competencies on a University level as well as a medical centre.

In closing, the experts conclude that sufficient resources are available to provide individual assistance, advice and support for all students. They judge that the support systems help students to achieve the intended learning outcomes and to complete their studies successfully.

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

The experts thank the Faculty of Agriculture and the Faculty of Forestry for the provided statements concerning criterion 2.

***New curricula as of 2021***

The experts acknowledge the recent 2021 curriculum revisions provided for all four study programmes under review. In particular, they welcome the integration of internships across all four programmes under review in either a compulsory or elective form. Furthermore, they commend the additional introduction of the elective stream "Forest Management" in the Ba Forestry, as well as the integration of the distinct "Cultivation and Engineering" and "Social Economics" elective streams in the Ba Agribusiness.

***ECTS Conversion***

Concerning the University's conversion of Indonesian credits to the European Credit Transfer and Accumulation System (ECTS), the experts understand that ULM equates 30 hours of workload to 1 ECTS, which is within the range (i.e. 25-30 hours) suggested by the ECTS Users' Guide.

In connection to this, however, the expert panel notes that the samples of the graduates' academic transcripts (i.e. transcript of records) provided do not state the equivalent ECTS awarded for each course and the entire degree. As this is an expected standard as part of the present international accreditation process, the experts issue a corresponding requirement.

Aside the above, the experts confirm their preliminary assessments.

### 3. Exams: System, concept and organisation

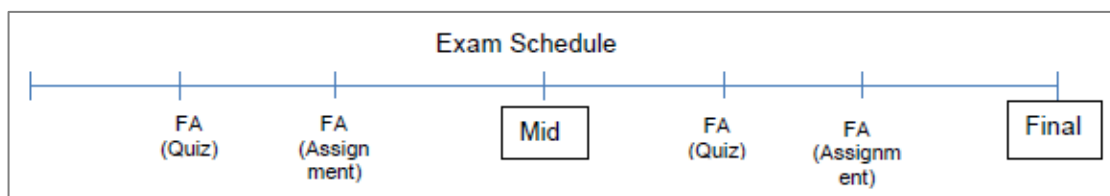
#### Criterion 3 Exams: System, concept and organisation

##### Evidence:

- Self-Assessment Report
- Appendix 3.1 to the SAR on Exam Satisfaction
- Module Handbooks
- Academic Guidelines (*Pedoman Akademik*) of ULM ([here](#)), the Faculty of Agriculture ([here](#)), and the Faculty of Forestry ([here](#))
- Discussions with programme coordinators, lecturers, students, and industry representatives during the audit.

##### Preliminary assessment and analysis of the experts:

According to the self-assessment report, the students' academic performance is evaluated through formative and summative assessments. Formative assessments are conducted in the form of assignments, quizzes, and presentations with the objective of monitoring the learning process. Summative assessments are conducted in the form of mid-term and final examinations, with the aim of evaluating student performance in alignment with the intended course learning outcomes.



*Sequence of Assessments. Source: Self-Assessment Report, ULM*

Accordingly, the final course grade is composed of (a) the mid-term exam (max. 30%), (b) the end-of-semester exam (max. 40%), and (c) the further assignments/practicums (laboratories, workshops, studios, and fields, min. 30%).

The exam schedule for each module is provided to the students in the first course session as part of the Semester Learning Plan (Rencana Pembelajaran Semester, RPS), and made available through SIMARI (*Sistem Informasi Universitas Lambung Mangkurat Terintegrasi*, Integrated Learning Management System of the Lambung Mangkurat University). Lecturers can moreover conduct student assignments through the LMS, and can provide feedback on their assessments.

Modules as well as the final project are graded on a letter grade scale as displayed below. A is the maximum passing grade for courses and final projects, the minimum passing grade is C. Scores of D+, D, and E are considered failing grades.

Letters	Value	Score
A	$\geq 80$	4,00
A-	$77 - < 80$	3,75
B+	$75 - < 77$	3,50
B	$70 - < 75$	3,00
B-	$67 - < 70$	2,75
C+	$64 - < 67$	2,50
C	$60 - < 64$	2,00
D+	$50 - < 60$	1,50
D	$40 - < 50$	1,00
E	$0 - < 40$	0

*Grading Scale. Source: Self-Assessment Report, ULM*

Asked by the expert panel's regarding the transparency of assessment criteria for examinations, the coordinators clarify that the criteria are clearly outlined in the Semester Learning Plan, which, apart from the abovementioned details on all the assessments within a given course, additionally includes an assessment rubric and specifies the percentage to which each assignment contributes towards the final grade.

The expert panel seeks to understand the recourse available to students who fail an exam and whether retaking it is an option. In response, a student from Agribusiness explains that students have the right to request a recheck of their graded exams. Additionally, the student mentions that some lecturers provide the opportunity for students to undertake remedial assignments as a means to enhance their grades. In view of this statement, the experts gain the impression that – apart from the apparent individual discretion of lecturers – no general and binding regulations exist for remedial examinations. The experts hence issue a requirement in this regard.

Apart from the above, the submission of a final project (i.e. undergraduate thesis) is a compulsory requirement for all students of the programmes under review. All final projects are checked for plagiarism using Turnitin.

During the audit, the expert panel enquires about the components of the final thesis and the manner in which it is supervised. The programme coordinators clarify that the thesis process comprises a proposal and research. As for thesis supervision, students in their eighth semester are assigned a thesis guidance lecturer, along with a second supervisor who may be an external (e.g. industry, governmental, community) representative, if desired.

During their perusal of various assessments, papers, and final theses, the experts gain the impression that the Bachelor's theses are broadly adequate across all subjects, encapsulating the formulation of a research question and subsequent research. The experts further observe that, overall, the exams seem to be satisfactory. The experts especially appreciate the implementation of case-example based examinations.

This being said, the experts however also noted that a noticeable number of the perused assessments appeared to rely merely on students learning simple information by heart. The experts thus encourage the Faculties to review these examinations within the coming years, in order to foster analytical thinking skills more.

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

In the absence of further comments or relevant additional evidence by the University, the experts confirm their above preliminary assessment.

## 4. Resources

<b>Criterion 4.1 Staff</b>
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**Evidence:**

- Self-Assessment Report
- Appendix 3.1 to the SAR on Research and Publications of Staff
- Module Handbooks
- Staff Handbooks
- Discussions with programme coordinators, lecturers, students, and industry representatives during the audit.

**Preliminary assessment and analysis of the experts:**

The academic staff in the study programmes under scrutiny consists of (permanent and non-permanent) teaching staff as well as administrative staff. All lecturers hold at least a Master's degree.

All programmes under review are supported through full professors (Ba Agribusiness: 1, Ba Agroindustrial Technology: 2, Ba Forestry: 6, Ba Soil Science: 4).

Within the various study programmes, the number of certified lecturers and the ratios between lecturers and students differ. In the Ba Agribusiness, there are 30 certified lecturers, maintaining a lecturer to student ratio of 1:20. In the Ba Forestry, there are 60

certified lecturers, equalling a 1:18 ratio. The Ba Agroindustrial Technology has 11 certified lecturers, with a resulting ratio of 1:26. The Ba Soil Science, finally, encompasses 16 certified lecturers with a ratio of 1:16 students.

Apart from their teaching responsibilities, lecturers are expected to conduct research and engage in community services. Accordingly, the Faculties present the following overview of activities for the duration of 2019 – 2021 in the self-assessment report:

	SS-SP	AGB-SP	FOR-SP	AIT-SP
<b>Programme Research</b>	26	51	48	25
<b>Community service activities</b>	23	61	44	13
<b>books</b>	1	4	39	1
<b>scientific articles in the national – international scope</b>	17	33	199	48

*Overview of non-teaching activities of staff for the programmes under review. Units: Number of research projects conducted, number of community services conducted, number of books published, number of articles published.*

*Source: Self-Assessment Report, ULM*

Based on the above, the information provided in the SAR and in the respective staff handbooks, their discussions with teaching staff during the audit, as well as in light of the further details to be provided in [chapter 4.2](#), the auditors in summary come to the conclusion that the composition and qualifications of the teaching staff presented are suitable and sufficient to facilitate the study programmes under review.

#### **Criterion 4.2 Staff development**

##### **Evidence:**

- Self-Assessment Report
- Module Handbooks
- Staff Handbooks
- Website of ULM's Learning Improvement and Development Institute of ULM ([here](#))
- Discussions with programme coordinators, lecturers, students, and industry representatives during the audit.

##### **Preliminary assessment and analysis of the experts:**

As per their self-assessment report, ULM encourages the further qualification of its academic staff through both external and in-house trainings. In relation to this, the experts learn during the audit that five academic staff from the Department of Agribusiness are currently pursuing their PhD studies. At the Department of Agroindustrial Technology, two staff are currently pursuing their PhDs, with six more envisaged to do so in the coming

years. All lecturers are required to pass the Lecturer Certification (*Sertifikasi Dosen* or *Serdos*) mandated by the Indonesian government, and are moreover expected to conduct research and to engage in community services besides their teaching obligations.

In-house training is facilitated through ULM's Learning Improvement and Development Institute (*Lembaga Peningkatan dan Pengembangan Pembelajaran*, LP3), which offers training opportunities to ULM's academic staff as well as educators outside the University. The LP3 likewise facilitates the abovementioned Lecturer Certification (*Serdos*).

Asked by the expert panel about the evaluation and criteria for assessing teaching staff performance and its link to career progression during the accreditation audit, the coordinators out that the performance is measured using the "BKD" (*beban kerja dosen*, lecturer workload) system. This system quantitatively assesses the teaching staff's engagement in research, community service, and teaching workload, requiring the fulfilment of 12 credits each semester. The submission and verification of proof for these credits are managed through an integrated government website. Staff failing to meet these requirements do not receive additional financial performance. In turn, academic staff aspiring to further their career by advancing to higher levels of professorship are required to provide evidence of suitable accomplishments and to, correspondingly, accumulate higher amounts of credits.

Furthermore, and in connection to [criterion 4.3](#), the auditors learn during the audit from teaching staff that there is a governmental funding programme known as "SAME" (Scheme for Academic Mobility and Exchange), through which lecturers can apply for funds to go abroad for joint research or company internships. The teaching staff elaborate that acquiring this funding involves a competitive process, and targets younger lecturers by means of an age limitation. Additionally, the staff members mention the availability of government funds through the Indonesian Endowment Fund for Education (*Lembaga Pengelola Dana Pendidikan*, LPDP), also granted on a competitive basis, enabling lecturers to pursue PhDs abroad. In view of the above, the experts encourage the Faculties to ensure that funding for staff development is made available to both junior and senior staff.

All in all, the auditors confirm that ULM offers training opportunities for members of its teaching staff, and that a transparent system for performance assessment is in place.

<b>Criterion 4.3 Funds and equipment</b>
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**Evidence:**

- Self-Assessment Report
- Appendix 3.2 to the SAR on Funds

- Visitation of participating institutes and laboratories during the audit
- Discussions with programme coordinators, lecturers, students, and industry representatives during the audit.

**Preliminary assessment and analysis of the experts:**

As per the University's self-assessment report, the financial resources of the Faculty mainly stem from support of the central government. All funds for study programmes at ULM must be planned for a year in advance. While the University recognises that further investment needs to be made to establish the desired research capacities, existing facilities are sufficient to support teaching activities adequately.

Additional funds for research and teaching activities are Funding sources to support lecturer activities are available upon application through university and faculty funds, ministerial grants, collaborations with the regional government, the Directorate of Research and Community Service (DP2M), as well as the private sector. As mentioned under [criterion 4.2](#), ULM has implements the SAME (Scheme for Academic Mobility and Exchange) programme, following a regulation passed by the Indonesian Directorate General of Education, Research and Technology. This initiative provides funding for lecturer mobilities to go overseas with the aim of establishing partnerships with universities or research institutions.

In terms of Faculty–industry cooperation, the auditors learn that, while numerous industry relations have been established especially through internship agreements of the two Faculties, more frequent invitations for guest lectures would be appreciated on the part of various industry representatives. On an overall level, also in regard to the integration of industry perspective in programme reviews, the auditors gain the impression that there is room for a more formalised forum for exchange between the two sides. The experts hence recommend the University to establish a multi-stakeholder board including employers from the private sector, NGOs, research institutions as well as government agencies to strengthen dialogue with the Faculties under review, as well as their students and alumni.

Ask by the expert panel during the audit about their satisfaction with the available resources and funds, various teaching express that more funds for research would be desirable, along with an increase in research collaborations.

During their visitation of the facilities of the two faculties under review during the audit, the experts, amongst other, visit the

- **Soil analysis laboratory**, during with the experts learn that the laboratory is also used for industry collaboration, with the building of further lab capacities and an expansion of industry collaboration envisaged for the future;

- **Student access centre**, which provides computer and software (e.g. SPSS) access to students, as well as the ability for students to check their essays and theses for improper academic citation using Turnitin through the IT assistant;
- **Library**, providing various access to online resources to the students of the programmes under review;
- **Forestry workshop**, where the experts learn about various safety trainings students are required to observe as part of their curriculum;
- **Centre of non-timber products**, which supports an incubator for students of the Faculties of Agriculture and Forestry alike;



- **GIS lab**, where student scan access ArcGIS and associated online trainings due to an education collaboration with ESRI Indonesia; as well as the
- **Integrated Laboratory** building, which has been newly built to enhance ULM's research capacities.



As a result of their visitation and the exchanges with students and staff, the experts formulate the following recommendations:



- The Faculty of Agriculture and the Faculty of Forestry should aim to strengthen their cooperation in order to capitalise on synergies between the two Faculties more.
- The Faculties under review should increase lab capacities for Soil Science and Forestry students, especially with students conducting (thesis) research in mind.
- The Faculties under review should consider looking into company-sponsored scholarships with Faculties' industry partners.

All in all, the expert group judges the available funds, technical equipment, the infrastructure to comply with the requirements for adequately sustaining the degree programmes under review.

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

In the absence of further comments or relevant additional evidence by the University, the experts confirm their above preliminary assessment.

## 5. Transparency and documentation

<b>Criterion 5.1 Module descriptions</b>
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**Evidence:**

- Self-Assessment Report
- University Website ([here](#), [here](#), [here](#), [here](#))
- Module Handbooks, Ba Agribusiness and Ba Forestry
- Semester Learning Plans (RPS), all programmes
- Discussions with programme coordinators, lecturers, students, and industry representatives during the audit.

**Preliminary assessment and analysis of the experts:**

Upon thorough review of the module handbooks and semester learning plans provided by the Faculties, experts find that all submitted forms of module catalogues contain shortcomings in view of the criteria to be applied.

Among the samples provided, the module handbook Ba Agribusiness is the closed in terms of the desired completeness and formatting. The experts hence suggest that the other study programmes under review use the example provided by the Agribusiness programme as a module.

The reviewer however note that the following information nevertheless also needs to be ensured in the module handbook for the Ba Agribusiness – and the other programmes accordingly:

- Display of *module code and title*,
- an *explanation as to how the final module grade will be calculated* (i.e. weighting of the module’s assessments), as well as a
- *date of last amendment*, so as to provide a clear chronological reference for all future revisions of these modules. Moreover, the experts note that the
- *lists of recommended literature* should be revised across the programmes and modules under scrutiny, to ensure that concise lists of recent relevant literature are stated.

As already noted in [chapter 1.3](#), also, the experts highlight again that course codes,

- module titles (as well as their translations), and
- number of credits

should be consistent across all relevant documents and resources (e.g. the programmes’ websites).

In addition to the above, the experts find that the module handbooks appear to be unavailable – or inaccessible – through the respective programmes’ websites. The assessors hence stress that the revised module handbooks need to be made available publicly in full detail (e.g. in PDF format) in both Bahasa Indonesia and English, to be accessible to all interested stakeholders and potential future students.

<b>Criterion 5.2 Diploma and Diploma Supplement</b>
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**Evidence:**

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

**Preliminary assessment and analysis of the experts:**

The peers confirm that the students of all four degree programmes under review are awarded a Diploma and a Diploma Supplement after graduation, the latter called the *Surat Keterangan Pendamping Ijazah* (SKPI). The Diploma consists of a Diploma Certificate and a Transcript of Records. The Diploma Supplement contains almost all necessary information

about the degree programme as per the applicable template for Diploma Supplement issued by Ministerial Conference of the European Higher Education Area (EHEA) in May 2018 and the ECTS Users' Guide from 2015.

In the course of their thorough review of the sample diploma supplements provided, the experts however note that no information on the mode of study (e.g. full-time, part-time, distance, etc.) is included, and that the information on the grading system (*Sistem Penilaian*) provided does not indicate explain the maximum and minimum passing grade of the degree (cf. [chapter 3](#)).

The experts hence ask the Faculties to add the above information in the diploma supplement to be in full compliance with the applicable standards. On an additional note, the experts make the Faculties aware that the inclusion of a grade distribution table in the diploma supplement is encouraged – but not mandatory – by the EHEA.

<b>Criterion 5.3 Relevant rules</b>
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**Evidence:**

- Self-Assessment Reports
- University Website ([here](#), [here](#))
- Academic Guidelines (*Pedoman Akademik*) of ULM ([here](#)), the Faculty of Agriculture ([here](#)), and the Faculty of Forestry ([here](#))

**Preliminary assessment and analysis of the experts:**

The auditors confirm that the rights and duties of both ULM and the students are overall defined clearly and bindingly, besides the pending clarification outlined in [chapter 3](#).

All rules and regulations are published on the University's website as well as in the University's comprehensive *Academic Guidelines*, and hence available to all relevant stakeholders. The assessors moreover commend the availability of further comprehensive resources such as the *Thesis Writing Guidelines* and *Final Project Guideline* of the Faculty for Agriculture. The criterion is hence fulfilled

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

The experts thank the Faculty of Agriculture and the Faculty of Forestry for the provided statements concerning criterion 5.

**Module descriptions**

Upon consultation of the University's additional statement and verification of the provided links, the experts come to the conclusion that, while all programme's under review provide some form of module descriptions on their websites, the provided information remains either incomplete as explained under criterion 5.2, does not cover all courses of the (new) curricula, is inaccessible (i. e. either password-protected or referring to invalid Google Drive links), or should be presented in a more comprehensive form.

The experts hence re-confirm their above requirement that all programmes need to make full module descriptions for all modules in the programmes under review publicly accessible in English and Bahasa Indonesia, so to be available to all interested stakeholders, taking into consideration the hints provided above and under [criterion 5.1](#). In this regard, the experts again point to the good example of the compiled module handbook for the Ba Agribusiness ([here](#)).

Aside from this, the experts confirm their preliminary assessments.

## 6. Quality management: quality assessment and development

<b>Criterion 6 Quality management: quality assessment and development</b>
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**Evidence:**

- Self-Assessment Reports
- Appendix 6.1 to the SAR on Internal Quality Audits
- Appendix 6.2 to the SAR on Lecturer Satisfaction
- Appendix 6.3 to the SAR on Stakeholder Satisfaction
- Appendix 6.4 to the SAR on Student Satisfaction

**Preliminary assessment and analysis of the experts:**

In 2019, ULM established an internal quality assurance system known as SPMI ULM, which is based on a PDCA-cycle. This system is implemented annually in a structured manner across various levels of the university, including the university level (LPM), faculty level (UPM), and study program (GPM), encompassing education, research, and community service (Tridharma).

Internal quality audits are an integral component of the SPMI, which aim to facilitate a participatory approach to quality assessment within the faculties of ULM. Moreover, as documented in the self-assessment report, the Faculties conduct a series of student, lecturer, and stakeholder satisfaction surveys as part of the SPMI. Additionally, as mentioned in [chapter 1.1](#) and [chapter 1.3](#), recurring reviews of all curricula as well as their PEOs and PLOs take place every five years involving a curriculum review taskforce.

In addition to internal evaluation, each study programme also undergoes an external accreditation process every five years. In the course of this, all four study programmes under review have been reaccredited by the National Accreditation Body for Higher Education (*Badan Akreditasi Nasional-Perguruan Tinggi*, BAN-PT) within the last five years.

In terms of course evaluation, both students and lecturers confirm during the audit that course satisfaction surveys are conducted anonymously for each course in every semester by means of the SIMARI online platform, which also contribute to the assessment of lecturer performance. The survey results can be accessed by the respective programme coordinator and well as by the lecturer.

In connection to this, the experts learn that the filling of these surveys is enforced, as students are not able to proceed with the arrangements for their next semester in the online system before having answered all surveys. While the auditors recognise the

difficulty in achieving reliable response rates for course evaluation surveys, they however in turn raise doubts about the reliability of above compulsory approach, as students tend to rush though and hastily select convenient options in this case. This is also confirmed by students during the audit. The experts hence encourage the Faculties to rethink their approach in this regard.

Moreover, the experts learn during the audit that the results – and the Faculties’ responses or any action taken – appear to be communicated back to the students only infrequently. In this matter, the assessors stress to the Faculties’ under review that the outcomes of the course satisfaction surveys and, if applicable, any actions for improvement taken must be communicated to the students in order to close the feedback cycle, e.g. through discussions in class or student assemblies, through student councils in the respective departments, or published in writing e. g. on student bulletin boards.

Asked by the auditors about representation of students in the university board, governance structures, Faculty committees, or other decision-making bodies, the programme coordinators acknowledge that students are not included in such governing organs; and that students’ feedback and concerns are instead gathered through the abovementioned means, student assemblies, and social media. As student representation in study governance committee is an important quality mechanism, the experts issue a recommendation accordingly.

In regards to the recently-introduced alumni tracer studies and as mentioned already in [chapter 1.1](#), the experts encourage the Faculties to intensify their efforts in tracing their alumni’s development after graduation, to be able to strengthen University-industry relations as well as to draw valuable insights for the development and offering of continuing Master’s and PhD programmes.

Apart from the abovementioned observations, however, the expert group in summary assesses that the study programmes undergo regular internal quality assurance processes involving all relevant stakeholders and drawing from a range of surveys.

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

In the absence of further comments or relevant additional evidence by the University, the experts confirm their above preliminary assessment.

## 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:

- D 1. (ASIIN 1.1/1.3) Please provide an additional statement outlining how the topics of **climate change, sustainability, forest and land fire control, mining rehabilitation, landscape approach as well as digitalization** are integrated in the *most recent* version of the curricula, along with module descriptions of the relevant modules.
- D 2. (ASIIN 1.4) Please provide an **additional statement in regard to the admission regulations**, outlining
- The percentage of students admitted through the admission pathways (SNMPTN, SBMPTN, UTAMA);
  - Further details on the UTAMA admission track, how it is facilitated by the ULM, and who is involved in this process; as well as
  - Special admission conditions that exist for applicants from local indigenous tribes.
- D 3. (ASIIN 2.1) Please provide – if existing – any **regulations regarding the recognition of achievements and competences acquired outside ULM**, e.g. in the course of student mobility or students transferring to ULM from other universities.
- D 4. (ASIIN 2.2) Please provide a clear tabular explanation of **how the ECTS corresponding to the module credit points have been calculated**.
- D 5. (ASIIN 2.3) Please provide an additional statement **outlining how teaching in the respective study programmes is informed by current research**.

## E Comment of the Higher Education Institution (24.10.2023)

The institution provided the following additional documents

- *Academic Recognition Of Student Achievement*, Decision Of The Rector Of Lambung Mangkurat University, Number: 1125/UN8/KM/2022, ULM, 29 June 2022
- *Selection Guidelines And Procedures, Acceptance Of New Students Independent Selection Track, Academic Year 2021/2022*, Decision Of The Rector Of Lambung Mangkurat University, Number: 1001/UN8/SP/2021, ULM, 29 April 2021
- *Admission of New Students to the Diploma Program and Graduate Program at State University*, Regulation of the Minister of Education, Culture, Research and Technology, Republic Of Indonesia, Number 48 of 2022.

as well as the following detailed statements:

No	Inquiry	Response
D1	Please provide an additional statement outlining how the topics of <b>climate change, sustainability, forest and land fire control, mining rehabilitation, landscape approach as well as digitalization</b> are integrated in the <i>most recent</i> version of the curricula, along with module descriptions of	<p>Soil Science Study Program courses that support the topics of <b>climate change, sustainability, forest and land fire control, mining rehabilitation, landscape approach as well as digitalization</b>, along with the course content:</p> <ol style="list-style-type: none"> <li>1. The Current Issues of Soil and Environment; ETKK 315, workload 2(2-0) SCS, Semester 5 <u>Content of the Subject Learning</u> <ol style="list-style-type: none"> <li>1. Introduction of Subjects <ul style="list-style-type: none"> <li>• Recent developments in environmental aspects</li> <li>• Capacity of soil resources in the environment</li> <li>• Activities in Indonesia that have an impact on the land</li> <li>• National policies related to land resource management</li> </ul> </li> <li>2. Soil Damage for Biomass Production <ul style="list-style-type: none"> <li>• Definition of Soil Damage based on the Government Regulation in 2000 year Numbers 150 (Peraturan Pemerintah Nomor 150 Tahun 2000)</li> <li>• Assessment technique in soil damage status for biomass production based on the Ministry Environment Regulation in 2006 Numbers 7 (PermenLH in 2006 No. 7)</li> <li>• Determination of soil damage status for biomass production</li> </ul> </li> </ol> </li> </ol>



	the relevant modules.	<p>3. Application of Palm Oil Liquid Waste to The Soil</p> <ul style="list-style-type: none"> <li>• The latest policy related to the use of waste on the ground (the Ministry Environment Regulation in 2021 Numbers 5 / PermenLHK in 2021 No. 5)</li> <li>• Utilization of palm oil liquid waste through land application (the Ministry Environment Regulation in 2003 Numbers 23 / PermenLH in 2003 No. 28 )</li> <li>• Evaluation of palm oil liquid waste application activities on the soil</li> </ul> <p>4. National Policy in Peat Management</p> <ul style="list-style-type: none"> <li>• Protection and Management of Peat Ecosystems (the Government Regulation in 2014 Numbers 71 / PP in 2014 No. 71)</li> <li>• Inventory and Determination of Peat Function (the Ministry Environment Regulation in 2017 Numbers 14P / PermenLHK in 2017 No. P 14)</li> <li>• Peat Groundwater Level Measurement (the Ministry Environment Regulation in 2017 Numbers 15P / PermenLHK in 2017 No. P. 15)</li> <li>• Technical Guidelines for Peat Ecosystem Restoration (the Ministry Environment Regulation in 2017 Numbers 16P / PermenLHK No. P. 16 of 2017)</li> </ul> <p>5. Other Land and Environmental Issues</p> <ul style="list-style-type: none"> <li>• The latest innovations in the environmental field</li> <li>• The latest innovations in the field of soil science</li> </ul> <p>2. GHG Emissions in the Land-Based Sector; ETKK 316, workload 2(2-0) SCS, Semester 5 <u>Content of the Subject Learning</u></p> <ol style="list-style-type: none"> <li>1. Introduction : Planning of Learning Semester and Introduction of land-based sector Green-House Gasses (GHG) emissions</li> <li>2. Definition, sectors, and types of GHG emissions</li> <li>3. GHG sources and global impact</li> <li>4. GHG formation process</li> <li>5. Emission pathway from soil to the atmosphere</li> <li>6. Factors affecting the formation of GHG</li> <li>7. How to mitigate of GHG</li> <li>8. GHG inventory calculation methods</li> </ol> <p>3. Land Degradation and Rehabilitation; ETPB 303, workload 3(2-1) SCS, Semester 6</p>
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		<p>Introductory science courses in forestry and the wetland environment are swamp areas, peatlands, and water both naturally and artificially, permanently and temporarily, stagnant, static or flowing which is fresh, brackish, salty, includes existing water in it at low tide no more than six meters.</p> <p>From an ecological and economic point of view, wetland habitat is very important for the people of Kalimantan. From an ecological point of view, the role of wetland ecosystems is very important, such as retaining coastal abrasion, water storage containers to prevent flooding, habitat for various types of flora and fauna, neutralizing toxic materials and heavy metals, absorbing greenhouse gases, and so on.</p> <p>From an economic perspective, there are species of fauna and flora that have high economic value, such as Arowana fish whose price can reach hundreds of millions of rupiah, ramin wood and Agathis which are quite expensive, not to mention medicinal plants which are widely found in wetland ecosystems. In utilizing ecosystem natural resources, care must be taken, because these ecosystems are relatively fragile.</p> <p>Local wisdom is also found in many communities living in wetland ecosystems, and can be used as a source of inspiration for technology development.</p> <p><u>Content of the Subject Learning</u></p> <ol style="list-style-type: none"> <li>1) Introduction: Environmental History of Wetlands; Definition and Scope of the Wetland Environment</li> <li>2) Flora and Fauna of Wetland Environment</li> <li>3) Products of Timber and Non-Timber Forest Products in Wetland Environment</li> <li>4) Utilization and Management of Wetland Environment</li> <li>5) Sustainable Development of Wetland Environments.</li> <li>6) Socio-Economic and Cultural Environment of Wetlands</li> <li>7) Wetland Environmental Public Health</li> <li>8) Environmental Services and Ecotourism Wetland Environment</li> <li>9) Local Wisdom of Wetland Environment</li> <li>10) Development of Science and Technology for Wetland Environment</li> </ol> <p><b>2. FOREST CLIMATOLOGY, FMKK 104, workload 2(2-1) SCS, Semester 2</b>  This course discusses the Limits of Weather/Climate, Atmosphere, Solar Radiance, Temperature and Air/Atmosphere Stability, Air Humidity and Cloudiness, Precipitation, Air Pressure and Wind, Evapotranspiration and</p>
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		<p>Water Balance, Climate Classification, Tropical Climate, Climate of Indonesia and South Sulawesi, Environmental Change Model, and Forest Microclimate.</p> <p><u>Content of the Subject Learning</u></p> <ol style="list-style-type: none"> <li>1) Introduction,</li> <li>2) Atmosphere</li> <li>3) Solar Radiation</li> <li>4) Air Temperature</li> <li>5) Atmospheric Humidity</li> <li>6) Evaporation</li> <li>7) Wind</li> <li>8) Climate Type</li> <li>9) Water Balance in Forest Climatology</li> </ol> <p><b>3. FOREST BIOMETRICS, FMKK 110, workload 2(2-1) SCS, Semester 3</b>  The Forest Biometrics course provides the ability to apply concepts and standards of forest measurement principles (Biometrics) (tree dimensions) in processing and analyzing the potential of a forest area. Application of the method of determining the volume of wood/logs, stem shape equations and equipment technology in determining tree dimensions to predict stand growth yields for sustainable forest management.</p> <p><u>Content of the Subject Learning</u></p> <ol style="list-style-type: none"> <li>1) Introduction to Forest Biometrics</li> <li>2) Measurement of Tree Diameter and Log Diameter</li> <li>3) Measurement of the cross-sectional area of the trunk and the base area of the tree</li> <li>4) Measurement of Tree Height</li> <li>5) Measurement of Tree Trunk Shape Parameters</li> <li>6) Measurement of Standing Tree Volume</li> <li>7) Measurement of Log Volume</li> <li>8) Volume Table</li> <li>9) Equation of Form (Taper Equation)</li> <li>10) Measurement of Canopy and Canopy Parameters</li> <li>11) Age Estimation, Gain, Growth Function, and Yield Prediction</li> </ol> <p><b>4. FOREST ECOLOGY AND WETLAND ENVIRONMENT, FMKK 112, workload 2(2-1) SCS, semester 3</b>  This course teaches the philosophy and the concept of forest ecology and wetland environments, as well as their interconnectedness with other</p>
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		<p>fields of science. It covers the components that make up ecosystems, the processes occurring within ecosystems, and the development of ecosystems. Below is the course content for the Forest Ecology and Wetland Environment course:</p> <ol style="list-style-type: none"> <li>1) Introduction</li> <li>2) Fundamentals of Ecology</li> <li>3) Ecosystem Concepts</li> <li>4) Population-level Organizational Concepts</li> <li>5) Wildlife Ecology in Wetland Forests I</li> <li>6) Wildlife Ecology in Wetland Forests II</li> <li>7) Interactions between Species</li> <li>8) Forest Ecosystems</li> <li>9) Forest Formation and Environmental Conditions</li> <li>10) Forest Succession</li> <li>11) Wetland Ecosystems</li> </ol> <p><b>5. GEODESY AND CARTOGRAPHY, FMKB 101, workload 2(2-1) SCS, Semester 4</b></p> <p>The subject of Godesy &amp; Cartography with a load of 3 credits is a compulsory basic course for students of the Forestry Study Program which is given in the even semester (Semester IV). This course is a prerequisite for the Geographic Information System (GIS) course given in Semester V, prerequisite for field work practice (PKL) in semester IV and prerequisite for interest in Forest Management studies.</p> <p><u>Content of the Subject Learning</u></p> <ol style="list-style-type: none"> <li>1) Lecture Contract, definition and scope of land surveying, concept map and learning objectives</li> <li>2) Mapping basics</li> <li>3) Simple measurement (Chain surveying)</li> <li>4) Flat brush.</li> <li>5) Angle Measurement (Tachymetry)</li> <li>6) Global positioning system (GPS) and Android phones</li> <li>7) Computerized drawing technique</li> </ol> <p><b>6. LAND AND FOREST FIRE CONTROL, FMKB 112, workload 2(2-1) SCS, Semester 6</b></p> <p>Fire Control is a course that studies about the need to protect forests from dangers of forest and land fire, the history of forest fires in Indonesia, the parts of fire and the process of forest and land fires. This course also</p>
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		<p>studies the impacts caused by forest and land fires, policies in fire control and techniques for controlling forest and land fires.</p> <p><u>Content of the Subject Learning</u></p> <ol style="list-style-type: none"> <li>1) Definition of forest and land fires</li> <li>2) Factors causing forest and land fires</li> <li>3) History of forest and land fires in Indonesia</li> <li>4) Forms and parts of fire and the process of forest and land fires</li> <li>5) The impact of forest and land fires</li> <li>6) Laws and regulations related to forest and land fires</li> <li>7) Forest and land fire prevention techniques</li> <li>8) Forest and land fire-fighting techniques</li> <li>9) Rehabilitation techniques for ex-fire areas</li> </ol> <p><b>7. FOREST PROTECTION, FMKB 103, workload 2(2-1) SCS, Semester 4</b>  The scope of Forest Protection course includes the notion of forest protection, knowledge of forest interaction systems with agents causing forest damage, causes of forest damage (pathogens, pests, weed, abiotic factors, livestock, and wildfire) and forest health management as a forest protection approach in modern silviculture.</p> <p><u>Content of the Subject Learning</u></p> <ol style="list-style-type: none"> <li>1) Forest protection science, principles and strategies for forest protection, identify factors causing forest damage</li> <li>2) Forest damage due to Pests</li> <li>3) Forest damage due to Diseases</li> <li>4) Forest damage due to Forest Fires</li> <li>5) Forest damage due to mining and illegal logging</li> <li>6) Efforts to prevent forest damage caused by forest fire, mining and illegal logging</li> <li>7) Forest damage due to grazing and wildlife</li> <li>8) Forest damage due to Abiotic Factors</li> <li>9) Forest Protection and Health</li> </ol> <p><b>8. NATURE RESOURCES CONSERVATION, FMKB 107, workload 2(2-1) SCS, Semester 5</b>  This course explains the meaning, objectives, benefits and conservation efforts of natural resources and the environment. Conservation is carried out on the types and benefits of natural resources based on local wisdom and sustainable principles.</p>
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		<p><b>10. NURSERY TECHNIQUE, FMKB 403, workload 2(2-1) SCS, Semester 5</b>  This Nursery Engineering course discusses the meaning, purpose, purpose of making a nursery, type of nursery, nursery infrastructure and facilities, provision of seeds, maintenance, selection and transportation of seeds, planning and timing of nursery</p> <p><u>Content of the Subject Learning</u></p> <ol style="list-style-type: none"> <li>1) Introduction</li> <li>2) Types of Nurseries</li> <li>3) Determining the location of the nursery</li> <li>4) Nursery Facilities and Infrastructure</li> <li>5) Equipment and manpower</li> <li>6) Preparation for the provision of seeds</li> <li>7) Provision of seeds</li> <li>8) Midterm exam</li> <li>9) Seed Production Techniques</li> <li>10) Seed maintenance</li> <li>11) Seed selection and packing</li> <li>12) Freight</li> <li>13) Planning for seed needs</li> <li>14) Timing</li> </ol> <p><b>11. GEOGRAPHIC INFORMATION SYSTEM, FMKB 111, workload 2(2-1) SCS, Semester 6</b>  Geographic Information System (GIS) is defined as an information system that is used to enter, store, recall, process, analyze and produce geographically referenced data or geospatial data, to support decision making in planning and processing land use, natural resources, environment, transportation, facilities city and other public services. Forestry GIS is a subject that discusses in an integrated manner the concepts and techniques of managing geospatial information, such as GIS terminology, GIS tools, geospatial data models, geospatial databases, geospatial data input methods, presentation of geospatial information, and analysis of geospatial information. The following is the implementation of GIS to solve problems in the world of forestry. Such as how to estimate or model forest potential based on GIS technology, how to manage spatial information in forestry using GIS technology, and how to present forestry geospatial information using GIS technology.</p>
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		<p>This course consists of conducting face-to-face/online lectures and practicum. Lectures are carried out using the discussion method which is divided into small groups with a total of 4-5 students, which will later be continued in the group's field practice activities. Practicum is carried out both in the laboratory and field practice. The practicum is carried out per group with a total of 4-5 students/group, which is carried out in the field in the Forest Area with a Special Purpose (KHDTK) of the ULM Faculty of Forestry in Mandiangin. Apart from being accompanied by a lecturer in charge of the course, field practice is assisted by peers (tutors/assistant). Practicum in the laboratory is carried out on a scheduled basis accompanied by laboratory assistants. At the end of the laboratory practical activities, the practicum participants were asked to compile a practicum report in the form of a case study of geospatial analysis/modeling to solve problems in the field of forestry science.</p> <p><u>Content of the Subject Learning</u></p> <ol style="list-style-type: none"> <li>1) Basic Concepts of GIS</li> <li>2) Geospatial Information Concept</li> <li>3) Geospatial Data Structure</li> <li>4) Geospatial Database</li> <li>5) Input Geospatial Data</li> <li>6) Geospatial Information Visualization</li> <li>7) Geospatial Information Queries</li> <li>8) Geospatial Information Analysis</li> <li>9) Geospatial Modeling</li> <li>10) GIS Implementation in the Forestry Sector</li> </ol> <p><b>12. FOREST AND LAND REHABILITATION, FMKB 404, workload 2(2-1) SCS, Semester 6</b></p> <p>This course covers the rehabilitation of forests and lands and efforts to reduce deforestation rates within and outside forest areas. It also includes endeavors to restore, maintain, and enhance the functions of forests and lands so that their support capacity, productivity, and roles in sustaining permanent life systems are preserved. Below is the course content for the Forest and Land Rehabilitation course:</p> <ol style="list-style-type: none"> <li>1) Forest Rehabilitation in Indonesia</li> <li>2) Causes of Forest and Land Degradation</li> <li>3) Patterns of Forest and Land Rehabilitation</li> <li>4) Policies on Forest and Land Rehabilitation</li> <li>5) Rehabilitation Planning</li> </ol>
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


		<ol style="list-style-type: none"> <li>6) Forest Plantation Techniques</li> <li>7) Planting and Maintenance</li> <li>8) Forest Ecosystem Restoration</li> <li>9) Degraded Land Restoration</li> <li>10) Evaluation and Monitoring of Forest and Land Rehabilitation Activities</li> </ol> <p><b>13. ECOTOURISM AND ENVIRONMENTAL SERVICES, FMKB 201, workload 2(2-1) SCS, Semester 7</b></p> <p>This course covers the development of attractions that can be developed into tourist destinations and the management of ecotourism and environmental services with natural attractions. It also discusses effective strategies for managing and developing ecotourism based on potential, spatial planning, and impacts, as well as the government's role in ecotourism and environmental services. The course content for ecotourism and environmental services includes:</p> <p><u>Content of the Subject Learning</u></p> <ol style="list-style-type: none"> <li>1) Introduction: Introduction to Ecotourism and Environmental Services</li> <li>2) Ecotourism Development</li> <li>3) Principles and Ethics of Tourism, Ecotourism Components</li> <li>4) Spatial Planning for Tourism Areas</li> <li>5) Environmental Services (Water)</li> <li>6) Environmental Interpretation (Part 1)</li> <li>7) Environmental Interpretation (Part 2)</li> <li>8) Information Media for Ecotourism Marketing and Promotion</li> <li>9) Strategies for Ecotourism and Environmental Services Development</li> <li>10) Travel Cost in Ecotourism</li> <li>11) Impact of Ecotourism and Environmental Services Activities</li> <li>12) Government's Role in Ecotourism and Environmental Services</li> <li>13) Case Study of Ecotourism and Environmental Services Management in Wetlands</li> <li>14) Case Study of Ecotourism and Environmental Services Management in Mountainous Areas</li> </ol> <p><b>14. CLIMATE CHANGE, FMKB 202, workload 2(2-1) SCS, Semester 7</b></p> <p>This course discusses climate change, the effects of climate change and the causes of climate change. This course also discusses mitigation and adaptation, especially in the forestry sector. Furthermore, this course also discusses the methods used in measuring emissions and sectors that can</p>
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		<p>contribute to reducing the resulting emissions. In the final section, we will discuss the national REDD and REDD+ strategies.</p> <p><u>Content of the Subject Learning</u></p> <ol style="list-style-type: none"> <li>1) Introduction to climate change</li> <li>2) Greenhouse gases and their sources</li> <li>3) Deforestation and Degradation</li> <li>4) Mitigation and adaptation</li> <li>5) Impacts and causes of climate change</li> <li>6) TARV and AFOLU</li> <li>7) IPCC Program</li> <li>8) Measured, Reported and Verified GHG Inventory and Measurement</li> <li>9) National Strategy for REDD and REDD+</li> </ol> <p><b>15. NATURAL RESOURCES AND ENVIRONMENT MANAGEMENT, FMKB 305, workload 2(2-1) SCS, semester 7</b></p> <p>This course provides a sharp understanding of the classification of natural resources, ownership, problems and management, environmental carrying capacity and capacity, environmental problems and their management as well as the concept of sustainable development of wetland resources.</p> <p><u>Content of the Subject Learning</u></p> <ol style="list-style-type: none"> <li>1) Classification of natural resources</li> <li>2) Natural resource ownership</li> <li>3) Natural resource problems</li> <li>4) Pollution in waters, swamp ecosystems in waters</li> <li>5) Natural resource management life cycle assessment (lca</li> <li>6) Environmental carrying capacity and carrying capacity</li> <li>7) Environmental problems</li> <li>8) Global environmental crisis</li> <li>9) PSDALI concept based on the evaluation of the marsh, coastal environment and pensel model</li> <li>10) The concept of sustainable development of wetland resources</li> <li>11) Environmental regulations, environmental protection and management plans (RPPLH) and environmental carrying capacity (DDDTLH) Strategic Environmental Studies (KLHS)</li> </ol> <p><b>16. FORESTRY LAND SUITABILITY FMKB 408 workload 2(2-1) SCS, semester 7</b></p>
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		<p>This course discusses the role of land survey and mapping in relation to land use planning, description of soil and soil differences due to the influence of soil formation factors, various types of land surveys, land survey methods, land survey methods, implementation of land mapping surveys, land survey interpretations. for land suitability.</p> <p><u>Content of the Subject Learning</u></p> <ol style="list-style-type: none"> <li>1) Land, land quality and land characteristics</li> <li>2) Land suitability</li> <li>3) Land suitability assessment techniques</li> <li>4) Implementation of land suitability evaluation</li> <li>5) Criteria for soil chemical properties</li> <li>6) Land suitability criteria for review, semi-detail, detailed</li> </ol> <p><b>17. REMOTE SENSING, FMKB 308, workload 2(2-1) SCS, Semester 7</b></p> <p>Remote sensing (remote sensing or teledetection) is the science and art of obtaining information about objects, areas or phenomena by analyzing data obtained using tools without direct contact with the object, area or phenomenon being studied. In Indonesian it is called Remote Sensing, or often abbreviated as Inderaja or PJ. Various reasons underlie the birth of remote sensing science and technology, including inefficient terrestrial surveys, some areas are difficult or not at all accessible directly to the field, some information is actually easier to analyze using remote sensing imagery than directly in the field, and there are interests strategic interests such as politics, military, and natural resources. In this sensing course, various things will be discussed, both theoretical, formulative, and applicable. Such as remote sensing terminology, remote sensing components, remote sensing systems, satellite system remote sensing, photographic remote sensing, visual interpretation, digital image processing, digital classification, image transformation, forestry and environmental applications, integration with Geographic Information Systems (GIS), practicum in the laboratory, practicum in the field, and so on.</p> <p><u>Content of the Subject Learning</u></p> <ol style="list-style-type: none"> <li>1) Introduction to the components of Digital Technology, Mathematics, and Statistics of Digital Image Processing</li> <li>2) Radiance, Radiometric Resolution, Digital Number, Degree of Gray and Reflectance</li> </ol>
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		<p>3) Digital Image Storage Formats and Digital Image Processing Software</p> <p>4) Types and Formats of Digital Satellite Image</p> <p>5) Image Calibration and Correction</p> <p>6) Filtering and Image Sharpening</p> <p>7) Multispectral classification</p> <p>8) Digital Image Transformation and Spectral Value Index</p> <p>9) Multisource Digital Image Classification technology (Decision Tree Classification) object-based (Object Based Image Analysis), Statistical Modeling (Statistical Modeling) and Physical modeling (Physical Modeling)</p> <p>10) Test the Accuracy of Digital Image Classification Results</p> <p>11) Digital Image Processing Based on Scripting and Cloud Computing</p>
D2	<p>Please provide an additional statement in regard to the admission regulations, outlining</p> <ul style="list-style-type: none"> <li>The percentage of students admitted through the admission pathways (SNMPTN, SBMPTN, UTAMA);</li> <li>Further details on the UTAMA admission track, how it is facilitated by the ULM, and who is</li> </ul>	<p>Admission of the new students is carried out following the regulations of the Ministry of Education, Culture, Research, and Technology (Permendikbudristek RI, No. 48 Tahun 2022) <a href="#">permendikbud 48 tahun 2022.pdf - Google Drive</a>. Based on the regulation, the admission method is divided into three tracks. #1 (SNMPTN), admission based on the student's portfolio; #2 (SBMPTN), admission based on the national test; and #3 (UTAMA), admission based on the university test.</p> <p>SNMPTN and SBMPTN are conducted by the national committee of student admissions. UTAMA admission is conducted locally by the university. The ministry regulation states that the maximum number of SNMPTN is 30% of the total student capacity of the university. The portion for SBMPTN is at least 40% of the total capacity. Meanwhile, the UTAMA has a maximum of 30% of the university capacity.</p> <p>To conduct the UTAMA track, the university regulate the mechanism through the Rector Regulation (Peraturan Rektor ULM No. 1001/UN8/SP/2021) <a href="#">SK-Pedoman-Jalur-Mandiri-2021-STEMPEL-1.pdf - Google Drive</a> and forms an admissions committee led by the Vice Rector for Academic Affairs . The admission was carried out based on the computer-based test. The committee is responsible for preparing the test questions, conducting the test, and providing the data of passed students for announcement. The admissions process is accountable, transparent, credible, and auditable.</p> <p>On the UTAMA track, the university has some flexibility to provide some options for admission, for example, a special track for the student with an</p>

	<p>involved in this process; as well as</p> <ul style="list-style-type: none"> <li>• Special admission conditions that exist for applicants from local indigenous tribes.</li> </ul>	<p>excellent portfolio and special performance in sports, arts, and culture, including applicants from the local tribes.</p>
D3	<p>Please provide – If existing – any <b>regulations regarding the recognition of achievements and competences acquired outside ULM</b>, e.g. in the course of student mobility or students <b>transferring</b> to ULM from other universities</p>	<p>There are several regulations have been implemented in ULM regarding to student mobility. For example, the recognition of achievements and competences of student who doing community empowerment and entrepreneurship is regulated through Rector decree no. 1125/UN8/KM/2022 ( <a href="#">SK REKOGNISI AKADEMIK PRESTASI MAHASISWA ULM 2022 (1).pdf - Google Drive.</a>) Meanwhile, at Faculty level, Faculty of Agriculture has issued Dean decree No. 339/UN8.1.23/SP/2023 regulates the standard of independent learning (MBKM) implementation in Faculty of Agriculture ULM.</p>
D4	<p>Please provide a clear tabular explanation of <b>how the ECTS corresponding to the module credit points have been calculated</b></p>	<p><b>Calculation of conversion of 1 (one) SKS to 1 (one) ECTS</b></p> <p>Calculation Conversion :</p> <p>1 credit = 170 minutes/week/semester</p> <p>= 170 minutes x 14 weeks</p> <p>= 2380 minutes</p> <p>= 39.7 hours</p> <p>1 ECTS = 30 hours</p> <p>1 ECTS = 1.32 credits</p>

D5	Please provide an additional statement <b>outlining how teaching in the respective study programmes is informed by current research</b>	Study programs at Lambung Mangkurat University are required to integrate the results of research and community service in the form of teaching materials into the learning process which is carried out consistently. Study programs are also required to have programs that integrate academic activities (learning) with research and community service which refer to the National Research and Service Standards as outlined in the Semester Learning Plan. An example of a course that integrates research results in learning is the Basic Communication course in the agribusiness study program. In the learning material, students are asked to review journals resulting from lecturers' research in the field of communication.								
		<table><tr><td></td><td><p>Students are able to identify conflicts and conditions that may arise in the communication process</p><p>Students are able to analyze and relate the relationship between self-disclosure and the effectiveness of personal communication</p></td><td><p>1. Accuracy in understanding and identifying conflicts and conditions that will arise in the communication process</p><p>2. Ability to analyze and relate self-disclosure to the effectiveness of personal communication</p></td><td><p>Non-test assessment using descriptive rubrics</p><p>Task 5: conduct a literature review of communication journals</p><p>Journal: <u>Communicology</u>: Journal of Communication and Social Science Development</p><p>Vol.6 No.1 (2022)</p><p>Title: Communication Patterns of Farming Families in Inheriting Agricultural Values to Village Youth in Barito Kuala Regency</p></td><td><p>-Lecture using a cooperative group investigation type method (case method)</p><p>-Class presentations and discussions</p><p>1 x (2x50")</p></td><td><p>Upload assignments, via: E-Learning ULM: <a href="https://simari.ulm.ac.id/site/elearning">https://simari.ulm.ac.id/site/elearning</a></p><p>Student Academic Portal: <a href="https://portal.ulm.ac.id/profil/mahasiswa">https://portal.ulm.ac.id/profil/mahasiswa</a></p></td><td><p>1. Interpersonal conditions</p><p>2. Self-disclosure Conflict</p><p>The relationship between interpersonal climate and self-disclosure</p><div> (Ctrl) ▾</div></td><td></td></tr></table>		<p>Students are able to identify conflicts and conditions that may arise in the communication process</p> <p>Students are able to analyze and relate the relationship between self-disclosure and the effectiveness of personal communication</p>	<p>1. Accuracy in understanding and identifying conflicts and conditions that will arise in the communication process</p> <p>2. Ability to analyze and relate self-disclosure to the effectiveness of personal communication</p>	<p>Non-test assessment using descriptive rubrics</p> <p>Task 5: conduct a literature review of communication journals</p> <p>Journal: <u>Communicology</u>: Journal of Communication and Social Science Development</p> <p>Vol.6 No.1 (2022)</p> <p>Title: Communication Patterns of Farming Families in Inheriting Agricultural Values to Village Youth in Barito Kuala Regency</p>	<p>-Lecture using a cooperative group investigation type method (case method)</p> <p>-Class presentations and discussions</p> <p>1 x (2x50")</p>	<p>Upload assignments, via: E-Learning ULM: <a href="https://simari.ulm.ac.id/site/elearning">https://simari.ulm.ac.id/site/elearning</a></p> <p>Student Academic Portal: <a href="https://portal.ulm.ac.id/profil/mahasiswa">https://portal.ulm.ac.id/profil/mahasiswa</a></p>	<p>1. Interpersonal conditions</p> <p>2. Self-disclosure Conflict</p> <p>The relationship between interpersonal climate and self-disclosure</p> <div> (Ctrl) ▾</div>	
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### University's Response

We thank ASIIN and the experts for the deep and comprehensive audit as well as the meaningful notes and recommendations. Basically, we accept all of the notes and recommendations from the experts as written in the draft of the accreditation report, both of are conformities or non-conformities.

We are very satisfied with the criteria that have been complied with by the ASIIN standard. In connection with this, we commit to continually conducting and improving the conformed practices as we received from the expert's note as follows:

1. The learning outcomes of the programmes under review correspond to level 6 (Bachelor) of the European Qualification Framework (EQF), and suffice the

respective Subject-Specific Criteria of ASIIN's Technical Committee 08 for subjects in the field of Agriculture, Forestry and Food Sciences.

2. The Faculties have introduced a minimum English proficiency threshold equalling a TOEFL score of 450 required for graduation and the faculties are encouraged to take further steps in this regard.
3. Linkages between industry representatives and the Faculties' alumni associations are exist, through which vacancies are relayed to students and graduates.
4. Teaching staff in the programmes under review utilise a variety of teaching methods in alignment with the respective modules with student-centred learning in mind.
5. Multiple students confirm that their academic advisors are highly supportive and approachable.
6. The support systems help students to achieve the intended learning outcomes and to complete their studies successfully.
7. The exams seem to be satisfactory and the experts appreciate the implementation of case-example based examinations.
8. The composition and qualifications of the teaching staff presented are suitable and sufficient to facilitate the study programmes.
9. ULM offers training opportunities for members of its teaching staff, and that a transparent system for performance assessment is in place.
10. The available funds, technical equipment, the infrastructure are comply with the requirements for adequately sustaining the degree programmes.
11. The rights and duties of both ULM and the students are overall defined clearly and bindingly.
12. All rules and regulations are published on the University's website as well as in the University's comprehensive Academic Guidelines, and hence available to all relevant stakeholders.
13. The study programmes undergo regular internal quality assurance processes involving all relevant stakeholders and drawing from a range of surveys.

We also very appreciate for the expert's recommendations that are very useful as our guidelines to develop our study programmes progressively. Belows are the points that need to be advanced in the near future:

1. Intensification of the efforts in tracing the alumni's development after graduation, to be able to strengthen University-industry relations as well as to draw valuable insights for the development and offering of continuing Master's and PhD programmes. Intensification of the efforts in tracing their alumni's development after graduation, to be able to strengthen University-industry relations as well as to draw valuable insights for the development and offering of continuing Master's and PhD programmes.



2. Expanding the English language proficiency.
3. Supporting the students with colour blindness better, so as not to exclude them from studying their subjects of interest based on this condition.
4. Establishing the national and international mobility agreements, looking forward to international student exchange schemes such as the ASEAN International Mobility for Students (AIMS) programme.
5. Establishing the structured mechanism for the monitoring of students' workload.
6. Developing the facilities to solve the problem of exceeded study durations.
7. Establishing entirely English-taught subject matter courses as opportunities for students to practice and develop their language proficiency.
8. Establishing a multi-stakeholder board including employers from the private sector, NGOs, research institutions as well as government agencies to strengthen dialogue with the Faculties under review, as well as their students and alumni.
9. Strengthening the cooperation between Faculty of Agriculture and Faculty of Forestry in order to capitalise on synergies.
10. Upgrading the lab capacities for Soil Science and Forestry students, especially with students conducting (thesis) research.
11. Revising the module handbooks following the format and writing rules of the modules of Agribusiness Study Program: Display of module code and title, an explanation as to how the final module grade will be calculated (i.e. weighting of the module's assessments), as well as a date of last amendment, so as to provide a clear chronological reference for all future revisions of these modules.
12. Completing the diploma supplement to be in full compliance with the applicable standards, the mode of study (e.g. full-time, part-time, distance, etc.) and the information on the grading system.
13. Intensification of the efforts in tracing the alumni's development after graduation, to be able to strengthen University-industry relations as well as to draw valuable insights for the development and offering of continuing Master's and PhD programmes.

Following up on the recommendations from the expert, we have completed the study program's websites with more information to help the student and student candidate understand the program education objectives as well as the learning outcomes, together with the curriculum and the handbooks/modules. The sub-domain links to the study program website to access the information and documents are listed below:

Study Program	Information/Documents	Page Link
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Soil Science	Program education objectives and learning outcomes	<p>PEO link : <a href="https://ilmutanah.ulm.ac.id/profil-lulusan-atau-peo-program-educational-objectives/">https://ilmutanah.ulm.ac.id/profil-lulusan-atau-peo-program-educational-objectives/</a></p> <p>PLO link: <a href="https://ilmutanah.ulm.ac.id/plo-program-learning-outcomes-atau-capaian-pembelajaran-lulusan-cpl-pada-kurikulum-ps-ilmu-tanah/">https://ilmutanah.ulm.ac.id/plo-program-learning-outcomes-atau-capaian-pembelajaran-lulusan-cpl-pada-kurikulum-ps-ilmu-tanah/</a></p>
	Curriculum documents, including the 2021 curriculum	<a href="https://ilmutanah.ulm.ac.id/akademik/kurikulum-obe-outcome-based-education/">https://ilmutanah.ulm.ac.id/akademik/kurikulum-obe-outcome-based-education/</a>
	Handbooks/modules	<p>Module Handbook link: <a href="https://ilmutanah.ulm.ac.id/en/module-handbooks/">https://ilmutanah.ulm.ac.id/en/module-handbooks/</a></p> <p>Module of Courses link: <a href="https://ilmutanah.ulm.ac.id/module-of-courses/">https://ilmutanah.ulm.ac.id/module-of-courses/</a></p>
Agribusiness	Program education objectives and learning outcomes	<p>PEO: <a href="https://agribisnis.faperta.ulm.ac.id/Page-108-Profil+Lulusan+%2F+PEO">https://agribisnis.faperta.ulm.ac.id/Page-108-Profil+Lulusan+%2F+PEO</a></p> <p>PLO: <a href="https://agribisnis.faperta.ulm.ac.id/Page-167-Capaian+Pembelajaran+Lulusan">https://agribisnis.faperta.ulm.ac.id/Page-167-Capaian+Pembelajaran+Lulusan</a></p>
	Curriculum documents, including the 2021 curriculum	<p>2020: <a href="https://agribisnis.faperta.ulm.ac.id/Page-115-Kurikulum+2020">https://agribisnis.faperta.ulm.ac.id/Page-115-Kurikulum+2020</a></p> <p>2021: <a href="https://www.agribisnis.faperta.ulm.ac.id/Page-116-Kurikulum+2021">https://www.agribisnis.faperta.ulm.ac.id/Page-116-Kurikulum+2021</a></p>
	Handbooks/modules	<a href="https://agribisnis.faperta.ulm.ac.id/Page-168-Modul+Mata+Kuliah">https://agribisnis.faperta.ulm.ac.id/Page-168-Modul+Mata+Kuliah</a>
Forestry	Program education objectives and learning outcomes	<p>PEO: <a href="https://fahutan.ulm.ac.id/id/profil-lulusan-program-studi-kehutanan-program-educational-objective-poe-of-forestry-study-program/">https://fahutan.ulm.ac.id/id/profil-lulusan-program-studi-kehutanan-program-educational-objective-poe-of-forestry-study-program/</a></p> <p>PLO:</p>

		<a href="https://fahutan.ulm.ac.id/id/capaian-pembelajaran-lulusan-cpl-program-learning-outcomes-plo/">https://fahutan.ulm.ac.id/id/capaian-pembelajaran-lulusan-cpl-program-learning-outcomes-plo/</a>
	Curriculum documents	<a href="https://fahutan.ulm.ac.id/id/kurikulum/">https://fahutan.ulm.ac.id/id/kurikulum/</a>
	Handbooks/modules	<p>Modules Handbook  <a href="https://fahutan.ulm.ac.id/id/modul-handbook-2/">https://fahutan.ulm.ac.id/id/modul-handbook-2/</a></p> <p>Handbooks  <a href="https://fahutan.ulm.ac.id/id/tahun-2021/">https://fahutan.ulm.ac.id/id/tahun-2021/</a>  password: orangutan</p> <p>Reference Books  <a href="https://fahutan.ulm.ac.id/id/tahun-2020/">https://fahutan.ulm.ac.id/id/tahun-2020/</a>  password: orangutan</p>
Agroindustrial Technology	Program education objectives and learning outcomes	<a href="https://tip.ulm.ac.id/id/kurikulum-s1/">https://tip.ulm.ac.id/id/kurikulum-s1/</a>
	Curriculum documents, including the 2021 curriculum	<a href="https://tip.ulm.ac.id/id/kurikulum-s1/">https://tip.ulm.ac.id/id/kurikulum-s1/</a> see at the bottom of the page (download area)
	Handbooks/modules	<a href="https://tip.ulm.ac.id/id/rps/">https://tip.ulm.ac.id/id/rps/</a>

## F Summary: Expert recommendations (03.11.2023)

Taking into account the additional information and the comments provided by the Faculty of Agriculture and the Faculty of Forestry of ULM, the experts summarize their analysis and **final assessment** for the award of the ASIIN seal as follows:

Degree Programme	ASIIN Seal	Maximum duration of accreditation
Ba Agroindustrial Technology	With requirements for one year	30.09.2029
Ba Forestry	With requirements for one year	30.09.2029
Ba Soil Science	With requirements for one year	30.09.2029
Ba Agribusiness	With requirements for one year	30.09.2029

### Requirements

#### For all degree programmes

- A 1. (ASIIN 1.4) Ensure efforts that students with colour blindness are not excluded from studying the subjects under review except Agribusiness.
- A 2. (ASIIN 2.2) Implement a recurring mechanism to survey students' actual course workload.
- A 3. (ASIIN 3) Issue clear and binding regulations concerning remedial exams.
- A 4. (ASIIN 6) Results of the course feedback and student satisfaction surveys, as well as information on any action taken, need to be made accessible to the students in a suitable form.
- A 5. (ASIIN 1.3/ 5.1) The module descriptions for each study programme must be revised and made publicly accessible in both Bahasa Indonesia and English.
- A 6. (ASIIN 5.2) Diploma supplements must include information on the mode of study (e.g. full-time, part-time, distance, etc.) as well as the maximum and minimum degree-passing grade.

### Recommendations

**For all degree programmes**

- E 1. (ASIIN 1.1/1.3/2.3) It is recommended to create additional offers for students to improve their English language skills to at least a B1 level, if not B2; particularly through introducing entirely English-taught subject matter modules, international guest lectures, and student mobilities abroad.
- E 2. (ASIIN 1.1/1.3) It is recommended to more strongly foster communication, presentation, writing, software as well as leadership skills of the students, e.g. by offering specific elective modules or projects. In addition to this, it is recommended to integrate software skills such as ArcGIS and MineScape more strongly.
- E 3. (ASIIN 2.1) It is recommended for the Departments to intensify their internationalisation efforts, in particular with regard to student mobility opportunities abroad outside the MBKM programme.
- E 4. (ASIIN 2.2) It is recommended to intensive efforts to decrease the current prolonged study durations of about five years through the introduction of further (mandatory) courses strengthening the students' scientific (writing) competencies, as well as better accompaniment of the students research.
- E 5. (ASIIN 3) It is recommended to focus assignments more on analytical thinking skills; and less on the memorisation of knowledge.
- E 6. (ASIIN 4.3) It is recommended to strengthen cooperation between the Faculty of Agriculture and the Faculty of Forestry in order to capitalise on synergies between the two Faculties.
- E 7. (ASIIN 4.3) It is recommended to increase laboratory capacities for Soil Science and Forestry students, especially with students conducting (thesis) research in mind.
- E 8. (ASIIN 4.3) It is recommended improve access to funds for (senior) staff to pursue short-term training and research opportunities abroad, as well as to provide University funding for junior staff to pursue PhD studies abroad.
- E 9. (ASIIN 4.3) It is recommended to further foster industry collaboration through more frequent guest lecturers or the introduction of a multi-stakeholder industry board. In this context, it is moreover recommended to consider looking into company-sponsored scholarships with Faculties' industry partners.
- E 10. (ASIIN 5.2) It is recommended to include grade distribution tables in the diploma supplements as encouraged in the applicable standards of the European Higher Education Area (EHEA).

- E 11. (ASIIN 6) It is recommended to reconsider the current course evaluation system, as it does not produce reliable results.
- E 12. (ASIIN 6) It is recommended to integrate students in the design and modification processes of the training programmes beyond surveys, e.g. through participation in the appropriate boards and councils.
- E 13. (ASIIN 1.1/6) It is recommended to intensify efforts to trace the pathways and employers of the Faculties' graduates in order to draw valuable information for future programme development.

## **G Comment of the Technical Committee 08 - Agriculture, Nutritional Sciences and Landscape Architecture (21.11.2023)**

*Assessment and analysis for the award of the ASIIN seal:*

The Technical Committee discusses the accreditation procedure and follows the assessment of the experts without any changes.

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

<b>Degree Programme</b>	<b>ASIIN Seal</b>	<b>Maximum duration of accreditation</b>
Ba Agroindustrial Technology	With requirements for one year	30.09.2029
Ba Forestry	With requirements for one year	30.09.2029
Ba Soil Science	With requirements for one year	30.09.2029
Ba Agribusiness	With requirements for one year	30.09.2029

## H Decision of the Accreditation Commission (08.12.2023)

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

The Accreditation Commission discusses the procedure and follows the assessment of the experts and the Technical Committee 08. For the sake of clarity, the Accreditation Commission however suggests to rephrase requirement A1 and to allocate it separately as displayed below.

The Accreditation Commission decides to award the following seals:

Degree Programme	ASIIN Seal	Maximum duration of accreditation
Ba Agroindustrial Technology	With requirements for one year	30.09.2029
Ba Forestry	With requirements for one year	30.09.2029
Ba Soil Science	With requirements for one year	30.09.2029
Ba Agribusiness	With requirements for one year	30.09.2029

### Requirements

#### For all degree programmes

- A 1. (ASIIN 2.2) Implement a recurring mechanism to survey students' actual course workload.
- A 2. (ASIIN 3) Issue clear and binding regulations concerning remedial exams.
- A 3. (ASIIN 6) Results of the course feedback and student satisfaction surveys, as well as information on any action taken, need to be made accessible to the students in a suitable form.
- A 4. (ASIIN 1.3/ 5.1) The module descriptions for each study programme must be revised and made publicly accessible in both Bahasa Indonesia and English.



- A 5. (ASIIN 5.2) Diploma supplements must include information on the mode of study (e.g. full-time, part-time, distance, etc.) as well as the maximum and minimum degree-passing grade.

**For the programmes Agroindustrial Technology, Soil Science, and Forestry**

- A 6. (ASIIN 1.4) Students with colour blindness must not be excluded from studying the subjects under review.

**Recommendations**

**For all degree programmes**

- E 1. (ASIIN 1.1/1.3/2.3) It is recommended to create additional offers for students to improve their English language skills to at least a B1 level, if not B2; particularly through introducing entirely English-taught subject matter modules, international guest lectures, and student mobilities abroad.
- E 2. (ASIIN 1.1/1.3) It is recommended to more strongly foster communication, presentation, writing, software as well as leadership skills of the students, e.g. by offering specific elective modules or projects. In addition to this, it is recommended to integrate software skills such as ArcGIS and MineScape more strongly.
- E 3. (ASIIN 2.1) It is recommended for the Departments to intensify their internationalisation efforts, in particular with regard to student mobility opportunities abroad outside the MBKM programme.
- E 4. (ASIIN 2.2) It is recommended to intensive efforts to decrease the current prolonged study durations of about five years through the introduction of further (mandatory) courses strengthening the students' scientific (writing) competencies, as well as better accompaniment of the students research.
- E 5. (ASIIN 3) It is recommended to focus assignments more on analytical thinking skills; and less on the memorisation of knowledge.
- E 6. (ASIIN 4.3) It is recommended to strengthen cooperation between the Faculty of Agriculture and the Faculty of Forestry in order to capitalise on synergies between the two Faculties.
- E 7. (ASIIN 4.3) It is recommended to increase laboratory capacities for Soil Science and Forestry students, especially with students conducting (thesis) research in mind.
- E 8. (ASIIN 4.3) It is recommended improve access to funds for (senior) staff to pursue short-term training and research opportunities abroad, as well as to provide University funding for junior staff to pursue PhD studies abroad.

- E 9. (ASIIN 4.3) It is recommended to further foster industry collaboration through more frequent guest lecturers or the introduction of a multi-stakeholder industry board. In this context, it is moreover recommended to consider looking into company-sponsored scholarships with Faculties' industry partners.
- E 10. (ASIIN 5.2) It is recommended to include grade distribution tables in the diploma supplements as encouraged in the applicable standards of the European Higher Education Area (EHEA).
- E 11. (ASIIN 6) It is recommended to reconsider the current course evaluation system, as it does not produce reliable results.
- E 12. (ASIIN 6) It is recommended to integrate students in the design and modification processes of the training programmes beyond surveys, e.g. through participation in the appropriate boards and councils.
- E 13. (ASIIN 1.1/6) It is recommended to intensify efforts to trace the pathways and employers of the Faculties' graduates in order to draw valuable information for future programme development.

# I Fulfilment of Requirements (06.12.2024)

## Analysis of the Experts and the Technical Committee (19.11.2024)

### Requirements

#### For all degree programmes

- A 1. (ASIIN 2.2) Implement a recurring mechanism to survey students' actual course workload.

Initial Treatment	
Peers	<b>not for all programmes fulfilled</b> Vote: unanimous Justification: According to the documentation, the Faculty of Forestry focuses its evaluations of student satisfaction on lecturer performance. The students' workload does not appear to be evaluated more thoroughly than before. This is why, for the Ba Forestry, the experts consider this requirement not fulfilled. The Faculty of Agriculture, however, has integrated the evaluation of the workload for students successfully in their questionnaires.
TC 08	<b>not for all programmes fulfilled</b> Vote: unanimous Justification: The TC follows the opinion of the expert team without changes.

- A 2. (ASIIN 3) Issue clear and binding regulations concerning remedial exams.

Initial Treatment	
Peers	<b>fulfilled</b> Vote: unanimous Justification: Regulations for remedial exams have been enacted.
TC 08	<b>fulfilled</b> Vote: unanimous Justification: The TC confirms the regulations being enacted.

- A 3. (ASIIN 6) Results of the course feedback and student satisfaction surveys, as well as information on any action taken, need to be made accessible to the students in a suitable form.

Initial Treatment	
Peers	<b>Not fulfilled</b> Vote: unanimous Justification: The satisfaction surveys have been improved, however, the feedback cycles have not been implemented. The crucial part, that is the feedback about how the student questionnaires influence the study programmes, has not yet been put into practice.
TC 08	<b>Not fulfilled</b> Vote: unanimous Justification: The TC follows the opinion of the expert team without changes.

- A 4. (ASIIN 1.3/ 5.1) The module descriptions for each study programme must be revised and made publicly accessible in both Bahasa Indonesia and English.

Initial Treatment	
Peers	<b>fulfilled</b> Vote: unanimous Justification: The module descriptions have been revised and are accessible in both languages on the website. The modules do not contain the last date of amendment; this date is present on the document level.
TC 08	<b>fulfilled</b> Vote: unanimous Justification: The TC follows the opinion of the expert team without changes.

- A 5. (ASIIN 5.2) Diploma supplements must include information on the mode of study (e.g. full-time, part-time, distance, etc.) as well as the maximum and minimum degree-passing grade.

Initial Treatment	
Peers	<b>fulfilled</b> Vote: unanimous Justification: The mode of study has been added.
TC 08	<b>fulfilled</b> Vote: unanimous Justification: The TC follows the opinion of the expert team without changes.

**For the programmes Agroindustrial Technology, Soil Science, and Forestry**

- A 6. (ASIIN 1.4) Students with colour blindness must not be excluded from studying the subjects under review.

Initial Treatment	
Peers	<b>fulfilled</b> Vote: unanimous Justification: Respective regulations have been changed in the guidelines.
TC 08	<b>fulfilled</b> Vote: unanimous Justification: The TC follows the opinion of the expert team without changes.

## Decision of the Accreditation Commission (06.12.2024)

Degree programme	ASIIN-label	Subject-specific label	Accreditation until max.
Ba Soil Science	Requirement A3 not fulfilled	/	6 months prolongation
Ba Agribusiness	Requirement A3 not fulfilled	/	6 months prolongation
Ba Agroindustrial Technology	Requirement A3 not fulfilled	/	6 months prolongation
Ba Forestry	Requirements A1 and A3 not fulfilled	/	6 months prolongation

## J 2<sup>nd</sup> Fulfilment of Requirements (27.06.2025)

### Analysis of the Experts and the Technical Committee (03.06.2025)

#### Requirements

##### For all degree programmes

- A 1. (ASIIN 2.2) Implement a recurring mechanism to survey students' actual course workload.

Initial Treatment	
Peers	<b>Not for all programmes fulfilled</b> Vote: unanimous Justification: According to the documentation, the Faculty of Forestry focuses its evaluations of student satisfaction on lecturer performance. The students' workload does not appear to be evaluated more thoroughly than before. This is why, for the Ba Forestry, the experts consider this requirement not fulfilled. The Faculty of Agriculture, however, has integrated the evaluation of the workload for students successfully in their questionnaires.
TC 08	<b>Not for all programmes fulfilled</b> Vote: unanimous Justification: The TC follows the opinion of the expert team without changes.
Secondary Treatment	
Peers	<b>Fulfilled</b> Vote: unanimous Justification: The student workload documentation is done by module. For further improvement, the experts suggest to also compile an overall table, but still consider the requirement as fulfilled.
TC 08	<b>Fulfilled</b> Vote: unanimous Justification: The TC follows the recommendation of the experts.

- A 3. (ASIIN 6) Results of the course feedback and student satisfaction surveys, as well as information on any action taken, need to be made accessible to the students in a suitable form.

Initial Treatment	
Peers	<b>Not fulfilled</b> Vote: unanimous Justification: The satisfaction surveys have been improved, however, the feedback cycles have not been implemented. The crucial part, that is the feedback about how the student questionnaires influence the study programmes, has not yet been put into practice.
TC 08	<b>Not fulfilled</b> Vote: unanimous Justification: The TC follows the opinion of the expert team without changes.
Secondary Treatment	
Peers	<b>Fulfilled</b> Vote: unanimous Justification: The experts are satisfied that the feedback mechanism is now being applied in practice.
TC 08	<b>Fulfilled</b> Vote: unanimous Justification: The TC follows the recommendation of the experts.

## Decision of the Accreditation Commission (27.06.2025)

Degree Programme	ASIIN Seal	Maximum duration of accreditation
Ba Agricultural Technology	All requirements fulfilled	30.09.2029
Ba Forestry	All requirements fulfilled	30.09.2029
Ba Soil Science	All requirements fulfilled	30.09.2029
Ba Agribusiness	All requirements fulfilled	30.09.2029

## Appendix: Programme Learning Outcomes and Curricula

According to the self-assessment report and the respective curricula, the following **objectives** and **learning outcomes (intended qualifications profile)** shall be achieved:

### Ba Agribusiness

PLO 1 (S1)	Demonstrates piety for God Almighty.
PLO 2 (S2)	Contribute to the enhancement of the quality of life in community, nation, and state; foster a sense of belonging and civilization founded on Pancasila; and appreciate cultural diversity.
PLO 3 (S3)	Internalize the WASAKA mindset of independence, fight, and enterprise (waja to keputing).
PLO 4 (P1)	Apply basic science, mathematics, and basic agricultural science.
PLO 5 (P2)	Apply the concepts of economics, management, business, sociology and culture, communication, and agricultural development.
PLO 6 (P3)	Applying quantitative and qualitative methodologies of agricultural economics.
PLO 7 (K1)	Capable of using logical, analytical, systematic, and innovative thinking to problems associated with the development and implementation of science and technology in the field of agriculture.
PLO 8 (K2)	Capable of compiling scientific descriptions of study findings and successfully communicating them.
PLO 9 (K3)	Capable of being accountable for the outcomes of multidisciplinary group work and supervising and evaluating the completion of work assigned to them.
PLO 10 (KK1)	Able to identify, evaluate and anticipate the management of agribusiness systems in wetlands/sub optimal.
PLO 11 (KK2)	Capable of developing strategies for resource allocation and community capacity building, as well as business ethics for developing and managing agribusiness in a wetland/sub-optimal environment.
PLO 12 (KK3)	Able to apply wetland/sub-optimal agribusiness technology to solve socio-cultural problems of the community through the negotiation process

\* Abbreviations as per the Indonesian National Qualification Framework (*Kerangka Kualifikasi Nasional Indonesia, KNNI*):

S = Sikap = Attitude

P = Pengetahuan = Knowledge



KU = Kemampuan Umum = General Skills

KK = Kemampuan Khusus = Special Skills

The following **curriculum** (version: 2021) is presented:

No.	Code	Subject	Credits (SKS)	Status	Prerequisite Courses
<b>Semester 1</b>					
1	EULM1161	Religious education	3(2-1)	Must	
2	EULM1152	Indonesian	3(2-1)	Must	
3	EULM1171	Pancasila	2(2-0)	Must	
4	EKWF2104	Introduction to Agricultural Science	2(2-0)	Must	
5	EKWF2103	Introduction to Economics	2(1-1)	Must	
6	EAGB1570	Fundamentals of management	2(2-0)	Must	
7	EKWF2101	Mathematics	3(2-1)	Must	
8	EULM1151	English I	2(2-1)	Must	
<b>Amount</b>			<b>19</b>		
<b>Semester 2</b>					
1	EULM1272	Citizenship	2 (1-1)	Must	
2	EULM1252	English II	2(1-1)	Must	
3	EKWF2209	Basic Plant Protection	3(2-1)	Must	Agricultural Biology
4	EKWF2207	Basic Agronomy	3(2-1)	Must	
5	EKWF2208	Basic Soil Science	3(2-1)	Must	
6	EKWF2210	Statistical Methods	3 (2-1)	Must	
7	EAGB1180	Social and Cultural Change	2(1-1)	Must	
8	EKWF2205	Agricultural Biology	2(1-1)	Must	
<b>Amount</b>			<b>20</b>		
<b>Semester 3</b>					
1	EULM1251	Entrepreneurship	2 (1-1)	Must	
2	EAGB2560	Microeconomic Theory	3(2-1)	Must	
3	EAGB1183	Agricultural Economics and Agribusiness	2(2-0)	Must	
4	EAGB2617	Population	2(2-0)	Must	
5	EAGB2122	Nonparametric Statistics	3(2-1)	Must	
6	EAGB2185	Farming Management	3(2-1)	Must	
7	EAGB2180	Local Social and Cultural Capital	2(2-0)	Must	
8	EULM1115	Introduction to Wetland Environments	2(2-0)	Must	
<b>Amount</b>			<b>19</b>		
<b>Semester 4</b>					
1	EAGB2561	Macroeconomic Theory	3(2-1)	Must	
2	EAGB1562	Accounting Basics	3(2-1)	Must	
3	EAGB2574	Marketing Management	3(2-1)	Must	
4	EAGB1622	Communication Basics	3(2-1)	Must	
5	EAGB2184	Rural Sociology	2(2-0)	Must	
6	EAGB2186	Community Counseling and Empowerment	3(2-1)	Must	
7	EAGB1462	Information Technology and Multimedia	3(2-1)	Must	

Amount			20		
Semester 5					
1	EAGB3568	International trade	3(2-1)	Must	
2	EAGB2183	Analysis of Agricultural Projects	3(2-1)	Must	
3	EAGB3560	Econometrics	3(2-1)	Must	
4	EAGB2602	Regional Development Planning	3(2-1)	Must	
5	EAGB3185	Agribusiness Management	3(2-1)	Must	
6	EAGB2568	Resource and Environmental Economics	3(2-1)	Must	
7	EAGB2576	Agro-Industry Management	2(2-0)	Must	
Amount			20		
Semester 6					
1	EAGB3186	Business Research Methods	3(2-1)	Must	
2	EAGB2185	Operations Research	3(2-1)	Must	
3	EAGB3187	Preparation and Evaluation of Agribusiness Community Empowerment Programs	3(2-1)	Must	
4	EAGB3188	Business Strategy and Policy	2(2-0)	Must	
5	EAGB2184	Economics of Agricultural Production	3(2-1)	Must	
6	EAGB3571	Human Resource Management	2(2-0)	Must	
7	EAGB3574	Consumer Behaviour	2(2-0)	Must	
8	EAGB2622	Agribusiness Communications	3(2-1)	Must	
Amount			21		
Semester 7					
1	EAGB3185	Internship/Work Practice	3(0-3)	Must	
2	EAGB4812	Thesis Proposal Examination	1(0-1)	Must	
Amount			4		
Semester 8					
1	EKWF2813	Thesis Seminar	1(0-1)	Must	Further regulated
2	EKWF2814	Thesis	5(0-5)	Must	Minimum 120 credits taken
Amount			6		
Cultivation and Engineering (choose 5-6 from 14 credits)					
1	EAGR1157	Food Plant Cultivation	3(2-1)	Choice	Basic Agronomy
2	EAGR1152	Cultivation of Horticultural Plants	3(2-1)	Choice	Basic Agronomy
3	EAGR1115	Cultivation of Plantation Plants	3(2-1)	Choice	Basic Agronomy
4	EAGR1164	Agricultural Engineering	3(2-1)	Choice	Basic Agronomy
6	ETNK3203	Introduction to Animal Science	2(2-0)	Choice	
Amount			14		
Social Economics (choose 8-9 credits from 16 credits)					
1	EAGB2187	Strengthening Institutions and Social Organizations	2(2-0)	Choice (Odd)	
2	EAGB3561	Cost accounting	2(2-0)	Choice (Odd)	
3	EAGB2622	Mass communication	2(1-1)	Choice (Odd)	
4	EAGB3562	Management Accounting	2(2-0)	Choice (Odd)	

5	EAGB1851	Business Leadership	2(2-0)	Choice (Odd)	
6	EAGB3574	E-Commerce Management	2(2-0)	Choice (Odd)	
7	EAGB1853	Agribusiness Institutions	2(2-0)	Choice (Odd)	
8	EAGB1852	THEMATIC KKN	3(0-3)	Choice (Odd)	
<b>Amount</b>			<b>16</b>		
<b>Total number of required courses (SKS)</b>			<b>129</b>		
<b>Number of elective courses (SKS)</b>			<b>13-15</b>		
<b>Total number of credits</b>			<b>142 -144</b>		

### **Ba Agroindustrial Technology**

PLO1 (S1)	Fear the Almighty God; (trust)
PLO2 (S2)	Capable of functioning as proud and patriotic citizens, possessing nationalism and a sense of responsibility toward their country and nation; (National)
PLO3 (S3)	Capable of demonstrating WASAKA's psychological value to society and the environment in a sustainable manner; (Work Ethics)
PLO4 (P4)	Capable of identifying and applying fundamental sciences, mathematics, and technology to agroindustrial technology; (Basic Science)
PLO5 (P5)	Capable of conducting standardized measurements, analysis, and interpretation of experiments; and utilizing experimental results to improve process technology; (Hard skill Practices/Responses)
PLO6 (KK6)	Capable of implementing current technologies, capabilities, and techniques in the fields of technology, management, systems engineering, and agriculture and industry; (Technology Applications)
PLO7 (KK7)	Capable of designing systems, components, or procedures for the purpose of resolving engineering technology issues in agroindustrial technology; (Design)
PLO8 (KU8)	Possess a distinct personality, a capacity for critical thinking, and the ability to integrate competences such as technology, management, systems engineering, and the agriculture industry's environment; (Soft skills and critical thinking)
PLO9 (KU9)	Capable of good written and spoken communication, as well as the ability to detect, analyze, and use data and information in accordance with the requirements of agroindustrial technology; (Communication, analysis thinking)

PLO 10 (KU10)	Capable of collaborating and networking in diverse and multicultural teams; (Cooperation)
PLO11 (KU11)	Capable of cultivating a long-term technopreneur spirit. (Technopreneurship)

\* Abbreviations as per the Indonesian National Qualification Framework  
(*Kerangka Kualifikasi Nasional Indonesia*, KNNI):

S = Sikap = Attitude

P = Pengetahuan = Knowledge

KU = Kemampuan Umum = General Skills

KK = Kemampuan Khusus = Special Skills

The following **curriculum** (version: 2021) is presented:

Semester 1				
Code	Course Content	Compulsory / Option	SKS	
EULM1161	Religious Education	Required	3	3(2-1)
EULM1171	Pancasila	Required	2	2(2-0)
EULM1152	Bahasa Indonesia	Required	3	3(2-1)
EKWF2101	Maths	Required	3	3(2-1)
ETIP3101	Agricultural Industrial Chemistry	Required	3	3(2-1)
EKWF2103	Introduction to Economics	Required	2	2(2-0)
EKWF2104	Introduction to Agricultural Science	Required	2	2(2-0)
EULM1151	English I	Required	2	2(2-0)
	Total credits		20	
2nd Semester				
ETIP3102	Basic Bioprocess Engineering	Required	2	2(2-0)
ETIP3103	Basic Process Engineering	Required	2	2(2-0)
EKWF2210	Statistical Methods	Required	3	3(2-1)
EULM1272	Citizenship	Required	2	2(2-0)
EULM1252	English II	Required	2	2(2-0)
ETIP3104	Calculus	Required	2	2(2-0)
ETIP3105	Agro-industrial Materials	Required	2	2(2-0)
ETIP3106	Introduction to Agricultural Technology	Required	2	2(2-0)
ETIP3107	Personnel Management	Required	2	2(2-0)
	Total credits		19	
3rd Semester				
ETIP4201	Process Engineering	Required	3	3(2-1)
ETIP3202	Industrial Microbiology	Required	3	3(2-1)
ETIP4203	Engineering Drawing	Required	3	3(2-1)
ETIP4204	Agro-industrial Materials and Products Analysis	Required	3	3(2-1)
ETIP4205	Computer Programming	Required	3	3(2-1)
ETIP3206	Industrial Environmental Management	Required	2	2(2-0)
EULM1115	Introduction to Wetland Environment	Required	2	2(2-0)
	Total credits		19	
4th Semester				

ETIP4207	Operations Research	Required	3	3(2-1)
ETIP4208	Operations Unit	Required	3	3(2-1)
ETIP4209	Packaging and Storage Technology	Required	3	3(2-1)
ETIP4210	Bioprocess Engineering	Required	3	3(2-1)
ETIP4211	Industrial Statistics	Required	3	3(2-1)
ETIP4212	Production Planning and Inventory Control	Required	3	3(2-1)
ETIP4213	Layout and Material Handling	Required	3	3(2-1)
	Total credits		21	
<b>5th Semester</b>				
ETIP4301	Cleaner Production	Required	2	2(2-0)
EULM1251	Entrepreneurship	Required	2	2(1-1)
ETIP4302	Engineering Economics	Required	3	3(2-1)
ETIP5303	Agricultural Industry Equipment	Required	3	3(2-1)
EKWF2511	Methods of Scientific Writing and Presentation	Required	2	2(1-1)
ETIP5304	Palm Oil Technology and Derivatives	Required	3	3(2-1)
	<b>Choose 2 out of 6 courses</b>			
ETIP5310	Essential Oil, Spice and hytopharmaceutical Technology	Option 1	3	3(2-1)
ETIP5311	Flavour and Food Additive Technology	Option 2	3	3(2-1)
ETIP5312	Managerial and Environmental Accounting	Option 3	3	3(2-1)
ETIP5313	Supply Chain Management	Option 4	3	3(2-1)
ETIP5314	Risk Management	Option 5	3	3(2-1)
ETIP5315	Halal Assurance System	Option 6	3	3(2-1)
	Total credits		21	
<b>6th Semester</b>				
ETIP4305	Quality Control and Assurance	Required	3	3(2-1)
ETIP5306	Rubber, Gum and Resin Technology	Required	3	3(2-1)
ETIP4307	Industrial Waste Management Technology	Required	3	3(2-1)
ETIP4308	Engineering and Work Procedures	Required	2	2(2-0)
ETIP5309	Thematic KKN	Required	3	3(0-3)
	<b>Choose 2 out of 5 courses</b>			
ETIP5316	Horticulture, Leguminous and Cereal Technology	Option 7	3	3(2-1)
ETIP5317	Bioindustrial Technology	Option 8	3	3(2-1)
ETIP5318	Management Information System	Option 9	3	3(2-1)
ETIP5319	New and Renewable Bioenergy	Option 10	3	3(2-1)
ETIP5320	Special Topics	Option 11	3	3(2-1)
	Total credits		20	
<b>7th Semester</b>				
ETIP4401	System Analysis and Decision Making	Required	3	3(2-1)
ETIP5402	Occupational Safety and Health	Required	2	2(2-0)
ETIP5403	Industrial Project Planning	Required	3	3(2-1)
ETIP4404	Optimization Engineering	Required	2	2(1-1)
ETIP5405	Marketing Management and Research	Required	3	3(2-1)
ETIP5406	Industrial Work Practices	Required	3	3(0-3)
	<b>Choose 1 of 3 courses</b>			
ETIP5407	Starch, Sugar and Sucrochemical Technology	Option 12	3	3(2-1)
ETIP5408	Air Pollution Control Technology	Option 13	3	3(2-1)
ETIP5409	Strategic Management	Option 14	3	3(2-1)
	Total credits		19	

8th Semester				
EKWF2813	Seminar	Required	1	1(0-1)
EKWF2814	Thesis	Required	5	5(0-5)
	Total credits		6	
		<b>Total</b>	<b>145</b>	

### **Ba Soil Science**

PLO 1 (S1)	Showing a pious attitude to God Almighty and a religious attitude.
PLO 2 (S2)	Demonstrate an attitude of upholding human values, nationalism, nationality, concern for society and the environment, and respecting the diversity of cultures, views, religions, and beliefs and the opinions or original findings of others.
PLO 3 (S10)	Internalize the spirit of independence, entrepreneurship, and struggle with the motto Wasaka (Waja Sampai Kaputing).
PLO 4 (P1)	Applying the basic science principles of Mathematics and Natural Sciences in the field of Soil Science.
PLO 5 (P2)	Applying land science and knowledge for sustainable biomass production.
PLO 6 (KU)	Able to apply scientific thinking in technology in the field of soil science that pays attention to occupational health and safety (safety, health, and environment/SHE).
PLO 7 (KK)	Capable of analyzing effective land management techniques in order to sustainably produce biomass on marginal lands, particularly wetlands, while adhering to applicable restrictions.

\* Abbreviations as per the Indonesian National Qualification Framework  
(*Kerangka Kualifikasi Nasional Indonesia, KNNI*):

S = Sikap = Attitude

P = Pengetahuan = Knowledge

KU = Kemampuan Umum = General Skills

KK = Kemampuan Khusus = Special Skills

The following **curriculum** (version: 2021) is presented:

SEMESTER I						
No	Code	Courses	Credits			
			Theory	Internship	Practice	Sum
1	EULM1161	Religion	2	1		3
2	EULM1171	Pancasila	2			2
3	EULM1152	Indonesian	2		1	3
4	EULM1151	English I	2			2
5	EKWF2101	Mathematics	2			2
6	EKWF2102	Agricultural Chemistry	2		1	3

7	EKWF2103	Introduction to Economics	2			2
8	EKWF2104	Introduction to Agricultural Sciences	2			2
<b>Total Study Load for Semester I (8 MK)</b>						<b>19</b>
<b>SEMESTER II</b>						
No	Code	Courses	Credits			
			Theory	Internship	Practice	Sum
9	EULM1152	English II	2		0	2
10	EULM1272	Citizenship	2		0	2
11	EKWF2205	Agricultural Biology	1		1	2
12	EKWF2206	Agricultural Physics	2		0	2
13	EKWF2207	Agronomic Basis	2		1	3
14	EKWF2208	Basic Soil Science	2		1	3
15	EKWF2209	Basics of Plant Protection	2		1	3
16	EKWF2210	Statistical Methods	2	1		3
17	ETNH3408	Ecology	2		0	2
<b>Total Study Load for Semester II (9MK)</b>						<b>22</b>
<b>SEMESTER III</b>						
No	Code	Courses	Credits			
			Theory	Internship	Practice	Sum
18	EULM1115	Introduction to Wetland Environments	2		0	2
19	EULM1251	Entrepreneurship	2		0	2
20	EAGR1352	Agroklimatologie	2		1	3
21	EAGB1570	Basic Management	2		0	2
22	ETNH3301	Soil Physics	2		1	3
23	ETNH3302	Soil Biology	2		1	3
24	ETNH3303	Soil Chemistry	2		1	3
25	ETNH3304	Agrogeology	2		1	3
26	ETNH3305	Soil Measuring Science and Cartography	2		1	3
<b>Total Study Load for Semester III (9MK)</b>						<b>24</b>
<b>SEMESTER IV</b>						
No	Code	Courses	Credits			
			Theory	Internship	Practice	Sum
27	ETNH3406	Morphology and Soil Classification	2	-	1	3
28	ETNH3407	Agrohydrology	2	-	1	3
29	ETNH3409	Geomorphology	2	1	-	3
30	ETNH4401	Soil, Water and Plant Analysis	1	-	2	3
31	ETNH4402	Soil Fertility	2	-	1	3
32	ETNH3511	Soil and Water Conservation	2		1	3
33	ETNH4404	Experimental Design for Agriculture	2	1	-	3
34	ETNH4405	Soil Biotechnology	2	-	1	3
<b>Total Study Load for Semester IV (8MK)</b>						<b>24</b>
<b>SEMESTER V</b>						
No	Code	Courses	Credits			
			Theory	Internship	Practice	Sum
35	EKWF2511	Scientific Writing and Presentation Methods	2			2
36	ETNH3510	Land Survey and Land Evaluation	2		1	3
37	ETNH4403	Fertilizer and Fertilization	2	-	1	3
38	ETNH3512	Remote Sensing	1		1	2
39	ETNH3518	Computer Applications for Land and Land	1		1	2
40	ETNH4506	Peat Soil	2		1	3
41	ETNH4507	Sour Sulphate Soils	2		1	3

42	ETNH4508	Acidic Mineral Soils	2		1	3
<b>Total Study Load in Semester V (8MK)</b>						<b>21</b>
<b>SEMESTER VI</b>						
No	Code	Courses	Credits			
			Theory	Internship	Practice	Sum
43	ETNH4609	Soil and Water Management	2		1	3
44	ETNH4611	Scientific Method	1	1		2
45	ETNH4610*	Land Degradation and Rehabilitation	2		1	3
46	ETNH3613*	Geographic Information System	2		1	3
<b>47 - 48</b>	<b>Choose the courses below as many as 4 credits or the MBKM recognition / non-recognition courses as many as 4 credits</b>		<b>4</b>			<b>6</b>
1	ETNH5601	Contemporary Soil and Environmental Issues	(2)			
2	ETNH5602	GHG Emissions in the Land-Based Sector	(2)			
3	ETNH5603	Land Bioremediation	(2)			
4	ETNH5604	Integrated Agricultural System	(2)			
5	ETNH5605	Dynamics of Organic Matter	(2)			
6	ETNH5606	Soil Taxonomic Classification	(2)			
7	ETNH5607	Soil, Water and Plant Relations	(2)			
<b>49</b>	<b>Choose the courses below as many as 2 credits or the MBKM recognition / non-recognition courses as many as 2 credits</b>		<b>2</b>			
8	ETNH5608	Growth Environmental Engineering & Crop Production	(2)			
9	ETNH5609	Plant Growing Media	(2)			
10	ETNH5610	Wetland Environmental Biology	(2)			
11	ETNH5611	Impacts of Wetland Environmental Change	(2)			
<b>Total Study Load for Semester VI (7-6 MK)</b>						<b>17</b>
<b>SEMESTER VII</b>						
No	Code	Courses	Credit weights			
			Theory	Internship	Practice	Sum
50	ETNH3714	Soil Quality	2		1	3
51	ETNH3715	Land Use Planning & Regional Development	2		1	3
52	ETNH3716	Tidal and Lebak Land Management	2		1	3
53	ETNH3717	Post-Mining Land Reclamation	1		1	2
54	EKWF2712	KKN				<b>3</b>
<b>Choose 1 of 4 courses (3 credits):</b>						
54a	MBKM2713	Thematic KKN/Building Villages			(3)	
54b	MBKM2713	Internship/Field Practice			(3)	
54c	MBKM2714	Entrepreneurial Activities			(3)	
54d	MBKM2715	Humanitarian Projects			(3)	
<b>Total Study Load for Semester VII (5MK)</b>						<b>14</b>
<b>SEMESTER VIII</b>						
No	Code	Courses	Credits			
			Theory	Internship	Practice	Sum
55	EKWF2813	Seminar			1	1
56	EKWF2814	Thesis / (independent or collaborative Research			5	5
<b>Total Study Load for Semester VIII (2MK)</b>						<b>6</b>
<b>Total Number of Study Loads</b>						<b>147</b>



**Ba Forestry**

PLO 1 (S1)	Fear God Almighty by demonstrating humanity, morality, and ethical behavior in society in accordance with Pancasila and the 1945 Constitution.
PLO 2 (S2)	Internalize the spirit of independence, struggle, and entrepreneurship consistent with the WAJA SAMPAI KAPUTING attitude, by keeping the principles of integrity, teamwork, lifelong learning, never giving up, caring, responsible, and discipline in order to live sustainably in a society.
PLO 3 (P1)	Applying fundamental forestry principles and connecting them to the development, management, and sustainable use of tropical rain forest resources.
PLO 4 (P2)	Applying forest/technology management ideas and quality requirements for forest products/silviculture in accordance with the latest and most recent advancements in Sustainable Wet Tropical Rainforest Management.
PLO 5 (P3)	Implement forestry policies and regulations to ensure that forest law remains supreme.
PLO 6 (KU1)	Prepare recommendations for resolving forestry problems using a comprehensive and procedural approach to forest/technology management of forest products/silviculture based on multidisciplinary and interdisciplinary forestry.
PLO 7 (KU2)	Capable of adapting, working well both independently and in a team, as well as establishing and growing a cooperative network for managing a sustainable wet tropical rainforest.
PLO 8 (KU3)	Capable of processing, analyzing, and making sound planning decisions based on databases and information using logical, rational, and scientific principles.
PLO 9 (KU4)	Applying logical, critical, systematic, and creative thinking through research and community service, as well as conveying it to the scientific community and society.
PLO 10 (KK1)	Apply appropriate methods and technologies to solve sustainable forest management problems.
PLO 11 (KK2)	Implementing a wet tropical rainforest management system with a multidisciplinary approach through socio-economic, community culture, biophysical, and geospatial.
PLO 12 (KK3)	Possess strong managerial abilities and accountability for sustainable forest management

\* Abbreviations as per the Indonesian National Qualification Framework  
(*Kerangka Kualifikasi Nasional Indonesia, KNNI*):

S = Sikap = Attitude

P = Pengetahuan = Knowledge

KU = Kemampuan Umum = General Skills

KK = Kemampuan Khusus = Special Skills

The following **curriculum** (version: 2021) is presented:

NO	COURSE CODE	COURSE NAME	SKS	INFO.
<b>SEMESTER I</b>				
1	FULM 1161	Religious Courses	3	(3-0)
2	FULM 1171	Pancasila	2	(2-0)
3	FULM 1152	Indonesian Course	3	(3-0)
4	FULM 1151	English I	2	(2-0)
5	FMKK 101	Mathematic	2	(2-0)
6	FMKK 102	Forest Biology	3	(2-1)
7	FULM 1115	Introduction to Wetland Environment	2	(2-0)
8	FMKK 105	Fundamentals of Forestry and Environmental Economics	2	(2-0)
9	FULM 1251	Religious Courses	2	(2-0)
AMOUNT			<b>21</b>	
NO	COURSE CODE	COURSE NAME	SKS	INFO.
<b>SEMESTER II</b>				
1	FULM 1272	Citizenship	2	(2-0)
2	FULM 1252	English II	2	(2-0)
3	FMKK 104	Forestry Climatology	3	(2-1)
4	FMPB 101	Forestry Statistic	3	(2-1)
5	FMKK 106	Plant Physiology	3	(2-1)
6	FMKK 107	Dendrology	3	(2-1)
7	FMKK 108	Biochemist	3	(2-1)
AMOUNT			<b>19</b>	
NO	COURSE CODE	COURSE NAME	SKS	INFO.
<b>SEMESTER III</b>				
1	FMKK 109	Wood Chemistry and Biological Materials	3	(2-1)
2	FMKK 110	Forest Biometrics	3	(2-1)
3	FMBB 102	Forestry Communication and Counseling	3	(2-1)
4	FMKK 111	Silvics	2	(2-0)
5	FMKK 112	Forest and Wetlands Environment Ecology	3	(2-1)
6	FMKK 113	Fundamentals of Forest Product Technology	3	(2-1)
7	FMKK 114	Forest Soil Science	3	(2-1)
AMOUNT			<b>20</b>	
NO	COURSE CODE	COURSE NAME	SKS	INFO.
<b>SEMESTER IV</b>				
1	FMPB 102	Occupational Health and Safety	2	(2-0)
2	FMKB 101	Land Surveying and Mapping	3	(2-1)
3	FMKB 102	Forest Product Processing Industry	3	(2-1)
4	FMPB 103	Forestry Trial Design	3	(2-1)
5	FMKB 103	Forest Protection	3	(2-1)

6	FMKB 104	Silviculture	3	(2-1)
7	FMKB 105	Forest Resource Inventory	3	(2-1)
		AMOUNT	<u>20</u>	

**INTEREST: FOREST MANAGEMENT**

NO	COURSE CODE	COURSE NAME	SKS	INFO.
<b>SEMESTER V</b>				
1	FMPB 104	Environmental Management Fundamentals	2	(2-0)
2	FMPB 105	Scientific Method	2	(2-0)
3	FMKB 106	Harvesting Forest Product	3	(2-1)
4	FMKB 107	Forest Resources Conservation	3	(2-1)
5	FMKB 108	Forest Planning	3	(2-1)
6	FMKB 109	Forestry Policies	3	(2-1)
7	FMKB 301	Forest Hydrology	3	(2-1)
8	FMKB 302	Nature Conservation and Wildlife Protection	3	(2-1)
		AMOUNT	<u>22</u>	
	FMKB 110	Field Work Practice	2	
NO	COURSE CODE	COURSE NAME	SKS	INFO.
<b>SEMESTER VI</b>				
1	FMKB 115	Wet Tropical Forest Management	2	(2-0)
2	FMKB 116	Economics of Natural Resources and Environment	3	(2-1)
3	FMKB 111	Forestry Geographic Information System	3	(2-1)
4	FMKB 112	Forest and Land Fire Control	3	(2-1)
5	FMKB113	Forest Certification	2	(2-0)
6	FMBB 101	Entrepreneurship	2	(2-0)
7	FMBB 201	Social Forestry	3	(2-1)
8	FMKB 303	Watershed (DAS) Management	3	(2-1)
		AMOUNT	<u>21</u>	
	FMKB 115	Plantation Forest Practice	2	
NO	COURSE CODE	COURSE NAME	SKS	INFO.
<b>SEMESTER VII</b>				
1		Elective course (see below)	3	(2-1)
2		Elective course (see below)	3	(2-1)
3		Elective course (see below)	3	(2-1)
		AMOUNT	<u>9</u>	
NO	COURSE CODE	COURSE NAME	SKS	INFO.
<b>SEMESTER VIII</b>				
1	FMKB 116	Internship / KKN	3	
2	FMKB 117	Essay (Skripsi)	6	
		AMOUNT	<u>9</u>	

**ELECTIVE COURSES OF FOREST MANAGEMENT INTEREST:**

NO	COURSE CODE	COURSE NAME	SKS	INFO.
1	FMKB 201	Ecotourism and Environmental Services	3	(2-1)
2	FMBB 202	Agroforestry	3	(2-1)
3	FMKB 202	Climate Changes	3	(2-1)
4	FMKB 203	Network Planning	3	(2-1)
5	FMKB 204	Forestry Engineering	3	(2-1)
6	FMKB 205	Forestry Industrial Management	3	(2-1)
7	FMKB 206	Forestry Business Management	3	(2-1)
8	FMKB 207	Forest Product Marketing	3	(2-1)

9	FMKB 304	Forestry and Environmental Economic Development Analysis	3	(2-1)
10	FMKB 305	Natural Resources and Environmental Management	3	(2-1)
11	FMKB 306	Conflict Management	3	(2-1)
12	FMKB 307	Forest Land Use	3	(2-1)
13	FMKB 308	Remote Sensing	3	(2-1)

**INTEREST: SILVICULTURE**

NO	COURSE CODE	COURSE NAME	SKS	INFO.
<b>SEMESTER V</b>				
1	FMPB 104	Fundamental of Environment Management	2	(2-0)
2	FMPB 105	Scientific Method	2	(2-0)
3	FMKB 106	Harvesting Forest Product	3	(2-1)
4	FMKB 107	Forest Resources Conservation	3	(2-1)
5	FMKB 108	Forest Planning	3	(2-1)
6	FMKB 401	Tropical Silviculture	3	(2-1)
7	FMKB 402	Soil Fertility and Fertilization	3	(2-1)
8	FMKB 403	Sowing Technique	3	(2-1)
		AMOUNT	<b>22</b>	
	FMKB 110	Field Work Practice	2	
NO	COURSE CODE	COURSE NAME	SKS	INFO.
<b>SEMESTER VI</b>				
1	FMKB 113	Forest Certification	2	(2-0)
2	FMBB 101	Forestry Entrepreneurship	2	(2-0)
3	FMKB 115	Wet Tropical Forest Management	2	(2-0)
4	FMKB 111	Forestry Geographic Information System (SIG) Kehutanan	3	(2-1)
5	FMKB 112	Forest and Land Fire Control	3	(2-1)
6	FMBB 202	Agroforestry	3	(2-1)
7	FMKB 404	Forest and Land Rehabilitation	3	(2-1)
8	FMKB 405	Forest Pests and Diseases	3	(2-1)
		AMOUNT	<b>21</b>	
	FMKB 115	Plantation Forest Practice	2	
NO	COURSE CODE	COURSE NAME	SKS	INFO.
<b>SEMESTER VII</b>				
1		Elective course (see below)	3	
2		Elective course (see below)	3	
3		Elective course (see below)	3	
		AMOUNT	<b>9</b>	
NO	COURSE CODE	COURSE NAME	SKS	INFO.
<b>SEMESTER VIII</b>				
1	FMKB 116	Internship / KKN	3	
2	FMKB 117	Essay (Skripsi)	6	
		AMOUNT	<b>9</b>	

**ELECTIVE COURSES OF SILVICULTURE INTEREST:**

NO	COURSE CODE	COURSE NAME	SKS	INFO.
1	FMKB 201	Ecotourism and Environmental Services	3	(2-1)
2	FMKB 202	Climate Changes	3	(2-1)
3	FMKB 203	Network Planning	3	(2-1)
4	FMKB 206	Forestry Business Management	3	(2-1)
5	FMBB 201	Social Forestry	3	(2-1)

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6	FMKB 406	Forest Genetics and Tree Breeding	3	(2-1)
7	FMKB 407	Plant Tissue Isolation Method	3	(2-1)
8	FMKB 408	Forest Land Suitability	3	(2-1)
9	FMKB 409	Cultivation of NTFP (HHBK)	3	(2-1)
10	FMKB 410	Soil Micro Biology	3	(2-1)
11	FMKB 411	Seed Technology	3	(2-1)
12	FMKB 412	Plant Community Analysis	3	(2-1)
13	FMKB 413	Forest Weed	3	(2-1)

### INTEREST: FOREST PRODUCT TECHNOLOGY

NO	COURSE CODE	COURSE NAME	SKS	INFO.
<b>SEMESTER V</b>				
1	FMPB 104	Fundamental of Environment Management	2	(2-0)
2	FMPB 105	Scientific Method	2	(2-0)
4	FMKB 106	Harvesting Forest Product	3	(2-1)
3	FMKB 107	Forest Resources Conservation	3	(2-1)
4	FMKB 501	Wood Physics and Mechanics	3	(2-1)
5	FMKB 502	Biocomposite	3	(2-1)
6	FMKB 503	Wood Anatomy	3	(2-1)
7	FMKB 504	Pulp and Paper Technology	3	(2-1)
		AMOUNT	<b>22</b>	
	FMKB 110	Field Work Practice)	2	
NO	COURSE CODE	COURSE NAME	SKS	INFO.
<b>SEMESTER VI</b>				
1	FMKB 113	Forest Certification	2	(2-0)
2	FMKB 517	Forestry Entrepreneurship	2	(2-0)
3	FMKB 115	Wet Tropical Forest Management	2	(2-0)
4	FMKB 111	Forestry Geographic Information System (SIG)	3	(2-1)
5	FMKB 205	Forestry Industrial Management	3	(2-1)
6	FMKB 505	Cultivation of NTFP (HHBK)	3	(2-1)
7	FMKB 506	Wood Drying and Conservation	3	(2-1)
8	FMKB 507	Wood Gluing	3	(2-1)
		AMOUNT	<b>21</b>	
	FMKB 115	Plantation Forest Practice	2	
NO	COURSE CODE	COURSE NAME	SKS	INFO.
<b>SEMESTER VII</b>				
1		Elective course (see below)	3	(2-1)
2		Elective course (see below)	3	(2-1)
3		Elective course (see below)	3	(2-1)
		AMOUNT	<b>9</b>	
NO	COURSE CODE	COURSE NAME	SKS	INFO.
<b>SEMESTER VIII</b>				
1	FMKB 116	Internship / KKN	3	
2	FMKB 117	Essay (Skripsi)	6	
		AMOUNT	<b>9</b>	

### ELECTIVE COURSES OF FOREST PRODUCT TECHNOLOGY INTEREST

NO	COURSE CODE	COURSE NAME	SKS	INFO.
1	FMKB 203	Network Planning	3	(2-1)
2	FMKB 204	Forestry Engineering	3	(2-1)
3	FMKB 206	Forestry Business Management	3	(2-1)

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4	FMKB 207	Forest Product Marketing	3	(2-1)
5	FMKB 508	Industrial Waste Utilization	3	(2-1)
6	FMKB 509	Forest Product Engineering	3	(2-1)
7	FMKB 510	Forest Product Quality Control	3	(2-1)
8	FMKB 511	Forest Product Pests and Diseases	3	(2-1)
9	FMKB 512	Biomass Energy	3	(2-1)
10	FMKB 513	Forestry Machinery	3	(2-1)
11	FMKB 514	Phytochemicals	3	(2-1)
12	FMKB 515	Wood as Construction Material	3	(2-1)
13	FMKB 516	Forest Product Biotechnology	3	(2-1)