JOIN RESPONSE REPORT TO ASIIN REQUIREMENTS AND RECOMMENDATIONS

- ***Ba AGROTECHNOLOGY (AGT)***
- ***Ba AQUACULTURE (AQU)***
- ***Ba ANIMAL HUSBANDRY (ANH)***
- ***Ma ENVIRONMENTAL SCIENCE (ENV)***

UNIVERSITAS NUSA CENDANA 2025

PREFACE

From the bottom of our hearts, we praise and thank God Almighty for His permission that allows us to complete the Report of Joint Responses to ASIIN Requirements and Recommendations on time to be submitted for extension (full accreditation) of ASIIN International Accreditation of four Study Programs at Universitas Nusa Cendana (UNDANA). These four Study Programs are *Bachelor of Agrotechnology* (Faculty of Agriculture), *Bachelor of Animal Husbandry* and *Bachelor of Aquaculture* (Faculty of Animal Husbandry, Marine and Fisheries), and *Master of Environmental Science* (Post-Graduate School). The full international accreditation is one of the external quality assurances of UNDANA to accomplish our vision to become a Globally Oriented University. International accreditation as external recognition of our quality assurance plays an important role in developing sustainable knowledge and technology, policies, and stakeholder needs.

We gratefully thank all the most dedicated Task-Force of ASIIN Accreditation who can coordinate, manage and develop this Joint Response Report document to the final. Also, we extend our thanks to all supporting academic staff, students, stakeholders, and management colleagues at the university and faculty levels for their support in the realisation of this accreditation process.

We hope all these processes will result in full accreditation of the four study programs and increase the quality of services from study programs and the academic atmosphere for improving a university environment and resources that are adaptive and competitive to any global changes.

Kupang, 16 May 2025

Rector,

Prof. Dr. drh. Maxs U.E. Sanam, MSc.

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I. INTRODUCTION

Nusa Cendana University (Universitas Nusa Cendana), hereinafter abbreviated as Undana, is one of the State Universities in the Province of East Nusa Tenggara (NTT) and is currently under the newly established Ministry of Higher Education, Science and Technology, separated from the formerly Ministry of Education, Culture, Research and Technology. Undana was the first State University in NTT, which was founded on September 1, 1962, based on Presidential Decree No. 67 of 1963, April 23, 1963. In the stipulation letter of the Minister of PTIP RI, Undana only oversees four faculties, namely: the Faculty of Agriculture, the Faculty of Animal Husbandry, the Faculty of Teaching and Education, and the Faculty of State Administration and Trade Affairs. However, due to limited human resources and facilities, only two faculties were operating, namely: the Faculty of Teaching and Education, and the Faculty of State Administration and Trade Affairs and were supported by only 21 teaching staff from various government agencies in NTT, especially those residing in Kupang.

Over time, Undana has experienced significant development in many aspects, including the institutional aspect, where the number of faculty and study programmes has increased significantly. A significant commitment was sparked in 1999 with the formation of the Preparatory Committee for the Opening of the Postgraduate Programme with the Decree of the Rector of Undana Number 82 of 1999. Furthermore, based on the letter of the Director General of Higher Education Number 2571/D/2001 dated August 2, 2001, in the 2001/2002 Academic Year, Undana opened four Master Study Programmes, namely: (1) Master Programme in Animal Husbandry Development, (2) Master Programme in Public Administration, (3) Master Programme in Natural Resources and Environmental Management, and (4) Master Programme in Humanities.

In the last 5 years from 2021 to 2025, Undana has 1 (one) Vocational study programme (D-3), 48 (forty-eight) study programmes (S1), 3 (three) professional study programmes, 13 (thirteen) Master study programmes (S2) and 3 (three) Doctoral Programmes (S3). As a university that lives, rooted and grows in the local environment of NTT with a unique area characterized by dryland agricultural systems in archipelagic regions, which is only one of a few in the world, Undana is required to be able to become a centre of excellence for science and technology in the archipelagic dryland. On the other hand, Undana is faced with the fast advancement of global science and technology, where its role is demanded to compete, associate and contribute to the global science and technology development area while still relying on its local characteristics, namely the archipelagic dryland and tourism. This condition became the background for Undana to establish its vision as a "Higher Education with a Global Perspective", and subsequently underwent adjustments to become a "Global Oriented University". From this vision, Undana formulates the mission, goals and objectives as contained in the 2009 Undana statutes, Undana Strategic Plan 2015-2019 and Undana Strategic Plan 2020-2025.

In realizing the vision of a globally oriented tertiary institution, Undana is committed to gaining international recognition so that it becomes equal to other universities in the world. Various policies, directions and strategies for future development have been stipulated in various formal policy documents such as the Undana strategic plan, the Performance Agreement of the Chancellor of Undana and the Minister of Education and Culture and the Undana Higher Education Quality Standards, which have encouraged several study programmes to compete through international accreditation.

In June 2023, Undana proposed a Self-Assessment Report (SAR) for international accreditation by ASIIN for four study programmes, i.e., *Ba Agrotechnology, Ba Aquaculture, Ba Animal Husbandry and Ma Environmental Science*. This was then followed by an onsite visit by ASIIN Experts on 12th - 13th of December 2023. Based on ASIIN's assessment of the submitted SAR documents and the results of the ASIIN Expert's onsite visit to Undana, each of the four study programmes was awarded the subject-based ASIIN seal, which is valid from 22 March 2024 and limited until 12 July 2025. The subject-based ASIIN seal for the four study programmes is valid only for about one year, with the possibility of extension to full accreditation of five years (until 2029) after the fulfilment of the requirements and recommendations from ASIIN.

This Report is prepared for ASIIN, that Undana and the four study programmes are responding to the Requirements and Recommendations from ASIIN for full accreditation of the four study programmes, i.e., *Ba Agrotechnology, Ba Aquaculture, Ba Animal Husbandry and Ma Environmental Science*. The full accreditation award of the subject-based ASIIN seal for the four study programmes will be a great achievement of Undana in the realisation of its Vision as a Globally Oriented University, and is useful to ensure the implementation of high-quality and international standards of the higher education learning process and management.

Hereby is the list of ASIIN Requirements and Recommendations to be fulfilled by the Programmes:

A. Requirements		
For all degree programmes		
A 1. (ASIIN 1.5)	:	Implement a recurring mechanism to survey students' actual course workload.
A 2. (ASIIN 4.2)	:	Samples of revised diploma supplements, including information on the mode of study and access to further study, must be provided.
A 3. (ASIIN 5)	:	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.
For the Ba Agrotechnology		
A 4. (ASIIN 1.2/1.3/3.3)	:	The programme's title, contents, and facilities need to be brought into alignment.
For the Ma Environmental Science		
A 5. (ASIIN 4.1)	:	Complete module descriptions must be made publicly accessible in both Bahasa Indonesia and English.

B. Recommendations		
For all degree Programmes		
E 1. (ASIIN 1.1/1.3)	:	It is recommended for UNDANA to diversify the foci of the programmes under review in view of its vision and unique environment.
E 2. (ASIIN 1.1/1.6/2)	:	It is recommended to raise the English language proficiency threshold for graduation and to strengthen efforts to foster English language skills amongst students.
E 3. (ASIIN 1.3)	:	It is recommended that the programmes intensify efforts to promote student mobility opportunities
E 4. (ASIIN 3.2)	:	It is recommended to foster the English language skills of staff through further incentivisation and training.
E 5. (ASIIN 3.2/3.3)	:	It is recommended to increase laboratory capacities, both in terms of lab facilities and assistants.
E 6. (ASIIN 3.3)	:	It is recommended to intensify efforts to ensure students are aware of the existing remote literature database access options.
E 7. (ASIIN 4.1)	:	It is recommended to review the literature recommendations stated in the module descriptions, especially concerning outdated references.
For the Ba Aquaculture		
E 8. (ASIIN 1.3/3.3)	**:**	It is recommended to include Closed Aquaculture Recirculation Systems (RAS) for aquaponics in the curriculum and the programme's facilities.

II. RESPONSES TO ASIIN REQUIREMENTS

2.1. Response to the requirements of all study programmes

Requirements A 1. (ASIIN 1.5)
Implement a recurring mechanism to survey students' course workload.

A.1.1. Ba AGROTECHNOLOGY (AGT)

In response to ASIIN's recommendation to establish a structured and recurring survey mechanism to monitor student workload and learning experience, the Agrotechnology Study Programme has developed a comprehensive and systematic approach to survey administration, analysis, dissemination, and follow-up actions.

The following measures have been undertaken:

Development and Refinement of Survey Instruments:

The AGT Study Programme designed specific instruments, primarily using Google Forms, to capture data on various components of student workload, including face-to-face lectures, independent assignments, self-directed learning, practical/fieldwork activities, and group projects (Appendix A.1.1 AGT)

The survey instrument has undergone refinement to ensure that it accurately captures students' actual workload rather than solely their satisfaction with teaching or services. The structure of the survey includes questions measuring: the number of study hours per week per course, perceptions of workload balance, the difficulty level of assignments, and the relevance of learning activities to course objectives.

Additionally, a standardised survey form has been adopted across different study programmes to ensure consistency and comparability of workload data institution-wide.

1. **Implementation of a Recurring Survey Mechanism:**
   Surveys are administered for each course at least once per semester, or at the end of every academic year at the latest. This regular administration establishes a "recurring mechanism" that enables continuous monitoring of student workload and learning experiences (Appendix A.1.2 AGT).

2. **Systematic Data Analysis:**
   Collected survey data are systematically analysed with a regular schedule to assess whether the actual workload for each course aligns with the academic standards set by the university and national regulations. The analysis identifies courses where adjustments might be necessary to maintain an appropriate and fair workload distribution (Appendix A.1.3 AGT)

3. **Reporting and Dissemination of Survey Results:**
   Comprehensive survey evaluation reports are prepared each cycle. These reports provide data-driven insights for academic decision-making processes, including curriculum development and academic quality enhancement initiatives (Appendix A.1.4 AGT)

4. **Student Engagement in the Evaluation Process:**
   Students are actively invited to participate in evaluation forums and feedback discussions. These activities complement quantitative survey data with qualitative input, ensuring a holistic understanding of student learning experiences (Appendix A.1.5 AGT)

5. **Follow-Up Actions Based on Survey Findings:**
   Survey findings are systematically used to inform follow-up actions. These include revising Semester Learning Plans (RPS), modifying the structure or workload of specific courses, and strengthening academic support mechanisms where needed. (Appendix A.1.6 AGT)

6. **Publication and Communication of the Survey Results:**
   To promote transparency, the survey instruments, results, and documentation of follow-up actions are uploaded to the Study Programme's website and other internal platforms. Students are also informed directly via email communications and announcements. (Appendix A.1.7 AGT) ; https://agroteknologi.undana.ac.id/en/

7. **Continuous Evaluation and Trend Analysis:**
   Annual meetings and scheduled evaluations are conducted to monitor the effectiveness of the survey process itself. Trend analyses of workload survey results across semesters are undertaken to detect patterns, assess the impact of curricular adjustments, and guide continuous curriculum improvement strategies. The trend is categorised based on five categories following a Likert scale of 0 -5, which represents the range of Strongly Disagree to Strongly Agree (Appendix A.1.8 AGT & A.1.9 AGT).

These structured efforts demonstrate the Agrotechnology Study Programmes' strong commitment to systematically monitoring student workload, using evidence-based analysis for continuous curriculum improvement, and ensuring that students' feedback leads to real and measurable enhancements in teaching, learning, and academic support services. The recurring survey mechanism serves as a monitoring tool and an essential part of the Study Programme's internal quality assurance system, aligned with international best practices in higher education.

A.1.2. Ba AQUACULTURE (AQU)

In response to the experts' emphasis on the need for a structured and recurring mechanism to monitor the *actual workload experienced* by students for each course, AQU has initiated a systematic process to evaluate *student workload*. A structured workload survey was implemented during the *2024/2025 odd semester*, and this process will be maintained as a recurring, semester-based activity, conducted alongside the already established *course feedback* and *student satisfaction surveys*.

The 2024 workload survey was conducted in several stages:

1. *Workload data collection* was carried out using a standardised questionnaire embedded directly into the AQU website (Appendix A 1.1. AQU),
2. A *department circular letter* was issued to students instructing them to complete the survey for each course taken in the semester (Appendix A 1.2. AQU),
3. The survey results were compiled into an official report, published online, and served as key input for the AQU Management Review Meeting (Appendix A 1.3. AQU). To ensure transparency and accessibility, the report was also made available on the AQU official website at https://bdp.undana.ac.id/en/beban-kerja-mahasiswa/,
4. A Management Review Meeting (RTM) was held in January 2025 to discuss and plan follow-up actions in response to the survey findings (Appendix A 1.4. AQU). The outcomes of this meeting were also published on the official AQU website for transparency and accessibility: https://bdp.undana.ac.id/en/rapat-tindak-lanjut-dan-tinjauan-manajemen/
5. Curricular improvements were implemented in the even semester of 2024/2025 and are planned to be fully adopted in the odd semester of 2025/2026. Two courses—*Aquaculture Data* and *Information Processing* and *Technology and Management of Feeding*—were prioritized for revision. (Appendix A 1.5. AQU).

Furthermore, to ensure continuity in workload monitoring, the next evaluations are scheduled for *June 2025* (end of the even semester 2024/2025) and *December 2025* (end of the odd semester 2025/2026). These evaluations will utilize the integrated survey instrument embedded in the SIADIKNONA system, with a specific focus on capturing the actual time students invest in each learning activity per course.

One credit in AQU equates to 45.33 hours per semester (1.6 ECTS), comprising 50 minutes of lectures (13.33 hours), 60 minutes of structured assignments (16 hours), 60 minutes of independent learning (16 hours), and 170 minutes of practicum (45.28 hours) per week over 16 weeks. A 3-credit course entails a weekly workload of 8.5 hours, including 100 minutes of lectures (1.67 hours), 2 hours of structured assignments, 2 hours of independent learning, and 170 minutes of practicum (2.83 hours). A 2-credit course involves a weekly workload of 5.67 hours, consisting of 100 minutes of lectures (1.67 hours), 2 hours of structured assignments, and 2 hours of independent learning, without practicum. The *student workload perception report*, based on the *December 2024 survey*, involved 189 respondents: 185

students across 20 three-credit courses and four students in a two-credit course. Two courses showed slightly higher-than-expected workload levels (both 3-credit courses):

1) *Aquaculture Data and Information Processing* recorded 8.62 hours/week versus the 8.5-hour expectation. Although the workload was marginally higher, it was not associated with increased difficulty (2.25 vs. the average 2.49) but was correlated with lower teaching effectiveness (3.82 vs. 4.02) and higher stress levels (3.22 vs. 2.73), indicating that less effective teaching may increase study time and student stress.
2) *Technology and Management of Feeding* recorded 8.72 hours/week and was associated with slightly higher difficulty (2.86 vs. 2.49) and a marginal increase in stress (2.82 vs. 2.73), while maintaining average teaching effectiveness (4.00 vs. 4.02). This suggests that content complexity was the main factor contributing to the increased workload.

As a result, the *intervention for Aquaculture Data and Information Processing focused on improving instructional quality*, while the *intervention for Technology and Management of Feeding reviewed material complexity and structure*.

The workload report was formally presented during the *Management Review Meeting in January 2025*, where it served as the basis for academic improvement plans. Subsequent curriculum adjustments were implemented in the following semester, with detailed revisions reflected in updated Semester Learning Plans (RPS), explicitly outlining the expected time allocation for contact hours, independent study, group work, and assessments.

Through this structured approach—ranging from survey implementation, publication of results, review meetings, corrective actions, to the establishment of a recurring evaluation cycle—the Aquaculture Study Programme has established a *data-driven, documented, and sustainable workload monitoring mechanism*, in alignment with international best practices and recommendations from external quality assurance experts.

A.1.3. Ba ANIMAL HUSBANDRY (ANH)

Workload is one of the indicators recommended by ASIIN to conduct a survey to determine the level of workload and student experience in participating in lecture activities in animal husbandry study programmes. The study programme designs, develops and conducts a systematic and comprehensive approach to conduct surveys, data analysis, dissemination and follow-up efforts from the results of the data obtained.

The steps taken by the study programme are as follows:

1. **Design, develop and assign questionnaires as survey instruments.**

   The study programme, quality control group, and leaders jointly design, develop, and determine the questions to be included in the survey using Google Forms. which is uploaded on the official website of the animal husbandry study programme in the odd semester of 2024/2025, and for the following semesters, will use the SIADIKNONA

account to survey students. This aims to obtain information related to workload components, including face-to-face lectures, independent assignments, independent learning, practical activities/field work, and group projects. (Appendix A.1.1 ANH)

2. **Circular letter to conduct workload surveys**
   The study programme makes a circular letter and informs each student to conduct a survey related to the workload experienced by the livestock study programme students. (Appendix A.1.2 ANH)

3. **Carry out surveys and data analysis, and report preparation**
   The study programme, together with the quality control group, conducted a survey to each student to obtain information related to student workload. The data that have been obtained through the survey method using Google Forms is then compiled and analysed to obtain information related to the workload of livestock study programme students. (Appendix A.1.3 ANH)

4. **Invited lecturers and students for evaluation**
   The livestock study programme makes an invitation letter for an evaluation meeting related to workload with the aim of providing information or feedback related to the results of the analysis and report. (Appendix A.1.4 ANH)

5. **Evaluation Meeting Minutes**
   The Study Programme conducts joint discussions with students regarding workloads related to the distribution of courses in the curriculum. (Appendix A.1.5 ANH)

6. **Evidence of follow-up**
   The Study Programme makes an invitation letter for an evaluation meeting related to workload to provide information or feedback related to the results of the analysis and report. (Appendix A.1.6 ANH)

7. **Management Review Meeting Report and Follow-up Plan**
   The livestock study programme has conducted Management Review Meetings (RTM) and Follow-up Meetings on 3 Nonconformities (KTS) and 1 Observation (OB). (Appendix A.1.7 ANH)

8. **Study Programme uploads survey results and follow-up (study programme website and others)**
   The livestock study programme submits the final student workload report to the official website of the livestock study programme so that it can be accessed by all students, lecturers or interested parties. (Appendix A.1.8 ANH)

A.1.4. Ma ENVIRONMENTAL SCIENCE (ENV)

The Master's Programme in Environmental Science has conducted student satisfaction surveys regarding academic and non-academic services, as well as a student workload survey through the integrated SIAdiknona platform. To enhance the quality of education, the Master

of Environmental Science Study Programme conducted several organised activities during the 2024/2025 academic year. These included an evaluation of the Odd Semester 2024/2025 learning process and a student workload survey for courses via the Siadiknona platform.

The Student Workload Survey Activities was conducted in several stages:

1. **Formulation of the survey Instrument:** The study programme team developed a questionnaire containing workload indicators such as: number of assignments and completion time, self-study time outside class, class attendance and participation and balance between academic and non-academic activities
2. **Announcement and Questionnaire Distribution:** The Study Programme announced the survey to all active students via official notifications and distributed the Google Form link to the Study Programme's website and the SIADIKNONA internal platform (Appendix A 1.1. ENV).
3. **Questionnaire Completion by Students:** Students were asked to complete the questionnaire honestly based on their experience during the current semester (Appendix A.1.2.ENV).
4. **Survey Results Analysis:** Data from the Google Form were collected and analysed both quantitatively (e.g., average study hours per course) and qualitatively (open comments) (Appendix A 1.3. ENV).
5. **Follow-Up on Survey Results:** The Study Programme conducted evaluation meetings with course lecturers and the management team to adjust the proportion of assignments, improve teaching methods, arrange a more balanced course schedule. The survey findings were published and used as a basis for improvement. In January 2025, a management review meeting was held to discuss these results and develop improvement plans. The outcomes were documented in the minutes of the preparation meeting for the Even Semester lectures. Following this, corrective actions were implemented during the Even Semester 2024/2025, with evidence of these actions recorded. Finally, a concluding evaluation was conducted at the end of the Even Semester 2024/2025 to ensure ongoing monitoring and quality assurance. (Appendix A 1.4 ENV).
6. **Publication and Communication of Results:** The survey results and improvement plans were published on the official website of the Master's Programme in Environmental Science and shared directly with students. (Link web: https://magisterilmulingkungan.undana.ac.id/)
7. **Annual Evaluation and Continuous Monitoring:** This survey is conducted regularly every year and serves as part of the internal evaluation to maintain the quality of the learning process. Several follow-up actions were carried out, including minor revisions to the Semester Learning Plan (RPS) for Biodiversity, adjustments to the learning methods by emphasizing project-based and case study approaches, as well as major improvements by adding two courses related to Karst and waste, in alignment with the university's focus on drylands and archipelagos as its main scientific pattern (Appendix A 1.5. ENV).

The Environmental Science Master's Programme consistently upholds a strong commitment to managing student workload in a structured manner, utilizing data-driven evaluations to

refine the curriculum, and actively addressing student feedback through concrete enhancements in academic services at all stages—prior to, during, and after the learning period. Periodic surveys function as key monitoring instruments and form an essential component of the internal quality assurance system, in line with global higher education standards.

- **Requirement. A 2. (ASIIN 4.2).**
  Samples of revised diploma supplements, including information on the mode of study and access to further study, need to be provided.

A.2.1. Ba AGROTECHNOLOGY

In response to ASIIN's recommendation to ensure that every graduate receives a Diploma Supplement (DS) at the time of graduation, and that the DS contains clear information on the mode of study and access to further study, the Agrotechnology Study Programme has undertaken the following systematic actions:

1. **Dean's Decree on the Revision of Diploma Supplement**
   This document is an official decree issued by the Dean of the Faculty of Agriculture at Universitas Nusa Cendana. It affirms the revision of the Diploma Supplement (*Surat Keterangan Pendamping Ijazah* – SKPI) format and content in accordance with: The Indonesian National Qualifications Framework (KKNI), The UNESCO Convention on the Recognition of Studies, Diplomas and Degrees in Higher Education, and ASIIN international accreditation standards. The decree formalises the integration of elements requested by ASIIN, including clearer articulation of the mode of study (regular full-time), graduate access to further study, programme objectives, and learning outcomes. It demonstrates institutional commitment and governance in ensuring the alignment of graduate documentation with national and international expectations (Appendix A2.1 AGT)

2. **Revised Diploma Supplement Template**
   This updated Diploma Supplement format reflects substantial improvements, including:

   Mode of Study:
   Indicated as *"Regular Length of Study: 3.5 years"* under Section 2, ensuring transparency regarding the full-time academic pathway undertaken by the student.

   Programme Description and Objectives:
   The supplement articulates the Agrotechnology Study Programme's emphasis on dryland agriculture, agrotechnological innovation, and sustainable development, focusing on challenges and potentials unique to East Nusa Tenggara's archipelagic semi-arid context.

Program Learning Outcomes (PLOs):
These are well-structured across cognitive, technical, and interpersonal domains, ensuring that graduates demonstrate professional competence, ethical awareness, and problem-solving abilities.

Graduate Profiles:
The document outlines professional roles such as plant production practitioners, entrepreneurs, managers, and early-career researchers, aligned with Level 6 of the KKNI.

Assessment and Grading Scheme:
The grading system is standardised and clearly described, facilitating international recognition and comparability of the qualification.

Additional Information:
The supplement highlights students' achievements, extracurricular engagement, soft skills development, and training in areas such as English language, entrepreneurship, laboratory skills, and public speaking, offering a holistic picture of graduate competence. To provide practical evidence of implementation, this document serves as a real student example from the graduating class of 2024 (Tesa M.T. Nubein). It includes full information about:

- Student identity and academic history,
- Programme objectives and core graduate competencies,
- Intended learning outcomes (mapped to PLOs),
- Assessment scheme, Grading scale and GPA with academic distinction, Enrichment activities (certifications, awards, and organisational involvement),
- *Access to further studies*, now clearly indicated, as well as language used both in Bahasa and English for international comprehensibility (Appendix A.2.1 AGT, Appendix A.2.2 AGT; Appendix A.2.3 AGT)

3. The Study Programme has revised the Diploma Supplement to include updated and complete information according to international standards (ECTS format). Key additions and improvements include:

    - **Additional Information:** the Diploma Supplement now comprehensively presents the programme name, qualification level, detailed learning outcomes, grading system, language of instruction, normal duration of study, graduate profiles, and qualification titles awarded based on Rector's Decree (Appendix A.2.4 AGT).

4. **Official Issuance and Accessibility:**
   The revised Diploma Supplement has been formally adopted by a Rector's Decree, ensuring that it is issued to every graduate at the time of graduation. In addition, the

template of the revised DS has been uploaded to the Study Programme's official website to ensure transparency and public accessibility (Appendix A.2.5 AGT); https://agroteknologi.undana.ac.id/en/layanan-surat-mahasiswa/

A.2.2. Ba AQUACULTURE

To strengthen academic transparency and international recognition, UNDANA has revised its Diploma Supplement format following the European Higher Education Area (EHEA) standards and the ECTS Users' Guide (2015). The updated version now explicitly includes the *mode of study* and *access to further study* to accurately reflect the programme delivery. AQU is conducted exclusively in a *full-time, in-person format*, combining structured coursework, laboratory-based learning, and field-based practice. Furthermore, the Diploma Supplement now also states graduates' eligibility to access *Master's (and Doctoral thereafter) programmes*, thereby ensuring alignment with both national and international qualifications frameworks. *A sample Diploma Supplement issued* for *Mr. Yohanes Anggi Bony, S.Pi,* is provided as official supporting documentation for compliance with this requirement (Appendix A 2.1. AQU).

These revisions are harmonized with the *Indonesian National Qualifications Framework (KKNI)* and comparable global systems, including the ASEAN Qualifications Reference Framework (AQRF), European Qualifications Framework (EQF), Mediterranean Qualifications Framework (MQF), Australian Qualifications Framework (AQF), and the United States National Qualifications Framework (US NQF). This alignment facilitates academic mobility and enhances the international credibility of UNDANA graduates.

In accordance with the academic circular issued by the Vice Rector for Academic Affairs, all internationally accredited programmes—such as those accredited by ASIIN—are required to implement the revised Diploma Supplement (Appendix A 2.2. AQU). AQU will begin applying this new format starting in 2025 for students in their 8th semester from the 2021 cohort.

A.2.3. Ba ANIMAL HUSBANDRY

Diploma Supplement Content Revision:

The Study Programme has revised the Diploma Supplement to include up-to-date and complete information according to international standards (ECTS format). The main additions and improvements include:

1. **Study Mode:**
   Clearly stated as Full-Time Study / Blended Learning / On-campus / Distance Learning, as applicable

2. **Student Achievements during Study Period:**
   Contains data on student activities both academically and non-academically during the study period in the Animal Husbandry Study Programme

3. **Displaying Cumulative Grade Point Average:**
   Statement of the Cumulative Grade Point Average position among students is stated in a dotted line

4. **Access to Further Studies:**
   Explicit statement that graduates have access to Master's degree programmes in Agriculture, Agroecology, Plant Sciences, or related disciplines, both nationally and internationally

The Animal Husbandry Study Programme attaches a circular from the rectorate of Nusa Cendana University which is used as a reference in making the Diploma Supplement (DS) (Appendix A 2.1. ANH)

The Animal Husbandry Study Programme uses the Diploma Supplement (DS) template example that has been determined by Nusa Cendana University.
(Appendix A 2.2 ANH)

The Animal Husbandry Study Programme creates a Diploma Supplement (DS) for students following the template and grades they have, following applicable provisions (Appendix A 2.3 ANH)

The Animal Husbandry Study Programme uploads students' Diploma Supplements (DS) on the Animal Husbandry Study Programme website so that they can be viewed and accessed by students, lecturers or interested parties (Appendix A 2.4 ANH)

A.2.4. Ma ENVIRONMENTAL SCIENCE

In response to ASIIN's recommendation, the Master's Environmental Study Programme has implemented several improvements regarding the preparation and issuance of the Diploma Supplement (DS) for all graduates.

1. Based on the academic circular from the Vice Rector for Academic Affairs, all internationally accredited study programmes—such as those certified by ASIIN-are required to implement the new Diploma Supplement format (Appendix A 2.1.ENV, Vice Rector for Academic Affairs' Circular on the Implementation of the Diploma Supplement). ENV will apply this format in 2024 for the 2022 cohort students entering their 3rd to 4th semesters.

2. **Improvement of Diploma Supplement Content.**
   a) The DS has been revised to meet international standards (based on the ECTS format) (Appendix A. 2.2. ENV)
   b) Information on the mode of study is now clearly stated, such as full-time, blended learning, on-campus, or distance learning.

c) The DS also states that graduates have access to doctoral degree programmes in Environmental and related fields, both nationally and internationally.
d) Other essential components included in the DS are: programme name, qualification level, learning outcomes, grading system, language of instruction, standard study duration, graduate profiles, and awarded degree titles.

3. **Formal Release and Public Availability:**

a) The updated DS is officially issued to all graduates at the time of graduation, following the Rector's decree

The DS template has also been published on the official Study Programme website to ensure transparency and easy public access (Link web: https://magisterilmulingkungan.undana.ac.id/)

- **Requirements A 3. (ASIIN 5)**
  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.3.1 Ba AGROTECHNOLOGY

In response to ASIIN's recommendation, the Agrotechnology Study Programme has developed and implemented a comprehensive system to ensure that the results of course feedback and student satisfaction surveys, as well as follow-up actions, are made accessible to students in an appropriate and timely manner.

The following measures have been taken:

1. **Design and Implementation of Survey Instruments:**
   The Study Programme has designed specific survey instruments using Google Forms and structured questionnaires to collect feedback on course delivery, lecturer performance, academic and administrative service satisfaction, and learning experiences, including practical and field activities (Appendix A.3.1 AGT)

2. **Regular Administration of Surveys:**
   Surveys are conducted systematically for every course at least once every semester or at the end of each academic year, following the guidelines manual from the quality assurance unit. The implementation follows a structured schedule approved by a formal decree regarding survey frequency (Appendix A.3.2 AGT)

3. **Survey Schedule:**
   Survey data are scheduled at certain time within or between semester to evaluate student feedback trends, lecturer performance, and service satisfaction levels.

Reports on survey outcomes are compiled for each survey cycle (Appendix A.3.3 AGT)

4. **Survey Feedback and Evaluation Reports:**
   Reports were established following the procedure for follow-up actions based on survey results. This includes curricular adjustments (such as RPS revisions), improvements to academic services, enhancement of practical activities, and lecturer development initiatives (Appendix A.3.4 AGT).

5. **Dissemination of Survey Results and Follow-Up:**
   To ensure accessibility, the results of course feedback surveys, student satisfaction surveys, and follow-up action plans are uploaded to the Study Programme's website and internal platforms. Additionally, summaries of survey results and follow-up actions are shared directly with students via email notifications, bulletin board announcements, and through student forums or focus group discussions Appendix A.3.5 AGT; Appendix A.3.6 AGT & Appendix A.3.7 AGT); Example of Student Satisfactory Report on Website

6. **Monitoring and Evaluation of Follow-Up Impact:**
   The effectiveness of these follow-up actions is evaluated through subsequent surveys and focused discussion groups with students. These instruments aim to measure whether programme improvements—such as adjustments in workload, teaching methods, course content, or facility upgrades—are aligned with students' needs and expectations. Student feedback from these evaluation activities is used to refine academic strategies, improve course delivery, and enhance the overall learning environment. To ensure transparency and accountability, the Study Programme has documented several forms of evidence. These include:

   1. **Communication Evidence with Students**
      The Study Programme communicates transparently with students regarding survey outcomes and planned improvements. An official announcement was disseminated via accessible platforms, including WhatsApp group messages, to ensure maximum outreach. The announcement highlights key findings from the most recent student satisfaction and workload survey, such as positive trends in satisfaction, alignment of workload with credit units, and suggestions for better teaching consistency. It also outlines immediate action plans, including enhanced coordination among lecturers and improved access to academic resources. This open communication reflects the Study Programme's strong commitment to transparency, responsiveness, and student engagement in continuous quality improvement (Appendix A.3.8 AGT)

2. **Evaluation Report and Follow-Up Action (Appendix A6.2)**

A formal evaluation report was produced by the Agrotechnology Quality Assurance Team to document students' perceptions of the teaching and learning process. The report is based on quantitative and qualitative analyses from a digital questionnaire distributed through the university's academic platform (SIADIKNONA; https://siadiknona.undana.ac.id/gate/login). The report identifies areas of strength, such as delivery of materials and classroom interaction, as well as areas for improvement, including timeliness of feedback and uniformity in media usage. Recommendations from this report have been incorporated into academic planning, including the provision of updated course materials, improved lecturer training, and the use of innovative digital platforms. These actions demonstrate that the Study Programme effectively translates feedback into tangible enhancements in course delivery (Appendix A.3.9 AGT). Annual meeting reports, reflecting structured discussions with stakeholders, including students;

3. **Annual Meeting Minutes**

The minutes from the 2024 Annual Meeting of the Agrotechnology Study Programme provide evidence of institutionalised stakeholder involvement. This meeting was attended by lecturers and student representatives and included presentations and discussions on student feedback and the follow-up actions taken. The agenda also included a review of curriculum revisions based on the Outcome-Based Education (OBE) model. This meeting plays a key role in the internal quality assurance cycle, offering a formal platform for stakeholders to engage in evidence-based discussions and collaboratively shape the academic direction of the programme (Appendix A.3.10 AGT)

4. **Learning Trend Analysis Report**

A comparative report analysing survey data from two consecutive semesters offers valuable insights into persistent trends in learning outcomes, workload, and resource accessibility. The analysis reveals consistent issues, such as limited study time, assignment overload, and insufficient access to digital learning resources. By identifying these systemic issues, the report provides a foundation for long-term strategic improvements. Actionable insights drawn from the trend analysis are used to refine policy, improve digital infrastructure, and adjust academic workload planning to better support student success (Appendix A.3.11 AGT)

The Agrotechnology Study Programme ensures that all survey results are thoroughly followed up through concrete actions, reflecting its deep commitment to fostering continuous improvement for students, lecturers, and the entire academic community, with the ultimate goal of achieving excellence in education, research, and service with concrete actions, reflecting its deep commitment to fostering continuous improvement for students, lecturers, and the entire academic community.

A.3.2 Ba AQUACULTURE

AQU administers *student workload and satisfaction surveys* through its *official programme website,* while *course evaluation feedback* is collected via the university's integrated academic and non-academic information system*, SIADIKNONA platform*. Just as in the 2024/2025 odd semester, these surveys were conducted in several clearly defined stages:

1. *Course feedback* and *student satisfaction* data were collected using *structured questionnaires integrated into two platforms: course evaluation data through* the university's academic and non-academic information system *(SIADIKNONA),* and *workload* and *satisfaction surveys* through the *official AQU programme website,* ensuring comprehensive coverage of both academic and experiential aspects of the programme. (Appendix A 3.1. AQU and Appendix A 3.2. AQU),
2. A department circular was issued to all students, instructing them to complete the survey for each course taken during the semester (Appendix A 3.3. AQU),
3. Survey results were compiled into an official report, made accessible online, and used as key input for the subsequent Management Review (Appendix A 3.4. AQU) and Appendix A 3.5. AQU). To ensure transparency and close the feedback loop, the reports were also published on the official AQU programme website: https://bdp.undana.ac.id/en/laporan-pbm/ for course feedback and https://bdp.undana.ac.id/en/kepuasan-mahasiswa/ for the student satisfaction survey.
4. Management Review Meeting-Follow-Up Meeting (RTM-RTL) to analyze findings and determine improvement strategies (Appendix A 3.6. AQU). The outcomes of this meeting were also published on the official AQU website to ensure transparency and stakeholder accessibility: https://bdp.undana.ac.id/en/rapat-tindak-lanjut-dan-tinjauan-manajemen/,
5. Student Discussion Meeting on Course Feedback and Student Satisfaction Survey Result (Appendix A 3.7. AQU),
6. One of the key follow-up actions involved the establishment of a structured academic and non-academic consultation mechanism to address students' concerns and enhance faculty engagement (Appendix A 3.8. AQU). This measure, including details of its implementation, was also published on the AQU website under the student satisfaction section: https://bdp.undana.ac.id/en/kepuasan-mahasiswa/; (for details regarding laboratory facility improvements, please refer to the narration below).

AQU's latest surveys were conducted between 10 and 17 December 2024. The results were subsequently analyzed and discussed during the Management Review and Follow-Up Meeting (RTM–RTL) held on 13 January 2025. The outcomes were then communicated to students through a Student Forum on 17 January 2025, as well as via the programme's official website (https://bdp.undana.ac.id/en/rapat-tindak-lanjut-dan-tinjauan-manajemen/), thereby effectively closing the feedback loop.

While course-level feedback revealed no critical issues, the satisfaction survey highlighted three priorities—(1) empathy and personalized care from staff, (2) responsiveness to complaints and non-academic needs, and (3) laboratory-facility adequacy—which were escalated to the Management Review Meeting; the first two were addressed immediately through a circular on 16th of January 2025 (Appendix A 3.10. AQU) establishing *weekly academic and non-academic consultation hours* every Thursday, available *both face-to-face and online* (video activity). Concerning facilities, AQU has been allocated IDR 1.1 billion in 2025 to upgrade laboratory infrastructure, purchasing an Aquaponics Laboratory setup, Tilapia and Macroalgae Nursery Laboratory setup, a Manual Rotary Microtome, a Digital Microscope, a Laminar Air Flow unit, and Water-Quality Meters (U-51), and it has formally requested an increase in laboratory staff from three (one dedicated to AQU and two in the Dryland Aquaculture Laboratory) to six technicians (*Further details are provided under Recommendation **AQU E.5***).

A.3.3 Ba ANIMAL HUSBANDRY

In response to ASIIN recommendations, the Animal Science Study Programme has designed and implemented a comprehensive system to ensure that course feedback, student satisfaction surveys, and follow-up measures are accessible to students in a timely and appropriate manner.

The steps taken include:

1. **Design and Implementation of Survey Instruments**
   The programme has developed survey instruments in the form of Google Forms and structured questionnaires in the odd semester of 2024/2025 and in the future will use the official account of SIADIKNONA to collect feedback on course implementation, faculty performance, satisfaction with academic and administrative services, and student learning experiences, including practical activities and project work (Appendix A 3.1. ANH)

2. **Conducting Satisfaction Surveys through Circular Letters**
   The Study Programme issued official circular letters to students requesting them to fill out the survey on their respective accounts in accordance with the circular letter (Appendix A 3.3. ANH)

3. **Reporting Course Feedback Survey Results and Student Satisfaction and Curriculum Follow-up**
   The study programme analyzes student satisfaction survey data and compiles a detailed survey evaluation report in accordance with the content of the survey. Course feedback and student satisfaction survey report and curriculum follow-up (Appendix A 3.4. ANH).

4. **Follow-up Report on Course Feedback and Student Satisfaction Survey Results**
   The programme conducts follow-up actions on survey results as feedback on student satisfaction with facilities or programme management (Appendix A 3.5. ANH).

5. **Reporting and Dissemination of Survey Follow-Up**
   To ensure accessibility of information, the results of course feedback surveys, student satisfaction surveys, and follow-up action plans are published on the programme study website and other internal platforms. Additionally, summaries of survey findings and follow-up steps are communicated directly to students via email, announcements on information boards, and through student forums and focused group discussions (Appendix A 3.6. ANH & Appendix A 3.7. ANH).

6. **Reporting on Follow-Up Evaluation**
   The programme compiles a report based on the findings of the student satisfaction survey, which is documented in the Management Action Meeting (RTM) report, and subsequently prepares a Follow-Up Action Plan (RTL) report (Appendix A.3.8 ANH & Appendix A 3.9. ANH).

The Animal Science Programme is committed to following up on all survey results comprehensively through concrete steps, as a manifestation of its commitment to continuous improvement for students, faculty, and the entire academic community, with the ultimate goal of achieving excellence in education, research, and service.

Next, the following steps are taken to evaluate the teaching and learning process:

1. **Systematic Development and Improvement of Survey Instruments**
   The Animal Husbandry Study Programme has developed an assessment instrument using Google Form which is uploaded on the website of the animal husbandry study programme which is filled by students in the odd semester of 2024/2025 to collect data related to various aspects of the teaching and learning process in the classroom. In the future, the SIADIKNONA account will be used for effective and efficient integration. Appendix A 3.2. ANH).

2. **Implementation of Periodic Surveys for Continuous Monitoring**
   Surveys are conducted for each course at least once per semester, or no later than the end of the academic year. This regular implementation forms a continuous survey that enables ongoing monitoring of student learning activities conducted in the classroom. The programme issues an official circular to students to complete the survey on their respective accounts in accordance with the circular (Appendix A 3.3. ANH).

3. **Systematic Data Review and Reporting and Dissemination of Survey Results**
   The collected survey data is analyzed in a structured manner to evaluate the learning process in each course using academic standards and regulations from the Ministry of

Education and Culture. The results of the analysis help identify courses that require adjustments to maintain the suitability of the learning patterns provided to students. At each assessment period, a comprehensive survey evaluation report is compiled. This report provides a database that supports the study programme in the academic decision-making process, which ultimately leads to academic quality improvement (Appendix A 3.4. ANH).

4. **Student Participation in Evaluation**
   Students are proactively invited to participate in evaluation forums and feedback discussions on the learning activities they have received. These activities complement quantitative survey data with qualitative information, providing a comprehensive understanding of students' learning experiences. (Appendix A 1.5 ANH)

5. **Follow-up on Survey Findings**
   Survey results are used in a structured manner to guide follow-up actions. These actions include revising the Semester Learning Plan (SLP), adjusting the structure or pattern of learning in specific courses, and strengthening academic support mechanisms if needed (Appendix A 3.5. ANH).

6. **Reporting and Communication of Results**
   To support information transparency, survey instruments, results, and documentation of follow-up plans are published on the Study Programme website. Students are also informed directly via email and official announcements by the Study Programme (Appendix A 3.6. ANH & Appendix A 3.7. ANH).

These structured efforts demonstrate the strong commitment of the Animal Science Programme to systematically monitor the learning process of students, use evidence-based analysis for continuous improvement of the learning process, and ensure that student feedback leads to tangible and measurable improvements in teaching and learning. The repeated survey mechanism serves not only as a monitoring tool but also as an integral part of the Programme Study's internal quality assurance system, aligned with international best practices in higher education.

A.3.4 Ma ENVIRONMENTAL SCIENCE

Based on the assessors' findings related to obtaining student feedback during and after lectures through a series of questions in the student satisfaction survey. Therefore, his document represents our commitment to implementing the Internal Quality Assurance System (SPMI), specifically in evaluating the learning process through a student satisfaction survey instrument. We identify strengths and areas for improvement based on five main indicators: Reliability, Responsiveness, Assurance, Empathy, and Physical Evidence. The results of this identification are then followed up in a planned and measured manner to continuously improve the quality of learning.

In response to ASIIN's recommendation, The Environmental Science Master's Programmee has set up a clear system to ensure that student feedback and satisfaction survey results, along with follow-up actions, are shared with students in a timely and proper way.

The steps taken include:

1. **Creating Surveys:** Specific survey forms using Google Forms and structured questions were developed to collect feedback on courses, lecturers, services, and learning experiences (Appendix A.3.1 ENV).
2. **Regular Survey Distribution:** Regular Survey Distribution: Surveys are conducted regularly via Google Form each semester or at the end of the academic year—based on the official schedule available on the university platform, SIADIKNONA.
3. **Analyzing Feedback: s**urvey responses are analyzed to understand student opinions and satisfaction levels. Reports are prepared for each survey round (Appendix A.3.2 ENV).
4. **Taking Action:** Based on feedback, the programme makes changes such as improving services and updating course content on semester learning plan (Appendix A.3.3 ENV) and updated the module handbook (Appendix A.3.4 ENV)
5. **Sharing Result**: Survey outcomes and actions taken are posted online and communicated to students through emails, notice boards, group discussions, and web (Link web: https://magisterilmulingkungan.undana.ac.id/)
6. **Reviewing Impact:** The effectiveness of these actions is reviewed through follow-up surveys and discussions to ensure student needs are met

This process shows the programme's strong commitment to continuous improvement in education, research, and service.

2.2 Response to the Requirements for Ba Agrotechnology

- **Requirements A 4. (ASIIN 1.2/1.3/3.3).**
  The programme's title, contents, and facilities need to be brought into alignment

In response to ASIIN's recommendation, the Agrotechnology Study Programme has undertaken comprehensive actions to align the programme's title, curriculum content, and facilities, ensuring full consistency with international standards, national regulations, and the needs of the labour market.

1. Programme Title

The name "Agrotechnology" is widely adopted by several prominent universities across Indonesia, reflecting its academic legitimacy and relevance. These include **Universitas Brawijaya**, **Universitas Sebelas Maret**, **Universitas Hasanuddin**, **Universitas Sumatera Utara**, and **Universitas Udayana**. The adoption of this term signifies a national consensus on the interdisciplinary nature of agricultural sciences and their technological applications.

Internationally, **Agrotechnology** is likewise recognised and utilised by a growing number of reputable universities, further reinforcing its standing as a globally relevant academic discipline:

- **Universiti Teknologi Brunei (Brunei Darussalam)** offers a Bachelor of Science (Hons) in Agrotechnology, integrating scientific, technological, and business principles in agriculture, with a special focus on halal food production and sustainable agribusiness. (Bsc in Agrotechnology Universiti Teknologi Brunei)
- **University of Thessaly (Greece)** hosts a Department of Agrotechnology, offering an interdisciplinary curriculum centred on precision farming, agricultural engineering, and sustainable production systems (Agrotechnology University of Thesally (Greece).
- **Khulna University (Bangladesh)** offers agricultural and agrotechnological programmes designed to address the challenges of sustainable food production in South Asia's deltaic environments (Agrotechnology Discipline at Khulna University Bangladesh).
- **i-CATS University College (Malaysia)** incorporates agrotechnology into its curriculum to strengthen applied agricultural innovation and rural development strategies (Bsc in Agrotechnology, ICATS Malaysia).

These examples from various global contexts highlight **Agrotechnology** as a widely accepted and strategically significant field of study—one that addresses pressing global challenges including food security, climate change adaptation, and innovation in agricultural systems across diverse ecological and socio-economic settings.

Agrotechnology Programme Description

Item		Description
Study Programme Name	:	Agrotechnology Study Programme
Faculty	:	Agriculture
University	:	Universitas Nusa Cendana
Educational Level	:	Sarjana / Bachelor of Science
Decree of Establishment	:	No. 2448/D/T/2009
Degree Awarded	:	Bachelor of Agriculture
National Qualification Framework (KKNI) Level	:	Level 6
Minimum Credits	:	148 credit units
National Accreditation	:	B (No. 2083/SK/BAN-PT/AkPPJ/S/III/2022)
Professional Association	:	Indonesia Agrotechnology Association
Website	:	http://agroteknologi.undana.ac.id
Address	:	Jl. Adisucipto, Penfui, Kupang, NTT
Phone	:	+62 82111349424

Email : agroteknologi@undana.ac.id

The term "Agrotechnology" reflects the interdisciplinary nature of the programme, which encompasses the entire agricultural system—from upstream production to downstream processing. The Agrotechnology Study Programme at Universitas Nusa Cendana integrates four core scientific disciplines: **Crop Cultivation Technology**, **Land Resource Management**, **Plant Protection**, and **Food Science and Technology**.

This study programme is designed to respond to the challenges of agricultural development in dryland island regions such as East Nusa Tenggara. This local context is explicitly integrated into the curriculum through specialised courses and field practices focusing on dryland agricultural management. This focus forms the distinctive characteristic of the Agrotechnology Study Programme at Undana, setting it apart from similar programmes in other institutions. The uniqueness is clearly reflected in the programme's vision, mission, and objectives (see Appendix A4.1.AGT), and aligns with Universitas Nusa Cendana's institutional vision and mission https://undana.ac.id/en/visimisi/

2. Alignment of Programme Title with Curriculum Content

The alignment between the programme's title and curriculum content is a primary concern of the Study Programme, ensuring that the curriculum structure accurately reflects the intended scientific and professional scope. The curriculum has been carefully designed to equip graduates with the skills and competencies needed to address agricultural challenges in archipelagic dryland contexts, while also preparing them to respond to broader developments in science, technology, and the global labour market.

This alignment is evident in the formulation of the **Graduate Profile** (Appendix A4.1 AGT), which articulates the core, general, and specific competencies that students are expected to achieve. These competencies are mapped against the **Programme Learning Outcomes (PLOs)**, which reinforce the scientific identity of Agrotechnology by focusing on the application of science and technology in sustainable, innovative, and adaptive agricultural systems suitable for semi-arid island environments.

To ensure internal consistency, a **Graduate Profile–PLO matrix** has been developed. This matrix ensures that all learning outcomes systematically and measurably support the attainment of graduate competencies.

Since 2022, the Study Programme has implemented a curriculum based on **Outcome-Based Education (OBE)**: (https://agroteknologi.undana.ac.id/en/), which focuses on the achievement of well-defined graduate competencies. Each learning element—whether theoretical, practical, or community-based—has been designed to contribute directly to the development of these competencies.

To keep the curriculum relevant and adaptive to scientific, technological, and workforce developments, periodic evaluations and revisions are conducted, incorporating input from

various stakeholders. In 2024, the Agrotechnology Study Programme undertook a major curriculum review to strengthen content alignment and ensure compliance with international accreditation standards. This review process assessed the relevance of learning materials, the achievement of PLOs, and the responsiveness of the curriculum to current labour market demands at both national and global levels.

The outcome of this revision included:

- **The addition of new courses**, such as *Archipelagic Dryland Biodiversity, Fermentation Technology, Spice and Essential Oil Technology, Nutraceuticals and Functional Foods*, *Soil Bioremediation Technology, Pest and Disease Identification Technology, Major Pests and Diseases of Key Dryland Crops, Precision Agriculture, Dryland Agricultural Product Processing, and Archipelagic Drylands Culture and Tourism;*
- **Adjustments to course content and titles**, to better reflect technological advancements;
- **Removal of certain basic courses** from the main structure, which are now covered in a **matriculation programme** before the commencement of core academic activities.

These updates ensure that the curriculum reflects the interdisciplinary scope of Agrotechnology and meets the demands of local development priorities and international academic benchmarks.

a. Strengthening Technological Aspects in the Agrotechnology Curriculum

The Agrotechnology Study Programme has systematically integrated technological components into courses across its four core concentration areas: **Crop Cultivation Technology**, **Land Resource Management**, **Plant Protection**, and **Food Science and Technology**. This integration is designed to equip students with up-to-date technological competencies that are both locally relevant, particularly for dry tropical agricultural systems, and globally aligned with trends such as smart farming, digital agriculture, and sustainable development.

Table 1. Integration of Technology in Agrotechnology Courses

Area of Concentration	Integration of Technological Content in Courses
Crop Cultivation Technology	Precision Agriculture Technology, Remote Sensing and Geographic Information System (GIS) Technology, Sustainable Management of Dryland Agriculture, Application of Dryland Farming Technology, Seed Technology
Soil Resource Management	Soil Bioremediation Technology, Farm Equipment, Soil Survey and Land Evaluation, Soil and Water Conservation, Soil Fertility and Fertilisation Technology
Plant Protection	Pesticides and Application Techniques, Integrated Pest Management, Biological Control, Pest and Disease Identification Technology, Pest

	Ecology and Forecasting Systems, Weed Control Technology, Agricultural Biotechnology
Food Science and Technology	Post-Harvest Technology, Agricultural Product Processing Technology, Packaging and Storage Technology, Fermentation Technology, Quality Management, Sensory Analysis, Agricultural Waste Management Technology, Spice and Essential Oil Technology

Integrating these technologies within the curriculum enhances students' understanding of core agricultural sciences and fosters their ability to apply innovative technologies across production, land management, plant protection, and post-harvest processing. This ensures graduates are well-prepared to contribute to technological advancements in the local and global agricultural contexts.

b. Strengthening the Uniqueness of the Agrotechnology Study Programme

The Agrotechnology curriculum integrates the specific challenges and opportunities of archipelagic semi-arid regions through a series of targeted course offerings. For instance, climatic variability is addressed through modules such as *Agroecoclimatology*, *Sustainable Management of Dryland Agriculture*, and *Watershed Management*, which train students in strategies for coping with limited irrigation and changing weather patterns. Soil and water scarcity is tackled via *Soil Conservation*, *Fertility and Fertilisation*, and *Soil Bioremediation* courses, enabling students to rehabilitate degraded lands.

To address unique local biodiversity, the curriculum includes *Archipelagic Dryland Biodiversity*, *Biological Control*, and related plant health courses that equip students to manage pests and diseases using ecosystem-based approaches. In terms of food security, students explore *Dryland Agricultural Product Processing*, *Fermentation Technology*, and *Spice and Essential Oil Technology*—fostering innovation in the post-harvest value chain. Lastly, courses like *Archipelagic Drylands Culture and Tourism* and *Agricultural Extension and Communication* connect technical training to regional development and cultural awareness (Table 2).

Table 2. Integration of the "Archipelagic Semi-Arid Region" Focus in the Agrotechnology Curriculum

Key Characteristic	Related Courses	Curricular Relevance
Dry and variable climate across the islands	• Agroecoclimatology Sustainable Management of Dryland Agriculture Application of Dryland Farming Technology Watershed Management	Emphasises adaptation to dryland conditions, limited irrigation, and climate variability
Limited water and soil resources	• Soil and Water Conservation Soil Fertility and Fertilisation Technology Soil Bioremediation	Supports the conservation and rehabilitation of marginal agricultural lands

Unique biodiversity of archipelagic drylands	• Archipelagic Dryland Biodiversity Major Pests and Diseases of Key Dryland Crops Biological Control	Promotes biodiversity-based, locally adapted pest and disease management strategies
Local-based food security	• Agricultural Product Processing Technology Dryland Agricultural Product Processing Fermentation Technology Spice and Essential Oil Technology	Advances value-added processing of resilient local commodities
Local culture and regional development	• Archipelagic Drylands Culture and Tourism Agricultural Extension and Communication	Strengthens cultural understanding and promotes community-based rural development

Through this region-specific focus, the Agrotechnology Study Programme prepares graduates to become agents of change in dry tropical island agriculture. They are equipped not only to tackle food security and environmental challenges but also to lead in sustainable rural innovation and policy grounded in local wisdom and scientific knowledge.

c. Curriculum Mapping to Graduate Competencies

To ensure coherence between course content and intended graduate competencies, the Agrotechnology Study Programme employs a systematic **curriculum mapping process**. This involves categorising all courses into structured learning areas and aligning them with the corresponding **Programme Learning Outcomes (PLOs)**. Each course has a clearly defined role in contributing to the development of competencies outlined in the graduate profile (Table 3).

This curriculum mapping guarantees that the learning experience is purposeful, measurable, and aligned with national qualifications standards, stakeholder needs, and international expectations. It also reinforces the Study Programme's commitment to outcome-based education and the continual refinement of academic quality.

Table 3. Curriculum Mapping of the Agrotechnology Study Programme: Concentration Areas, Scope, and Courses

The following table outlines the six core learning areas (concentrations) of the Agrotechnology Study Programme. Each area reflects a well-defined thematic and competency-based structure that integrates scientific foundations with local relevance and technological innovation.

Area of Concentration	Courses
Crop Cultivation Technology This area covers the scientific and technological foundations of plant production in dryland and tropical semi-arid region environments. Students gain knowledge in plant morphology, taxonomy, physiology, and ecological interactions, and are trained in plant breeding techniques including conventional methods and modern approaches such as molecular and genetic engineering. Courses also explore propagation technologies, and cultivation systems for annual, perennial and horticultural crops. Strong emphasis is placed on the dryland farming practices, sustainable land management, precision agriculture, and the integration of GIS and remote sensing for productivity and adaptability. Practical components include field experimentation and scientific reporting contextualised to the regional characteristics of Nusa Tenggara.	• General Botany • Fundamental of Agronomy • Plant Ecology • Plant Physiology • Plant Growth and Development • Genetics and Plant Breeding • Agriculture Biotechnology • Annual and Perennial Plant Cultivation Technology • Horticultural and Landscape Plant Cultivation • Seed Technology • Vegetative Propagation • Soilless Cultivation • Application of Dryland Farming Technology • Sustainable Management of Dryland Agriculture • **Archipelagic Dryland Biodiversity** • **Precision Agriculture Technology** • Remote Sensing and Geographic Information System Technology • Food Security and Sovereignty
Land Resource Management Technology This area focuses on the chemical, biological, and physical properties of soils and plant growth media, with particular attention to soil fertility, land productivity, and the role of soil microbial communities in sustainable land management. Students explore soil conservation practices,	• Fundamental of Soil Science • Soil Morphology and Classification • Soil Chemistry • Soil Biology • Soil Physics

responses to climate change, and innovative soil bioremediation techniques.	• Soil Fertility and Fertilization Technology • Soil and Water Conservation • Soil, Water, and Plant Relationships • Watershed Management • Agroecoclimatology • Farming Equipment • **Soil Bioremediation Technology** • **Archipelagic Dryland Biodiversity**
Plant Protection Technology This area prepares students to identify, manage, and control pests and plant diseases, particularly in dryland conditions. It integrates classical and modern approaches in plant protection, including biological control and biotechnology. Emphasis is placed on understanding pest ecology, forecasting systems, pesticide technologies, and climate-related vulnerabilities.	• Fundamental Crop Protection • Entomology • Mycology and Mycotoxins • Nematology • Plant Bacteriology and Virology • Plant Disease Epidemiology • Integrated Pest Management Technology • **Pest and Disease Identification Technology** • **Major Pests and Diseases of Key Dryland Crops** • Pest Ecology and Forecasting Systems • Pesticides and Application Techniques • Plant Pests and Diseases • Post-Harvest Pests and Diseases • Weed Control Technology • Biological Control

Food Science and Technology This area provides students with knowledge of the physical and chemical properties of food components and the transformation processes during storage and processing. It includes food engineering, food safety, packaging, fermentation, and waste utilisation. Particular attention is given to value-added products from local commodities and the development of nutraceutical and functional foods	• Introduction to Food Technology • Agricultural Product Processing Technology • Post-Harvest Technology • **Dryland Agricultural Product Processing Technology** • Food Microbiology • Fermentation Technology • Quality Management • Packaging and Storage Technology • Sensory Analysis • **Spice and Essential Oil Technology** • Agricultural Waste Management Technology • **Nutraceuticals and Functional Foods**
Entrepreneurship and Agribusiness Management This area focuses on equipping students with entrepreneurial thinking and business management skills in the context of agribusiness. The curriculum includes economic analysis, agritech business models, digital agriculture, marketing strategies, and sustainable supply chain management.	• Entrepreneurship • Agribusiness Management
Scientific Research and Academic Publication This area develops students' competence in research design, statistical analysis, data interpretation, and scientific communication. It also integrates practical academic components such as internships, colloquia, and undergraduate theses. The ultimate aim is to enable students to conduct meaningful research that addresses both academic and community needs.	• Experimental Design • Statistics • Scientific Method • Community Service Programme • Internship Programme • Colloquium • Undergraduate Thesis
Character Building, Behavioural Sciences, and communication	• Anti-corruption Education • Pancasila • Civic Education

This area fosters ethical awareness, civic responsibility, cultural appreciation, and communication skills. Courses develop student character and national values while enhancing their ability to engage effectively at both local and international levels.	• Religious Education • English • Bahasa Indonesia

Note: Courses marked in **bold** are newly introduced or revised components within the 2024 curriculum update.

This curriculum mapping forms the basis for a well-structured and coherent course organisation, ensuring that all components contribute systematically to the achievement of the intended graduate competencies. The curriculum has been carefully designed to maintain a balanced workload across semesters, while also allowing sufficient flexibility for students to pursue academic enrichment and individual interests.

During the early semesters (1–3), the emphasis is placed on building a strong foundation in theoretical and scientific knowledge. This is followed by the development of practical, analytical, and problem-solving skills through core courses in semesters 4 and 5. In semester 6, elective courses are offered as enrichment opportunities, enabling students to explore areas aligned with their research interests and career aspirations.

The curriculum comprises **138 credits of compulsory courses**, complemented by **10 credits of elective courses** that support academic specialisation and interdisciplinary engagement. This structure ensures that students are adequately prepared for professional practice, advanced studies, and leadership roles in the field of agrotechnology. The curriculum comprises **138 credits of compulsory courses**, complemented by **10 credits of elective courses** designed to support academic specialisation and foster interdisciplinary engagement. These **10 elective credits must be selected from a pool of 66 offered credits**, allowing students the flexibility to tailor their learning according to their interests and research focus. This structure ensures that graduates are well-prepared for professional practice, advanced academic pursuits, and leadership roles in the field of agrotechnology.

Table 4 presents the credit distribution across all eight semesters in the Agrotechnology Study Programme. The structure reflects a progressive learning approach—beginning with foundational knowledge, followed by core scientific and technological courses, and culminating in research and community engagement activities. Elective courses are concentrated in semester 6 to provide students with opportunities to explore areas of specialisation that align with their academic or professional interests. In total, students are required to complete 148 credits to graduate, consisting of 139 compulsory and 10 elective credits.

Table 4. Semester-wise credit distribution in the Agrotechnology Study Programme

Semester	Compulsory Courses (credits)	Elective Courses (credits)	credits	ECTS
1	18	-	18	28.8
2	23	-	23	36.8
3	23	-	23	36.8
4	22	-	22	35.2
5	23	-	23	36.8
6	14	10	24	38.4
7	10	-	10	16.0
8	5	-	5	8.0
	Total		148	236.8

In the sixth semester, students are required to complete **24 credits (SKS)**. Of these, **10 credits** are designated as **elective courses**, while the remaining **14 credits** consist of **compulsory concentration courses**. Although these 14 credits are mandatory, students are allowed to select courses from within their chosen research topic or area of concentration. The Agrotechnology Study Programme offers **four concentration tracks**: **crop cultivation technology**, **land resource management technology**, **plant protection technology**, and **food science and technology**. Each student selects courses aligned with their research interests, which means that students may take different combinations of courses based on their individual focus areas. While the total elective credits offered exceed 10 SKS, **each student must select and complete exactly 10 credits of electives**.

To further demonstrate alignment between the programme's title, content, and learning structure, the curriculum of the Agrotechnology Study Programme is organised into five key course groups: general competency, fundamental, core academic, elective/enrichment, and final project components (Table 5). This classification ensures coherence with national qualification frameworks (KKNI), supports international comparability through the European Credit Transfer System (ECTS), and reflects the interdisciplinary scope of agrotechnology as a scientific and technological field.

Table 5. Groups of Courses and Workload Distribution in the Agrotechnology Curriculum

No.	Courses Group	Credits	Percentage (%)	ECTS
1	General Competency Courses/University Courses	11	7	17.6
2	Fundamental Courses	23	16	36.8
3	Core Academic Courses	99	67	158.4
4	Elective/Enrichment Courses	10	7	16
5	Final Project	5	3	8
	Total	**148**	**100**	**236.8**

Each course group contributes systematically to the achievement of the Programme Learning Outcomes (PLOs), as documented in the Course vs PLO Matrix (Appendix A.4.1 AGT). This mapping ensures traceability between curricular components and graduate competencies, providing transparency in academic design. All courses are delivered through a Semester Learning Plan (RPS) based on Outcome-Based Education (OBE) principles, which specify PLOs, Course Learning Outcomes (CLOs), learning strategies, assessment methods, and achievement indicators (Appendix A4.2 AGT).

Each course in the curriculum is supported by a Semester Learning Plan or RPS, which is prepared collaboratively by the team of lecturers responsible for the course. The RPS is introduced and explained to students at the beginning of each semester, uploaded to the **SIADIKNONA** academic system of Universitas Nusa Cendana, and made accessible through the official website of the Agrotechnology Study Programme.

The RPS is regularly reviewed and updated as necessary. **Minor revisions are conducted annually** to reflect pedagogical improvements or changes in teaching strategies, while **major revisions are carried out during formal curriculum reviews**, which typically occur every five years. This ensures that course delivery remains aligned with current academic standards, stakeholder needs, and the Outcome-Based Education (OBE) framework.

3. Alignment of Programme Facilities with the Programme's Title and Content

The Agrotechnology Study Programme has continually strengthened its facilities to ensure full alignment with its academic content and the interdisciplinary competencies expected of its graduates. These improvements include both infrastructure and technological upgrades that support teaching, research, and field practice across the programme's four main scientific concentrations: crop cultivation technology, land resource management, plant protection, and agricultural product processing technology.

To demonstrate transparency and ensure quality assurance, the **Head of the Agrotechnology Study Programme** has prepared a comprehensive **Laboratory Evaluation Report** aimed at continuously improving the facilities that support teaching and research. This evaluation is conducted with the following objectives:

1. **Identify the Current Condition of Facilities** – to assess the status of laboratories, classrooms, and supporting infrastructure used in academic activities.
2. **Assess the Suitability of Facilities to Academic Needs** – to evaluate whether the available resources align with the requirements of the **Outcome-Based Education (OBE)** curriculum and support the implementation of the **Merdeka Belajar Kampus Merdeka (MBKM)** programme.
3. **Inventory Facility Development Efforts** – to document all facility upgrades conducted throughout the academic year, including the procurement of new equipment, laboratory renovations, and capacity expansion.

4. **Assess the Effectiveness of Facility Use by Students and Lecturers** – to examine how these facilities support academic productivity, including practicums, student and faculty research, and innovation development.
5. **Formulate Recommendations for Sustainable Development** – to propose strategic improvements in facilities that enhance academic quality, optimise resource use, and strengthen programme accreditation (Appendix A.4.3 AGT); Learning Support Facilities in Agrotechnology

Seven main laboratories directly support the core areas of the Agrotechnology Study Programme:

- The **Plant Pathology Laboratory** for analysing plant disease symptoms and pathogens;
- The **Entomology Laboratory** for the study and identification of insect pests and pest control strategies;
- The **Microbiology Laboratory**, focusing on beneficial and pathogenic microbes relevant to agrotechnology;
- The **Agricultural Product Technology Laboratory** for training in post-harvest handling and processing;
- The **Soil Chemistry Laboratory** and **Soil Physics Laboratory** for examining the chemical and physical properties of soil; and
- The **Seed Technology Laboratory**, supporting practical work on seed testing, viability, and genetic purity.

In 2024, these laboratories were significantly upgraded with the procurement of essential tools—including **centrifuges, microscopes, spectrophotometers, and vortex mixers**—to strengthen practical and research capacities. Layout redesigns, improved ventilation systems, and updated safety features were also implemented to create a **safe, functional, and standards-compliant learning environment**. These investments ensure that the laboratories are well-equipped to support hands-on learning and innovation in line with the evolving demands of modern agrotechnology (Appendix A.4.4a AGT)

In addition to the core laboratories, the **Genomics Laboratory**, established in 2024 and managed by the Faculty of Agriculture, serves as a state-of-the-art facility supporting both teaching and research in molecular biology and genetic improvement. This laboratory enhances student learning in plant and microbial genomics and provides hands-on experience with tools and techniques that are directly applicable to **agricultural biotechnology**—a rapidly evolving and technologically advanced field that plays a critical role in modern agrotechnology (Appendix A4.4b AGT; video: Genomic Science starts here; Bacterial DNA Extraction_Genomic Lab Practical Session 1; Plant DNA Isolation_Genomic Lab Practical Session 2

The programme has also developed a specialised **Information Systems and GIS Laboratory**, fully equipped with high-performance computers, GIS software (ArcGIS and QGIS), smartboards, high-speed internet, and spatial data storage systems. This facility underpins courses involving land mapping, spatial analysis, and digital modelling of

agricultural systems, thereby aligning with the growing emphasis on data-driven and precision agriculture (Appendix A4.4c AGT).

An **Integrated Bioscience Laboratory** provided by Universitas Nusa Cendana supports practical sessions for multiple courses, including Storage and Packaging, Agricultural Product Processing Technology, and Agricultural Biotechnology. It is also a key venue for student research projects related to biosciences and agro-biotech innovations (https://bioscience.undana.ac.id/visi-dan-misi-2/).

To reinforce field-based competencies, the programme operates multiple **field laboratories** and practical sites. These include the Greenhouses in both the Faculty of Agriculture and the UPT (Technical Implementation Unit) of Archipelagic Dryand of Undana, equipped with modern facilities such as automated drip irrigation with controlled moisture, sprinkle irrigation and automated greenhouse condensation to manage moisture within the greenhouses (Appendix A.4.4d AGT; Automated Greenhouse). The Field Laboratory at the UPT (Technical Implementation Unit) of Archipelagic Dryland of Undana **is equipped with about four ha of experimental field to support the Lecturers and Students' research (**https://lkk.undana.ac.id/; Activities in Field Laboratory). Undana also owned a farm, namely Oenitu Undana Farm **(**Appendix A.4.4e AGT**).** These facilities provide students with contextual, hands-on experience for managing diverse agroecosystems, particularly in dryland environments typical of East Nusa Tenggara. Such field experiences are critical in ensuring that students graduate with skills directly applicable to real-world agricultural challenges.

The **library system** further supports the learning process. Students have full access to the Faculty of Agriculture Library and the Universitas Nusa Cendana Central Library (Undana Central Library) which house extensive collections of scientific journals, e-books, undergraduate and graduate theses, and digital resources. These libraries are also equipped with comfortable reading spaces and reliable internet access to facilitate both guided and independent learning.

With this comprehensive and updated infrastructure, the Agrotechnology Study Programme at Universitas Nusa Cendana demonstrates a strong commitment to delivering education that is technologically relevant, contextually grounded, and in full alignment with the programme's interdisciplinary focus. These facilities not only support the curriculum content but also reflect the programme's vision of producing graduates equipped to advance sustainable agriculture in dryland.

4. Stakeholder Engagement and Market Relevance

To ensure that the curriculum remains responsive to industry demands and scientific advancements, the Agrotechnology Study Programme actively involves external stakeholders in its curriculum development and quality assurance processes. Structured consultation forums and discussion sessions have been conducted with representatives from the agricultural industry, alumni, government agencies, and professional associations.

Feedback from these stakeholders has been systematically integrated into the curriculum revision process to align the programme's learning outcomes with evolving labour market expectations, emerging agricultural technologies, and the specific needs of dryland and archipelagic agricultural development.

As part of its commitment to benchmarking and continuous improvement, the Study Programme has undertaken several strategic benchmarking and collaboration activities, including:

1. Benchmarking visit to The Islamic University of Malang on ASIIN international accreditation. Key takeaways included:
    - The need to revise curriculum structure and course titles to better reflect competencies in crop cultivation technology and align with local agricultural priorities.
    - The requirement to standardize and complete Semester Learning Plans (RPS), ensuring they contain detailed content per session.
    - The development and documentation of Standard Operating Procedures (SOPs) from university to laboratory level.
    - Enhancement of Tridharma-supporting facilities, especially laboratories, to promote integrated education, research, and community service.
    - Improved documentation and dissemination of Tridharma activities (lecturers and students) through video archives and institutional websites.
    - Encouraging the application of research outcomes through community service programmes.
    - Promotion of internationalisation through Scopus-indexed publications, international student exchanges, international conferences, and English-based instructional materials.
2. Visit to the Center for Seed Development and Plantation Crop Protection (BBPPTP) in Jombang, Surabaya, which opened potential collaboration in biological control research and bacterial identification using PCR techniques.
3. Participation in the National Seminar and Launching of the Independent Accreditation Institution of Agricultural Higher Education (LAM-PTPI) in Solo, Central Java. Outcomes included:
    - Signing of Cooperation Agreements (PKS) between the Faculty of Agriculture, Universitas Nusa Cendana and the Faculties of Agriculture at UNPATI and University of Borneo Tarakan.
    - Signing of Cooperation Implementation Agreements (AI) among Study Programme leaders in Agrotechnology, Agribusiness, and Extension, establishing shared goals in curriculum development, academic exchanges, and research.
4. Exploration of internship and MBKM (Merdeka Belajar Kampus Merdeka) opportunities for Agrotechnology students through visits to:

- Center for Plant Pests Forecasting (BBPOPT), Jatisari, Karawang – West Java;
- Research Center for Biomass and Bioproducts – BRIN, Cibinong;
- Research Center for Horticulture and Plantation – BRIN, Cibinong;
- Directorate of Fertilizer and Pesticides – Ministry of Agriculture, Jakarta.

These engagements serve as a **strategic foundation for curriculum relevance**, enabling the Agrotechnology Study Programme to prepare graduates who are not only academically competent but also responsive to real-world agricultural challenges and innovation-driven market needs (Appendix A.4.5 AGT).

In line with the principles of transparency and continuous improvement, the revised curriculum structure, along with updated module descriptions (RPS), programme learning outcomes, and supporting information on laboratory and field facilities, has been published and made accessible through the official Study Programme website. This open access to key academic documents allows stakeholders, students, and the wider academic community to monitor the implementation of curriculum updates and verify the programme's commitment to accountability and quality enhancement**.** This process works in line with the system with the Faculty management, as it is now holding an ISO 9001-2015 recognition (ISO 9001-2015 Certificate to Undana Faculty of Agriculture), and based on Standard Operating Procedure for the business process (Standard SPMI)

2.3 Response to the requirements for Ma Environmental Science

- **Requirements A.5. (ASIIN 4.1)**
  Complete module descriptions must be made publicly accessible in both Bahasa Indonesia and English.

A.5.1. Ma ENV

The Module handbook for all courses has been revised to include more detailed content and updated with primary and supporting references published in the past five years (Appendix A 5.1 ENV)**.** The Master's Programme in Environmental Science at Universitas Nusa Cendana has implemented a 2025 curriculum update through both major and minor revisions**.** The major revision includes the introduction of two new courses, namely ***Waste Management*** and ***Karst Ecology and Resource Management***, while the minor revision involves the refinement of the Semester Learning Plan (RPS) for the ***Biodiversity*** course, in which its the Course Learning Outcomes (CLO) emphasise the Wallacea region.

These curriculum changes have directly impacted the adjustment of total credit distribution (SKS) and the allocation of course loads across four semesters**.** The complete curriculum structure and course distribution are presented in the **Curriculum Handbook (**Appendix A.5.2. ENV**)** and the **Course Roadmap Matrix (**Appendix A.5.3. ENV).

All documents are available in **both Indonesian and English** and **can be accessed publicly through the official website of the Study Programme: https://magisterilmulingkungan.undana.ac.id/**.

III. RESPONSES TO ASIIN RECOMMENDATIONS

3.1 Response to the recommendations of all study programmes

- **Recommendations E.1. (ASIIN 1.1/1.3).**
  It is recommended for UNDANA to diversify the foci of the programmes under review in view of its vision and unique environment.

E.1.1. Ba AGROTECHNOLOGY

The Agrotechnology Study Programme warmly welcomes ASIIN's recommendation to diversify its academic foci, fully aligning with Universitas Nusa Cendana's (Undana) vision of becoming a "Globally Oriented University" while deeply rooting its strengths in the unique agroecological characteristics of East Nusa Tenggara (NTT) as an archipelagic dryland region.

Diversification has been, and will continue to be, pursued through multiple synergistic approaches, including curriculum development, research activities, partnerships, community service initiatives, and lecturer capacity building, as detailed below:

1. Diversification through a Contextual and Global Curriculum

The Agrotechnology Study Programme has revised its 2024 curriculum to integrate the local uniqueness of East Nusa Tenggara (NTT) with a global academic perspective. The curriculum places strong emphasis on dryland agriculture, precision farming, biodiversity conservation, and sustainability within semi-arid island ecosystems. Key courses that reflect this focus include *Application of Dryland Farming Technology*, *Sustainable Management of Dryland Agriculture*, *Watershed Management*, *Soil Bioremediation Technology*, *Major Pests and Diseases of Key Dryland Crops*, *Agroecoclimatology*, and *Archipelagic Drylands Culture and Tourism*.

Each of these courses is supported by **research-based teaching**, with keywords such as *dryland resilience*, *local agrobiodiversity*, *climate adaptation strategies*, *biocontrol agents*, and *sustainable land management* being central to course content. Moreover, the research outputs of academic staff, particularly in the fields of **local biodiversity, indigenous crops, and ecological restoration**, have been directly integrated into learning materials and case studies. This integration ensures the curriculum remains contextually relevant, scientifically grounded, and aligned with the latest advancements in agrotechnology research and practice. (Appendix E.1.1 AGT; Appendix E.1.2 AGTs).

Additionally, the curriculum incorporates courses reflecting global trends, such as Precision Agriculture Technology, Remote Sensing and GIS, Agricultural Biotechnology, Seed Technology, and Nutraceuticals and Functional Foods. The integration of project-based and case-based learning methodologies ensures that students apply theoretical concepts to real-world dryland agricultural challenges (Appendix E.1.1 AGT; Appendix E.1.2 AGT)

Through this curriculum diversification, the Agrotechnology Study Programme equips its graduates with robust competencies in agricultural science, technological innovation, environmental stewardship, entrepreneurial development, and social engagement, which is fully aligned with the university's regional mission and global vision.

2. Diversification through Research Activities

The Agrotechnology Study Programme has actively diversified its research activities, prioritising dryland agriculture and regional agroecological characteristics. Research areas include soil management on calcareous lands, the development of superior dryland crop varieties, innovative pest management, local microbial utilisation, biodiversity conservation, and functional food development (Appendix E.1.2. AGT).

These research activities not only enrich scientific knowledge but also serve as critical inputs for curriculum development and student learning. Students are directly involved in field research projects, enabling them to apply scientific knowledge to real community challenges.

Research diversification reinforces the Agrotechnology Study Programme's commitment to creating sub-specialisations rooted in the dryland context while opening pathways for interdisciplinary collaboration and international research engagement

2. Diversification through Community Service Activities

Community service activities at the Agrotechnology Study Programme have contributed significantly to diversification by introducing new sub-focus areas such as household food security, climate-resilient farming, and socio-agropreneurship (Appendix E.1.3 AGT)

Farmer empowerment programmes, local resource training, and sustainable technology dissemination have fostered community innovation while reinforcing academic learning. Community service continues to serve as a platform for developing new research themes, curriculum improvements, and social impact initiatives (Appendix E.1.3 AGT)

E.1.2. Ba AQUACULTURE

In response to the recommendation to diversify the thematic focus of the programme in line with UNDANA's unique geographical context and institutional vision, AQU has undertaken a revision of its curriculum to incorporate sustainability-oriented and environmentally relevant topics. Specifically, three new courses have been integrated to strengthen competencies in addressing ecological challenges and capitalize on the region's natural setting:

1. *Aquaponics Aquaculture Technology* – introduced as a compulsory course, equipping students with skills in sustainable integrated farming systems suited for water-scarce, dryland, and urban environments (Appendix E 1.2. AQU);
2. *Water Pollution Management*, which explores the causes, impacts, and control of aquatic pollution in various ecosystems (Appendix E 1.3. AQU); and *Basic Environmental Impact Analysis in Aquaculture*, focusing on the assessment and mitigation of aquaculture-induced ecological disturbances (Appendix E 1.4. AQU).

These curricular enhancements reflect UNDANA's commitment to embracing its regional strengths—including *dryland, karst, and coastal* environments, as well as proximity to the *Wallace Line*'s rich biodiversity—from a global academic perspective. This effort aligns with the University's broader goal of evolving into a centre of excellence with increased international visibility and relevance. An overview of the updated curriculum structure is provided in (Appendix E 1.1. AQU).

E.1.3. Ba ANIMAL HUSBANDRY

The Animal Husbandry Study Programme evaluates the curriculum based on ASIIN recommendations regarding Semester Credit Units (SKS) or the European Credit Transfer and Accumulation System (ECTS) and based on the Regulation of the Minister of Education and Culture (Permendikbud) No. 53 of 2024, which states that 1 credit unit is realized in lectures for 45 hours / semester. The Animal Husbandry Study Programme has implemented this regulation through the OBE curriculum. Changes to the Semester Learning Plan (RPS) include learning time that applies the case study method so that face-to-face time in class is around 50 minutes / credit unit. Students will carry out independent learning according to the topic in the case study that has been given by the lecturer. Structured assignments and Independent Activities each last for 60 minutes / credit unit outside campus. The Animal Husbandry Study Programme conducts revision documents to improve the teaching and learning process of students and is expected to be able to meet the Educational Objectives of the Animal Husbandry Study Programme (TPP) through regular curriculum evaluation, research integration, stakeholder consultation, and international benchmarking, the Animal Husbandry Study Programme ensures that its academic offerings dynamically respond to evolving scientific developments, labor market demands, and community needs. This enduring commitment reaffirms the role of the Animal Husbandry Study Programme as a leader in sustainable agricultural education for dryland and island areas, while making meaningful contributions to global agricultural sustainability and innovation.

1. **New Courses Compiled** (Appendix E 1.1 ANH)
   The Animal Husbandry Study Programme is compiling a new course that reflects the unique potential of animal husbandry in East Nusa Tenggara (NTT), which is based on dry land with the course name "Livestock Area Planning Based on Dry Island Land" by displaying the Semester Learning Plan (RPS).

2. **New Course Learning Module** (Appendix E 1.2 ANH)

New course learning module by applying the characteristics and potential that exist in East Nusa Tenggara (NTT) for the development of livestock based on dry land islands, so that students can build or plan livestock farming according to the potential of each region.

3. **Design Module on Regional Planning Dryland farming** (Appendix E 1.3 ANH)

E.1.4. Ma ENVIRONMENTAL SCIENCE

Following the recommendation from ASIIN assessors for UNDANA to broaden the focus areas of its academic programmes in alignment with its vision and distinctive context, specifically its core scientific orientation on dryland and archipelagic ecosystems, the Master's Programme in Environmental Science (ENV) has advanced by revising its curriculum roadmap. This revision introduces a new area of specialization, *Climate and Development*, complementing the existing three specializations: *Watershed (DAS) Management*, *Natural Resources and Environmental Conservation*, and *Natural Resources and Environmental Planning*. The Master's Programme in Environmental Science has implemented several key actions:

1. A significant curriculum update has been made by introducing two new courses specifically designed to address the distinctive environmental characteristics of East Nusa Tenggara: a compulsory course titled *Karst Ecology and Resource Management* and an elective course on *Waste Management*. These additions are intended to expand the academic coverage by incorporating subject matter closely aligned with local environmental challenges. (Appendix E.1.1 ENV)
2. A minor curriculum revision by updating the Semester Learning Plan (RPS) for the *Biodiversity* course, with a specific focus on ecological research around the Wallacea region and its surroundings, reinforcing the programme's unique academic focus on biodiversity in Indonesia's biogeographical transition zone (Appendix E.1.2 ENV)
3. Expanding the diversity of research conducted by students and faculty, focusing on areas such as:
    a. Genetic diversity of adaptive species in East Nusa Tenggara Province, examples: Swam Buffalo (*Bubalus buballus*)(Appendix E.1.3 ENV), honey bee (*Apis cerana)* *(Appendix E.1.4 ENV*), and waste management (Appendix E.1.5 ENV).
    b. Co-firing research using *Leucaena* wood as a substitute for coal in the Bolok Steam Power Plant (PLTU) in Kupang through the RISPRO research scheme with link https://lp2m.undana.ac.id/rispro-undana/dokumentasi-rispro-2025/(Appendix E.1.6 ENV)

These initiatives aim to increase the programme's relevance and its contributions toward sustainable development in Indonesia's dryland and archipelago environments

- **Recommendations E 2. (ASIIN 1.1/1.6/2).**
  It is recommended to raise the English language proficiency threshold for graduation and to strengthen efforts to foster English language skills amongst students.

E.2.1. Ba AGROTECHNOLOGY

In response to ASIIN's recommendation to raise the English language proficiency threshold for graduation and to intensify efforts to foster students' English language skills, the Agrotechnology Study Programme has undertaken several strategic actions to ensure systematic improvement in this area.

The following measures have been implemented:

1. **Establishment of a New English Language Proficiency Policy:**
   A new policy has been enacted requiring students to achieve a minimum TOEFL ITP score of 450, or to complete designated English language training at the university's Language Centre, such as passing the intermediate level. This policy serves as a graduation requirement (yudisium condition) and ensures a minimum standard of English proficiency for all graduates (Appendix E.2.1)

2. **Provision of English Language Training Programmes:**
   To support students in meeting the new proficiency requirements, the Programme has organised regular English language training activities, including intensive English courses, workshops focusing on writing and speaking skills, and tailored English classes targeting academic communication (Appendix E.2.2 AGT)

3. **Promotion of English Use in Daily Academic Life:**
   The Study Programme has initiated English Day activities and established an English Club at the study programme level to provide students with informal yet structured opportunities to practice English communication skills in a supportive environment (Appendix E.2.3 AGT)

4. **Organisation of English-Based Extracurricular Activities:**
   The Programme actively supports student participation in English-based extracurricular activities such as English Club events, international seminars, and public speaking competitions, thereby enhancing students' confidence and fluency in academic and professional contexts (Appendix E.2.4 AGT); English outside the classroom

5. **Integration of English in the Curriculum:**
   Several courses within the Agrotechnology curriculum are delivered in a bilingual format (Indonesian-English), and some teaching materials are fully developed in English to familiarise students with scientific terminology and global agricultural discourse. Assignments and presentations in English are also encouraged in selected

modules to further strengthen students' active use of the language (Appendix E.2.5 AGT)

6. **Support for Internationalisation Efforts:**
   In response to ASIIN's recommendation to strengthen internationalisation, the Agrotechnology Study Programme has integrated the use of both Indonesian and English as languages of instruction in selected courses. This approach is part of a broader institutional strategy to align academic delivery with international standards and to enhance student readiness for global engagement.
   As outlined in the *Decree of the Dean of the Faculty of Agriculture No. 653/SK/FAPERTA/2025* (Appendix), the following courses in the Odd Semester of the 2024/2025 academic year are officially designated to be taught using both Indonesian and English: (1) Indonesian, (2) Civic Education, (3) English, (4) Introduction to Agricultural Science, (5) General Botany, (6) Plant Biochemistry, (7) Plant Physiology, (8) Fundamentals of Crop Protection.
   Delivering instruction in both languages ensures that students develop strong discipline-specific vocabulary and communication skills in English, thereby increasing their competitiveness for further studies abroad, participation in international academic forums, and access to global research networks.
   Lecturers assigned to these courses have been appointed based on their ability to teach effectively in both Indonesian and English. This effort demonstrates the programme's concrete support for internationalisation through curriculum delivery, academic language exposure, and graduate readiness

   The Study Programme has progressively adapted its course materials and academic activities to meet international standards, thus promoting a fully English class or a partially English approach to learning, particularly in courses related to agricultural science, technology, and research methodology (Appendix E.2.6 AGT; Appendix E.2.7 and Appendix E.2.8)

E.2.2. Ba AQUACULTURE

In alignment with UNDANA's strategic objective of becoming a globally oriented university, AQU has implemented multiple initiatives to foster English language competency among its students, beyond the mandatory English language course. These efforts are intended to gradually build students' academic English proficiency for scientific communication, international collaboration, and global employability.

Firstly, several courses have adopted *English-based instructional materials* during both the odd and even semesters. This initiative is formalized through official decrees from the Dean of the Faculty of Marine and Fisheries (Appendix E 2.1. AQU; Appendix E 2.2. AQU). These courses are delivered with partially English content (e.g. readings, assignments, terminology, as well as lecture notes), to gradually familiarize students with academic English within their subject domain (Appendix E 2.7. AQU).

Secondly, students are required to deliver their *undergraduate thesis seminars in English*. This policy is stipulated in the official departmental circular and accompanied by documentation and recorded presentations to demonstrate its implementation (Appendix E 2.3. AQU and video activity).

To provide real-life exposure to English in academic settings, the programme regularly hosts *international guest lecturers*. Recent examples include lecturers from partner institutions in Ireland, whose sessions were attended by AQU students and recorded as part of the internationalization efforts (Appendix E 2.4. AQU and video presentation).

Furthermore, AQU has organized an internal English Debate Competition, aimed at encouraging critical thinking, academic argumentation, and active English usage among students. The competition report and student participation certificates reflect the programme's commitment to fostering English communication skills in both formal and informal academic settings (Appendix E 2.5. AQU; Appendix E 2.6. AQU).

While the current initiatives lay a solid foundation, AQU acknowledges the importance of further enhancing English proficiency. Moving forward, AQU plans to expand English-taught modules, develop discipline-specific English enrichment programmes, and support student participation in international mobility schemes to strengthen English competency in alignment with employer expectations and global academic standards.

E.2.3. Ba ANIMAL HUSBANDRY

Based on the ASIIN recommendation, one of the main focuses is to improve students' literacy skills in English. The Animal Husbandry study programme facilitates English debate activities among students, and the programme also organises international classes where English is used as the medium of instruction in the learning process. Activities held in the Animal Husbandry study programme align with the vision of Nusa Cendana University, which is 'Global Oriented University.' Some of the activities carried out by the Animal Husbandry study programme to improve students' English language skills include:

1. **English debate activities at the study programme level.**
   The Faculty of Fisheries and Animal Husbandry held an English debate activity by inviting students from 3 study programmes, namely Animal Husbandry, Aquatic Resource Management, and Aquaculture, to improve the students' English language skills. Appendix E.2.1. ANH Appendix E.2.2. ANH

2. **International Class Courses**
   Animal Husbandry Study Programme, based on the decision of the leadership (Dean), opens an international class for several courses where the teaching and learning process uses English as the medium of instruction. The courses included in the international class are Ruminant Nutrition, Poultry Production, Poultry Nutrition, and Feed Processing and Industry Technology Appendix E.2.3. ANH.

3. **International Programme Teaching Materials.**
   The Animal Husbandry study programme informs and instructs international class lecturers to create teaching materials using English. Appendix E2.4. ANH

E.2.4. Ma ENVIRONMENTAL SCIENCE

The Master's Programme in Environmental Science has responded to the ASIIN assessor's recommendation regarding raising the English proficiency standard for graduation and strengthening efforts to develop students' English skills. This effort is realized by setting a TOEFL score as a mandatory requirement to take the thesis examination, as well as integrating various academic activities conducted in English, such as courses delivered in English and active participation in international seminars or conferences.

The following measures have been implemented:

1. Students enrolled in the Master's Programme in Environmental Science are required to take the TOEFL (Test of English as a Foreign Language) and achieve a minimum score of 425. This requirement is implemented as part of the programme's effort to ensure that graduates possess adequate English language proficiency, which is essential for engaging with international scientific literature, writing academic papers, and participating in global academic discourse. A TOEFL score of at least 425 serves as one of the academic prerequisites that must be fulfilled before students are permitted to proceed to the thesis examination stage (Appendix E. 2.1. ENV).
2. Delivering selected courses in English to increase exposure to academic language, including implementing a visiting professor programme with a native speaker lecturer, such as John Michler from Gossen College University, USA, who teaches the Climate Change Policy course in the even semester of 2024/2025 (Appendix E. 2.2. ENV).

- **Recommendations E 3. (ASIIN 1.3).**
  It is recommended for the programmes to intensify efforts to promote student mobility opportunities

E.3.1. Ba AGROTECHNOLOGY

In response to ASIIN's recommendation to intensify efforts to promote student mobility opportunities, the Agrotechnology Study Programme has taken strategic actions to systematically expand and support international mobility for students.
The following initiatives have been implemented:

1. **Promotion of Student Mobility Opportunities:**
   The Study Programme actively promotes mobility programmes by providing students with accessible information regarding opportunities to study abroad, participate in student exchange programmes, and engage in international internships. Information is disseminated through brochures, posters, the Study Programme's website, and regular academic counselling sessions (Appendix E.3.1 AGT).

2. **Development of International Partnerships:**
   The Study Programme has established formal partnerships with overseas universities and institutions that specialise in agriculture, agrotechnology, and environmental sciences. Memoranda of Understanding (MoUs) and Agreements (MoAs) have been signed to facilitate student exchange programmes, joint research initiatives, and international internship placements (Appendix E.3.2 AGT).

3. **Facilitation and Support for Student Mobility:**
   In addition to promoting opportunities, the Study Programme actively facilitates student participation by assisting in application processes, providing necessary academic support, and offering official endorsements through assignment letters and administrative assistance. Participation in national initiatives such as the *Merdeka Belajar Kampus Merdeka* (MBKM) programme has also been encouraged, particularly those that involve international placements (Appendix E.3.3. AGT), Example of Student Mobility to PSU, Thailand

4. **Recognition and Sharing of Student Mobility Experiences:**
   Students who have participated in international mobility programmes are encouraged to share their experiences through testimonials, reports, and photo documentation. These success stories are published and promoted to inspire greater student engagement in future mobility programmes. (Appendix E.3.3 AGT; Appendix E.3.4. AGT and Appendix E.3.5 AGT).

5. **Participation of Students in International Conferences**
   As part of the effort to intensify student mobility opportunities, students from the Agrotechnology Study Programme have actively participated in various international academic events. Several students have been selected as presenters in prestigious forums, including Green Leadership Indonesia, and have received accolades such as Best Presenter at the HICAFS (International Conference on Food, Agriculture, and Natural Resources), Best Oral Presenter at ICAFES (International Conference on Agricultural and Food Engineering Systems), and Best Presenter at IFREL (International Forum on Research in Education and Learning). Additionally, Agrotechnology students also served as presenters at the Timor International Seminar: Science Without Borders, showcasing their engagement in global scientific discourse and cross-cultural academic exchange **(**Appendix E.3.6 AGT).

6. **Publication on Student Mobility**
   All student mobility activities have been documented and published on the official website of the Agrotechnology Study Programme as part of both reporting and promotional efforts. This initiative aims to encourage wider student participation in future mobility programmes by showcasing the benefits and opportunities such experiences offer. The website also provides practical tips and guidance on how to successfully apply for student mobility programmes, including preparation strategies

for English proficiency, thereby supporting students in enhancing their readiness for international engagement **(**Appendix E.3.7 AGT)

E.3.2. Ba AQUACULTURE

In support of UNDANA's commitment to becoming a globally engaged university, AQU has taken concrete steps to promote and facilitate student mobility at both national and international levels. At the institutional level, Universitas Nusa Cendana has allocated a dedicated *annual budget of IDR 500 million* per faculty to support student participation in *Merdeka Belajar Kampus Merdeka (MBKM)* programmes, including internships, student exchanges, and independent study modules (Appendix E 3.1 AQU). This funding has been instrumental in enabling students to explore learning opportunities beyond the local region.

Specifically, the AQU programme has facilitated *off-island internships* for students in various locations outside of East Nusa Tenggara (NTT), as well as initiated *cross-border student mobility activities*. One example includes the *formal partnership with Universidade Dili in the Democratic Republic of Timor-Leste*, which provides students with the opportunity to engage in short-term academic and professional experiences abroad (Appendix E 3.2 AQU). This initiative is supported by a university-level policy, formalized through the Rector's Decree on Cross-Country Student Mobility (Appendix E 3.3 AQU), ensuring institutional backing and alignment with UNDANA's internationalisation framework.

In addition, the Faculty has initiated collaboration with *Visayas State University in the Philippines*. While the partnership is still in progress, communication records and draft agreements indicate active development and a shared commitment to enabling future student exchange and academic collaboration (Appendix E 3.4 AQU). This effort represents a strategic expansion of AQU's international network and is aligned with national directives to enhance the global competence of graduates.

These developments demonstrate the programme's commitment to diversifying student learning experiences, broadening academic exposure, and enhancing employability in an increasingly interconnected world. Moving forward, AQU will continue to formalize mobility agreements and strengthen support mechanisms—both financial and administrative—to ensure increased participation of students in structured national and international mobility programmes.

E.3.3. Ba ANIMAL HUSBANDRY

The Animal Science Programme responded to ASIIN's recommendation to enhance efforts in promoting student mobility opportunities and to take strategic measures aimed at systematically expanding and supporting student international mobility.

The following initiatives have been implemented:

1. Promotion of Student Mobility Opportunities:
   The Study Programme promotes mobility opportunities in providing opportunities for students who are interested in studying abroad or joining student exchange

programmes (e.g. to international partner universities, or international internship programmes). (Appendix E.3.1 ANH)

2. International Partnership Development:
   The Study Programme collaborates with the Institute for Learning Development and Quality Assurance (LP3M) to promote international cooperation for the Field Study and Community Service (KKN) and Profesional Placement (PKL) programmes. (Appendix E.3.2 ANH)

3. Facilitation and Support for Student Mobility:
   - The Study Programme facilitates student mobility by providing the necessary academic support, and providing formal support of assignments and administrative assistance. (Appendix E.3.3 ANH)
   - The Study Programme assigns lecturers with a letter of assignment to accompany students in Field Study and Community Service (KKN) and Profesional Placement (PKL) activities. (Appendix E.3.4 ANH)

4. Recognition and Sharing of Student Mobility Experience:
   After conducting the activity, students are required to make a report as a form of accountability for the activity (Appendix E.3.5 ANH)

E.3.4. Ma ENVIRONMENTAL SCIENCE

Approximately 80% of the students in the Master's Programme in Environmental Science are civil servants employed by the Regional Government of East Nusa Tenggara (NTT). Due to their status as civil servants, these students are granted study leave but are still required to fulfill their duties and responsibilities as government employees during their studies. This situation limits their available time and makes it difficult for them to participate fully in student mobility programmes. However, the Environmental Science Study Programme supports student mobility efforts by facilitating the student named Mr. Yohanes Puu, (Student Number 2211030011) to present his scientific article entitled " Mangrove community structure in Oebelo village, Kupang district" at an IJSBAR Journal, Jordan. (Appendix E.3.1 ENV). In addition, another student named Aris Nyata Senjata (Std No. 2211030007) participated in an international conference to present a scientific paper entitled *"A*nalysis of Community Structure and Carbon Potential in the Mangrove Forest of Manuwolu Village, Mamboro Subdistrict, Central Sumba." More information can be accessed at https://itctimor.undana.ac.id/. (Appendix E.3.2 ENV).

- **Recommendations E 4. (ASIIN 3.2)**.
  It is recommended to foster the English language skills of staff through further incentivisation and training.

E.4.1. Ba AGROTECHNOLOGY

In response to ASIIN's recommendation to foster English language skills among academic staff through further incentivisation and training, the Agrotechnology Study Programme has implemented several targeted measures to systematically enhance English proficiency and support the internationalisation of academic activities.

The following initiatives have been undertaken:

1. **Incentivisation Policy for English Language Development:**
   The Study Programme has established an incentive policy to encourage staff participation in English language training. Lecturers who attend English language courses or workshops are eligible for specific financial incentives or professional development credits (Appendix E.4.1 AGT).

2. **Opportunities for International Academic Engagement:**
   The Study Programme facilitates staff participation in international seminars, conferences, and academic exchanges, providing lecturers with exposure to global scientific discourse and the opportunity to practice academic English in professional settings (Appendix E.4.2 AGT).

3. **Provision of Regular English Language Training for Staff:**
   Periodic English language training programmes are organised to strengthen lecturers' abilities in academic communication, including scientific writing, presenting research, and delivering lectures in English. These training sessions are tailored to meet the specific needs of teaching and research contexts (Appendix E.4.3 AGT)

E.4.2. Ba AQUACULTURE

To support internationalisation and improve the English language proficiency of academic staff, Universitas Nusa Cendana has initiated several institutional efforts since 2024. The university has opened formal opportunities for lecturers to enroll in English language courses, as stated in the *Vice Rector for Academic Affairs' Circular Letter* (Appendix E 4.1.). At the programme level, AQU has introduced a *weekly English-speaking lecturer seminar*, held every Thursday, where faculty members deliver and discuss academic content in English (video documentation). Also as mentioned in E 2. Several lecturers have been delivered part of their course materials in English (Appendix E 2.7. AQU).

In addition, lecturers are actively encouraged to *participate in international conferences and present their research* in English. This is supported through formal assignment letters and institutional funding, with documentation including certificates and letter of assignments

(Appendix E 4.2. AQU). These initiatives aim to build staff confidence and fluency in English for academic communication, networking, and teaching.

E.4.3. Ba ANIMAL HUSBANDRY

Responding to ASIIN recommendations to foster English language skills and proficiency among academic staff through incentives and further training, the Animal Husbandry Study Programme has implemented several strategic steps and systematically improved English language proficiency and supported the internationalization of academic activities.

Strategic efforts that have been made:

1. Incentive Policy for English Language Development: The Study Programme has established an incentive policy to encourage staff participation in English language training. Lecturers who attend English language courses or workshops are eligible for professional development credits (Appendix E 4.1 ANH).

2. Provision of Regular English Language Training for Staff: Regular English language training programmes are organized to strengthen lecturers' abilities in academic communication, including scientific writing, presenting research, and delivering lectures in English. These training sessions are tailored to meet the specific needs of the teaching and research context (Appendix E 4.2 ANH)

E.4.4. Ma ENVIRONMENTAL SCIENCE

In response to the ASIIN assessor team's recommendation to improve staff English language skills through additional incentives and further training: Nusa Cendana University, through the **International Relations Office** (IRO) Undana and in collaboration with faculty members, has facilitated a visiting professor programme by inviting Ass.Prof. John Mischler,Ph.D an associate professor of environmental science, sustainability, and environmental education from Goshen College, Indiana. He delivered lectures in English attended by students and several lecturers in the courses on Climate Change Policy (Appendix E.4.1 ENV).

The Environmental Science Study Programme supports Staff efforts by facilitating the Staff named Prof. Fredrik L. Benu, M.S., Ph.D to presentas invited speaker at an international conference. This is a form of support for his participation as a speaker at the international seminar "International Transborder Conference," a collaboration between Universitas Nusa Cendana (UNDANA) and Universidade Nacional Timor Lorosa'e (UNTL) in Timor Leste (Appendix E.4.2 ENV). More information can be accessed at https://itctimor.undana.ac.id/. Additionally, the programme provides incentives to faculty members for publishing articles in international journals (Appendix E.4.3 ENV), and (Appendix E.4.4 ENV).

- **Recommendations E 5. (ASIIN 3.2/3.3).**
  It is recommended to increase laboratory capacities, both in terms of lab facilities and assistants

E.5.1. Ba AGROTECHNOLOGY

In response to ASIIN's recommendation to enhance laboratory capacity both in terms of facilities and staff support, the Agrotechnology Study Programme has undertaken a series of systematic improvements to strengthen laboratory-based learning and research activities. The following initiatives have been implemented:

1. **Enhancement of Laboratory Facilities and Infrastructure:**
   The Study Programme has improved the availability and quality of laboratory facilities by increasing the range and number of laboratory equipment, materials, and consumables. Efforts have been made to ensure that laboratory resources adequately meet the needs of both practical classes and student research projects. The ratio of students to laboratory facilities has been reviewed and optimised to maintain effective and safe laboratory practices (Appendix E.5.1 AGT & Appendix E 5.2 AGT).

2. **Recruitment of Additional Laboratory Staff:**
   To meet the growing demand for laboratory-based activities, the Study Programme has appointed additional laboratory assistants and technicians. New staff appointments are based on academic and technical qualifications to ensure that laboratory operations are well-supported and that practical sessions are conducted effectively (Appendix E.5.2 AGT; Appendix E.5.3 AGT; Appendix E.5.4 AGT)

3. **Capacity Building for Laboratory Staff:**
   Continuous professional development is prioritised through the facilitation of training programmes for laboratory assistants and technicians. These training sessions focus on laboratory safety, technical skills enhancement, and the application of modern laboratory techniques relevant to agricultural science and technology (Appendix E.5.4 AGT).

E.5.2. Ba AQUACULTURE

In 2024, Universitas Nusa Cendana responded to the ASIIN recommendation by significantly enhancing its laboratory infrastructure and technical staffing within the Faculty of Animal Husbandry, Marine, and Fisheries, which includes AQU. A formal request to increase laboratory personnel by six technicians was approved (Appendix E 5.1. AQU), raising the total from three to nine—ensuring one dedicated technician per specialized laboratory unit. Simultaneously, the Rectorate sponsored competency training for two of these new technicians in aquaculture techniques (Appendix E 5.2. AQU).

Regarding facilities, the AQU programme allocated IDR 1.1 billion in late 2024—delivered in early 2025—to procure both major laboratory units and specialized equipment. Phase 1 of the Aquaponics Laboratory was acquired for IDR 88,802,000 (Appendix E 5.3. AQU ; video documentation), alongside a Tilapia Broodstock and Macroalgae Nursery Laboratory for IDR 158,180, (Appendix E 5.4. AQU). In addition, a suite of analytical and support instruments—including a Manual Rotary Microtome, Digital Microscope, Kjehdahl Digestion System, Circulation Water Unit, Orbital Shaker, GPS device, Haematocrit Centrifuge, Soxhlet Extractor, Laminar Air Flow cabinet, Water Quality Meter (U-51), Oxygen Bomb Calorimeter, and Color Analyzer—was purchased for IDR 871,754,000 (Appendix E 5.5. AQU ; accompanying video).

These investments in both personnel and equipment directly address the need to expand laboratory capacity in anticipation of growing student cohorts and evolving research demands. They constitute substantial, realized improvements rather than planned intentions, demonstrating UNDANA's commitment to providing high-quality, hands-on learning environments that meet current and future academic requirements.

E.5.3. Ba ANIMAL HUSBANDRY

The Animal Husbandry Study Programme has followed up on ASIIN recommendations to increase laboratory capacity, both in terms of laboratory facilities and assistants.

Follow-up actions taken by the Study Programme include:

1. The study programme has added laboratory facilities (Appendix E.5.1.ANH)
2. Documentation of laboratory facilities (Appendix E.5.2.ANH)
3. The Study Programme has increased the number of laboratory assistants by 5 people in the formation of the 2024 CPNS recruitment (Appendix E.5.3.ANH)

Responding to the recommendation from ASIIN, the animal husbandry study programme prepared a Draft Budget (RAB) for the procurement of pig pens and poultry pens to complete the needs of practical/practical activities and research. The Draft Budget was prepared by the study programme and submitted to the faculty for the faculty to then submit to the University to fulfill or complete the recommendations suggested by ASIIN (Appendix E.5.4.ANH & Appendix E.5.5.ANH)

E.5.4. Ma ENVIRONMENTAL SCIENCE

The Master of Environmental Science Programme continues to conduct practical sessions but does not use on-campus laboratories. Practicals are conducted in natural laboratories such as conservation areas, as well as through field trips to coastal and shoreline ecosystems, in accordance with the course subjects. As an example of field practice activities, mapping of the Area Using Drone Technology in the Green Open Space of Undana Campus (Appendix E.5.1 ENV;Appendix E.5.2 ENV;Appendix E.5.3 ENV; Appendix E.5.4 ENV), Vegetation Analysis and Behavior of Endemic Wildlife in TWA (Nature Park) Menipo, Kupang Regency (Apendix E.5.5 ENV).

- **Recommendations E 6. (ASIIN 3.3).**
  It is recommended to intensify efforts to ensure students are aware of the existing remote literature database access options

E.6.1. Ba AGROTECHNOLOGY

In response to ASIIN's recommendation to intensify efforts in ensuring students' awareness of remote access options to licensed literature databases, the Agrotechnology Study Programme has taken concrete measures to address this issue (Appendix E.6.1 AGT). Firstly, the Programme has conducted information literacy workshops, guiding students on how to access digital literature databases such as e-journals, e-books, Scopus, ScienceDirect, Springer, and other resources provided by the university library (Appendix E6.2 AGT). These workshops specifically cover methods for accessing databases remotely from outside the campus network (Appendix E.6.2 AGT)

Secondly, the Study Programme has developed and distributed written guidelines and video tutorials (video) to assist students in independently accessing electronic resources from home (Appendix E.6.2 AGT). These materials are designed to be easily understood and accessible, thus enhancing students' ability to utilise digital academic resources effectively for their learning and research activities.

To support this, the Programme has provided students with **user-friendly guidance materials**, including tutorials and written instructions, designed to help them navigate and access scholarly databases both on- and off-campus. These materials are intentionally created to be **clear, practical, and accessible**, enhancing students' ability to independently explore, retrieve, and evaluate scientific resources.

Furthermore, a **comprehensive list of 25 e-journals and digital resources** accessible to Universitas Nusa Cendana students has been made available. Examples of these include:

1. **Journal of Integrative Agriculture**
   https://www.sciencedirect.com/journal/journal-of-integrative-agriculture/vol/21/issue/7
2. **Journal of Applied Chemical Science**
   https://ejurnal.undana.ac.id/index.php/jacs/issue/view/198
3. **Journal of Agriculture and Food Research**
   https://www.sciencedirect.com/journal/journal-of-agriculture-and-food-research
4. **Agrisa**
   https://ejurnal.undana.ac.id/index.php/agrisa/login/signIn
5. **Jurnal Lembaga Pengabdian Kepada Masyarakat Undana**
   (Undana's Journal of Community Service)
6. **Agricultural and Forest Meteorology**
   https://www.sciencedirect.com/journal/agricultural-and-forest-meteorology
7. **Energy in Agriculture (Agricultural Wastes)**
   https://www.sciencedirect.com/journal/energy-in-agriculture)

8. **Tropical Agricultural Sciences**
   (https://www.sciencedirect.com/journal/tropical-agricultural-sciences)

These resources are promoted through class announcements, academic workshops, and direct communication channels such as WhatsApp groups and email lists. By providing direct access links and familiarising students with these platforms, the Study Programme reinforces its commitment to enhancing academic quality through the effective use of scientific literature and digital academic resources **(**Appendix A.6.3 AGT**)**.

We also provide a report on student feedback regarding the accessibility of licensed literature databases and academic resources. The findings indicate that while students generally find it moderately easy to access these resources on campus, they encounter significant challenges with off-campus access. These challenges include technical difficulties and a lack of clear guidance on using the institutional login system.

Although the feedback is based on a limited sample of 20 student respondents, it highlights the need for increased awareness and enhanced digital literacy support to ensure that all students can fully utilise the academic resources provided by the university, both on and off campus (Appendix E.6.4 AGT)

These efforts demonstrate the Study Programme's commitment to improving students' digital literacy, promoting independent learning, and ensuring that all students can benefit from the extensive academic resources available through Universitas Nusa Cendana's licensed digital platforms.

E.6.2. Ba AQUACULTURE

To enhance students' and staff's access to licensed literature, Universitas Nusa Cendana's library has implemented remote database access as of August 2023. A formal circular from the Vice Rector for Academic Affairs communicated the new login procedures and available resources to all AQU students (Appendix E 6.1. AQU). To ensure full awareness, the library and AQU programme have since integrated reminders into course orientations, issued periodic email bulletins, and displayed access instructions on the programme's Moodle page. These measures guarantee that all students are informed about—and can seamlessly utilize—remote access to essential academic literature

E.6.3. Ba ANIMAL HUSBANDRY

ASIIN recommendations given to the Animal Husbandry Study Programme, namely

1. Conduct information literacy workshops on how to access digital literature databases (such as e-journals, e-books, Scopus, ScienceDirect, Springer, etc.) already provided by the library or university, but often students (Appendix E. 6. 1 ANH)
2. The Animal Husbandry Study Programme conducts data literacy workshop activities to improve students' ability to find the latest references (Appendix E. 6.2 ANH)

3. The Animal Husbandry Study Programme provides online journal references to make it easier for students to write scientific papers, proposals, and theses to improve data literacy skills (Appendix E 6.3 ANH)

E.6.4. Ma ENVIRONMENTAL SCIENCE

In response to the review findings highlighting the need to facilitate student access to reputable international scientific references and electronic books, Universitas Nusa Cendana has issued a circular letter informing students of the available access to various literature databases, including remote access options (see attachment: Circular Letter from the Vice Rector I of Undana; (Appendix E.6.1 ENV). Following up on this, the Coordinator of the Master of Environmental Science Programme has taken steps to support students by facilitating access to freely available scientific articles and e-books through platforms provided by the university.Evidence of student access to scientific articles and e-books freely available through the university-provided platforms is presented in (Appendix E.6.2_ENV)
In addition, students are also given the opportunity to access scientific articles or e-books through course assignments or by searching for primary references to complete their final thesis.

- **Recommendations E 7. (ASIIN 4.1).**
  It is recommended to review the literature recommendations stated in the module descriptions, especially in regard to outdated references

E.7.1. Ba AGROTECHNOLOGY

In response to ASIIN's recommendation to review and update the literature recommendations stated in the module descriptions, particularly concerning outdated references, the Agrotechnology Study Programme has taken systematic corrective actions to ensure that all recommended literature remains relevant, authoritative, and current.
The following measures have been implemented:

1. **Systematic Revision of Module Descriptions:**
   The Study Programme conducted a comprehensive revision of all module descriptions, focusing specifically on updating the recommended literature. This process ensured that students are guided towards the latest and most credible sources of knowledge in their field (Appendix E.7.1 AGT; Appendix E.7.2 AGT)

2. **Incorporation of Updated and High-Quality References:**
   Updated references include the latest editions of core textbooks, recent journal articles published within the last five to ten years in reputable international journals, and up-to-date digital resources such as e-books and contemporary research reports. These updates align the curriculum with the latest scientific developments and professional standards in agriculture and agrotechnology (Appendix E.7.3 AGT)

3. **Structured Curriculum Review Process:**
   The revision was carried out under the coordination of an officially appointed Curriculum Review Team, as formalised in a Rector's Decree. The team conducted a series of structured meetings to systematically review and update module content and references, ensuring academic rigour and relevance (Appendix E.7.4 AGT)

E.7.2. Ba AQUACULTURE

In response to the expert panel's recommendation, AQU has conducted a comprehensive review and revision of all course module handbooks to eliminate outdated references and ensure that recommended literature reflects the latest advances in the field. During the revision process, each course was audited to identify citations predating 2000; these were replaced by current textbooks, peer-reviewed journal articles (2010–2024), and authoritative online resources. The updated module handbook now features a balanced selection of classic foundational works and contemporary studies, with over 80 % of references published within the last decade. Revised handbooks are documented in (Appendix E 7.1. AQU). Ongoing annual reviews have been instituted to maintain currency and academic rigor.

E.7.3. Ba ANIMAL HUSBANDRY

ASIIN's recommendations for ANH are Systematic Revision of Module Descriptions, Incorporation of Current and quality References and Structured Curriculum Review Process. ANH's response was to review and update the literature recommendations listed in the module descriptions, especially regarding outdated references. The Animal Science Study Programme has taken systematic corrective actions to ensure that all recommended literature remains relevant, authoritative and current.

The steps that have been implemented are as follows:

1. *Formation of Curriculum Revision Team*
   To improve academic quality and to ensure compliance with scientific developments, industry needs, and national and international standards, the Animal Husbandry Study Programme has systematically revised curriculum documents. This revision is based on the results of periodic evaluations, input from stakeholders such as lecturers, students, alumni, graduate users (employers), and refers to the national qualifications framework (KKNI), international competency standards, and the principles of outcome-based education (OBE) (Appendix E.7.1 ANH).

2. *Systematic Revision of Module Descriptions*
   The Study Programme undertakes a comprehensive revision of all module descriptions, with a particular focus on updating recommended literature. This process ensures that students are guided towards the latest and most credible sources of knowledge in the field. (Appendix E.7.2 ANH & Appendix E.7.3 ANH)

3. *Update of Student Handbook, Staff Handbook, and Handbook Module Documents*
These documents are updated to provide the latest information on curriculum, programme structure, academic regulations, student support services, as well as general guidelines during the study period. All documents are available digitally and can be accessed through the official website of the Animal Husbandry Study Programme, to ensure ease of access, transparency of information, and support for the digitization of academic management. This activity is one of the strategic steps to fulfill the criteria in international accreditation, such as information disclosure, user satisfaction, and good governance management, as well as supporting the achievement of international-based higher education quality standards. (Appendix E.7.4 ANH, Appendix E.7.5 ANH, Appendix E.7.6 ANH, & Appendix E.7.7 ANH)

E.7.4. Ma ENVIRONMENTAL SCIENCE

In response to the assessor's recommendation regarding the need to revise outdated references in the module handbook, the Master of Environmental Science Programme has updated the references for each course. The previously outdated references have been replaced with both ***primary and supporting references sourced from reputable scientific articles and/or electronic books published within the last five years.*** This update is expected to enhance the relevance and quality of the learning materials following the latest developments in scientific knowledge (Appendix E.7.1 ENV)

3.2 Response to the recommendations for the Ba Aquaculture

- **Recommendations E 8. (ASIIN 1.3/3.3).**
  It is recommended to include Closed Aquaculture Recirculation Systems (RAS) for aquaponics in the curriculum and the programme's facilities

In response to the ASIIN recommendation, AQU has begun incorporating a Closed Aquaculture Recirculation System (RAS) for aquaponics both in its facilities and curriculum. During 2024, Stage I of the Aquaponics Laboratory was developed with dedicated funding for (a) *system design and planning* – IDR 7,992,000 – and (*b) installation of the closed-loop aquaponic system* – IDR 80,810,000 (Appendix E 5.3. AQU). Concurrently, the programme has formally introduced "Aquaponics Aquaculture Technology" as a compulsory course in the curriculum for the 2025 cohort, complete with an updated semester learning plan and course syllabus (Appendix E 1.1. AQU ; Appendix E 1.2. AQU). These steps ensure that students gain both theoretical knowledge and hands-on experience with RAS technology, aligning facilities and teaching content with international best practices in sustainable aquaculture.