



## AUN-QA ASSESSMENT REPORT AT PROGRAMME LEVEL

AUN-QA Assessment No.:	Date of Assessment: <b>18 October 2024</b>
Name of Programme Assessed: <b>Bachelor of Science in Agricultural Machinery and Mechatronics</b>	
Name of University: <b>Kasetsart University</b>	
Name of Faculty/School: <b>Faculty of Agriculture at Kamphaengsaen</b>	
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## Introduction

The Internal Quality Assurance Evaluation Committee at the program level, according to the AUN-QA Version 4.0 criteria, has been assigned by Kasetsart University to carry out the internal quality assessment of the Bachelor of Science program in Agricultural Engineering and Mechatronics at the Faculty of Agriculture, Kamphaeng Saen. The assessment covers the academic year 2023 (July 1, 2023, to June 30, 2024) and is scheduled for October 15, 2024. The goal is to continuously develop and improve the program's effectiveness.

The evaluation committee sincerely hopes that the results of the internal quality assessment at the program level, based on AUN-QA criteria, will be beneficial to the program, the Faculty of Agriculture, Kamphaeng Saen, and Kasetsart University as a whole.

ประธานกรรมการ .....

(รองศาสตราจารย์ ดร.รัชฎาพร อุ่นศิริไวย)

สำนักวิชาเทคโนโลยีการเกษตร

มหาวิทยาลัยเทคโนโลยีสุรนารี

กรรมการ .....

(รองศาสตราจารย์ ดร.ชนัษัณห์ พูนไพบูลย์พิพัฒน์)

คณะเกษตรศาสตร์ ทรัพยากรธรรมชาติและสิ่งแวดล้อม

มหาวิทยาลัยขอนแก่น

กรรมการ .....

(รองศาสตราจารย์คณิตา ตั้งคณาษฎ์)

คณะสิ่งแวดล้อม

มหาวิทยาลัยเกษตรศาสตร์

เลขานุการ .....

(ดร.ชนธิต ดาวรุ่งโรจน์)

สำนักงานพัฒนาคุณภาพ

มหาวิทยาลัยเกษตรศาสตร์

ผู้ช่วยเลขานุการ .....

(นายจตุรงค์ ตันนุกูล)

สำนักงานพัฒนาคุณภาพ

มหาวิทยาลัยเกษตรศาสตร์

October 15, 2024

## Report Summary

This report is based on information provided in the self-assessment report (SAR), evidences, site tours, and interviews with selected stakeholders including academic staff, support staff, students, alumni, and employers. It should be read together with the preliminary findings presented at the closing ceremony where key strengths and areas for improvement were highlighted.

The AUN-QA assessment at programme level covers eight criteria. Each criterion is assessed based on a seven-point scale. A summary of the assessment results for the Master of Engineering Program in Agricultural Engineering at Kasetsart university, is as follows:

Criterion	Score
1. Expected Learning Outcomes	4
2. Programme Structure and Content	4
3. Teaching and Learning Approach	4
4. Student Assessment	4
5. Academic Staff	4
6. Student Support Services	3
7. Facilities and Infrastructure	4
8. Output and Outcomes	3
<b>Overall Verdict</b>	<b>4</b>

Based on the assessment results, the Bachelor of Science in Agricultural Machinery and Mechatronics at Kasetsart university fulfills the AUN-QA requirements to be awarded the AUN-QA certificate. The overall quality assurance implemented by the programme is Absolutely Adequate as Expected

Criterion	Strengths	Areas for Improvement	Rating
<b>1. Expected Learning Outcomes</b>			4
1.1. The programme to show that the expected learning outcomes are appropriately formulated in accordance with an established learning taxonomy, are aligned to the vision and mission of the university, and are known to all stakeholders.	<ul style="list-style-type: none"> <li>- The curriculum defines Program Learning Outcomes (PLOs) in alignment with the principles of Outcome-Based Education, based on Bloom's Taxonomy.</li> <li>- The curriculum includes an analysis of the alignment between the PLOs and the vision and mission at both the faculty and university levels.</li> <li>- The curriculum communicates the PLOs to stakeholders through the faculty website, online platforms (such as Line groups), departmental meetings, seminars and training sessions, as well as promotional brochures.</li> <li>- Each course in the curriculum has clearly defined Course Learning Outcomes (CLOs), which are aligned with the Program Learning Outcomes (PLOs).</li> </ul>	-	4
1.2. The programme to show that the expected learning outcomes for all courses are appropriately formulated and are aligned to the expected learning outcomes of the programme.	Each course in the curriculum has clearly defined Course Learning Outcomes (CLOs), which are aligned with the Program Learning Outcomes (PLOs).	-	4
1.3. The programme to show that the expected learning outcomes consist of both generic outcomes (related to written and oral communication, problem-solving, information technology, teambuilding skills, etc) and subject specific outcomes (related to knowledge and skills of the study discipline).	The curriculum clearly defines both generic and specific learning outcomes to guide student development in general competencies and discipline-specific knowledge.	-	4

Criterion	Strengths	Areas for Improvement	Rating
1.4. The programme to show that the requirements of the stakeholders, especially the external stakeholders, are gathered, and that these are reflected in the expected learning outcomes.	The curriculum utilizes input from stakeholders in the development of Program Learning Outcomes (PLOs). Internal stakeholders include students, faculty members, and administrative staff, while external stakeholders consist of employers, entrepreneurs, alumni, and parents.	-	4
1.5. The programme to show that the expected learning outcomes are achieved by the students by the time they graduate.	<p>The curriculum has implemented a structured approach to learning outcome assessment to ensure continuous quality improvement. This includes:</p> <p>The administration of an exit examination to evaluate the overall competency of students upon program completion, with a clearly defined passing threshold set at 60%.</p> <p>Annual monitoring and evaluation of the achievement of Year Learning Outcomes (YLOs), enabling the program to track student progress and identify areas for curricular improvement.</p>	The assessment of learning outcomes is conducted in quantitative terms, specifying the evaluation process for each individual criterion. This includes the use of both direct and indirect assessment data to ensure a comprehensive evaluation of student learning and program effectiveness.	3

Criterion	Strengths	Areas for Improvement	Rating
<b>2. Programme Structure and Content</b>			4
2.1. The specifications of the programme and all its courses are shown to be comprehensive, up-to-date, and made available and communicated to all stakeholders.	<ul style="list-style-type: none"> <li>- The curriculum presents detailed information according to the Curriculum Report Form (MKO 2), with the most recent update in 2022, and is disseminated through multiple channels such as social media, the department website, and the university website."</li> <li>- The curriculum ensures that all information is consistently updated across all sources.</li> </ul>	-	4
2.2. The design of the curriculum is shown to be constructively aligned with achieving the expected learning outcomes.	The curriculum has developed courses that enable students to achieve all 8 Program Learning Outcomes (PLOs) for the 2022 curriculum and 7 PLOs for the 2017 curriculum. These outcomes encompass knowledge, specific skills, generic skills, and attitude.	-	4
2.3. The design of the curriculum is shown to include feedback from stakeholders, especially external stakeholders.	<p>The curriculum incorporates feedback from employers, particularly from the agricultural machinery sector, irrigation systems, large farms, the sugar industry, and agricultural management systems, addressing the following issues:</p> <ol style="list-style-type: none"> <li>1.The discontinuation of certain courses, with the inclusion of key content into compulsory courses;</li> <li>2.The introduction of elective courses on modern and relevant topics;</li> <li>3.Extending the duration of internships in the private sector to two months;</li> <li>4.Updating teaching materials to keep pace with modern developments;</li> <li>5.Organizing field trips to observe advanced equipment and tools in the private sector.</li> </ol>	-	4

Criterion	Strengths	Areas for Improvement	Rating
2.4. The contribution made by each course in achieving the expected learning outcomes is shown to be clear.	<ul style="list-style-type: none"> <li>- The curriculum has developed a curriculum mapping in the Curriculum Report Form (TQF 2)."</li> <li>- Each course is aligned with the Program Learning Outcomes (PLOs)</li> </ul>	-	4
2.5. The curriculum to show that all its courses are logically structured, properly sequenced (progression from basic to intermediate to specialised courses), and are integrated.	The curriculum defines a course structure that progresses from foundational to intermediate levels, leading to the application of knowledge from multiple courses in order to achieve the program's learning outcomes.	-	4
2.6. The curriculum to have option(s) for students to pursue major and/or minor specialisations	<ul style="list-style-type: none"> <li>- The curriculum provides students with the opportunity to choose from four specialized tracks: Plant Water Systems, Agri-Building, Agri-Machinery, and Farm Mechatronics.</li> <li>- "The curriculum also allows students to select elective courses totaling 6 credits."</li> </ul>	-	4
2.7. The programme to show that its curriculum is reviewed periodically following an established procedure and that it remains up-to-date and relevant to industry.	The curriculum is reviewed and updated every 5 years, as per the criteria set by the Office of the Higher Education Commission (OHEC), ensuring alignment with the needs of the workforce.	-	4

Criterion	Strengths	Areas for Improvement	Rating
<b>3. Teaching and Learning Approach</b>			4
3.1. The educational philosophy is shown to be articulated and communicated to all stakeholders. It is also shown to be reflected in the teaching and learning activities.	The curriculum is based on the philosophy of Kasetsart University, which serves as a guiding framework in defining the attributes of graduates. This information is disseminated through various channels, such as the faculty website, social media platforms, and departmental meetings.	-	4
3.2. The teaching and learning activities are shown to allow students to participate responsibly in the learning process.	The curriculum encourages students to actively participate in the teaching and learning process in the courses 'Special Problems' and 'Specific Practicum,' where students select topics for their projects.	-	4
3.3. The teaching and learning activities are shown to involve active learning by the students.	The curriculum includes activities that promote active learning, such as practical courses, teamwork, and skill development in various subjects.	-	4
3.4. The teaching and learning activities are shown to promote learning, learning how to learn, and instilling in students a commitment for life-long learning (e.g., commitment to critical inquiry, information-processing skills, and a willingness to experiment with new ideas and practices).	The curriculum defines lifelong learning skills, including: (1) research skills, (2) presentation skills, (3) problem-solving skills, and (4) the ability to keep up with current knowledge and technology.	-	4
3.5. The teaching and learning activities are shown to inculcate in students, new ideas, creative thought, innovation, and an entrepreneurial mindset.	The curriculum promotes student innovation and new ideas through the 'Special Problems' course, student participation in the 'Smart Agriculture Robot Contest 2021,' and involvement in the 'Kamphangsaeen Agricultural Fair 2022'."	-	4
3.6. The teaching and learning processes are shown to be continuously improved to ensure their relevance to the needs of industry and are aligned to the expected	The curriculum adjusts its teaching methods to meet the needs of the workforce by organizing field trips to observe modern tools and equipment in the private sector.	Based on student interviews, the curriculum considers enhancing skills in equipment or tool handling, knowledge of plow tail	4



Criterion	Strengths	Areas for Improvement	Rating
learning outcomes.		components, knowledge of irrigation systems, and communication and presentation skills.	

Criterion	Strengths	Areas for Improvement	Rating
<b>4. Student Assessment</b>			4
4.1. A variety of assessment methods are shown to be used and are shown to be constructively aligned to achieving the expected learning outcomes and the teaching and learning objectives.	The curriculum employs various assessment methods, such as exams, practical work, presentations, and behavior evaluations, and uses assessment approaches that align with learning outcomes at both the course and program levels.	-	4
4.2. The assessment and assessment-appeal policies are shown to be explicit, communicated to students, and applied consistently.	The curriculum has a grievance and assessment system, allowing students to submit complaints through their academic advisors, department heads, faculty, and the university.	-	4
4.3. The assessment standards and procedures for student progression and degree completion, are shown to be explicit, communicated to students, and applied consistently.	The curriculum has promotion and graduation standards according to the university's criteria. These standards are communicated to students during orientation and through regular monitoring throughout their academic years.	-	4
4.4. The assessment methods are shown to include rubrics, marking schemes, timelines, and regulations, and these are shown to ensure validity, reliability, and fairness in assessment.	The curriculum uses rubric criteria to assess courses such as the seminar, Special Problems, and Survey projects in various AMM courses. Additionally, a marking scheme is used for practical exams on farm machinery. These assessment criteria are designed to be valid and fair to all students.	The rubric criteria include detailed descriptors of scores to ensure clarity in assessment and to support the development of students.	4
4.5. The assessment methods are shown to	- The curriculum assesses the achievement of	The assessment methods for evaluating the	3

Criterion	Strengths	Areas for Improvement	Rating
measure the achievement of the expected learning outcomes of the programme and its courses.	PLOs through an exit exam, self-assessment by students, review processes, and surveys from employers." - The methods used to assess the achievement of CLOs in each course.	achievement of PLOs are aligned with Indicator 1.5, and the assessment results are linked to Indicator 8.4.	
4.6. Feedback of student assessment is shown to be provided in a timely manner.	The curriculum provides timely feedback on assessment results, such as immediate feedback during practical exams.	-	4
4.7. The student assessment and its processes are shown to be continuously reviewed and improved to ensure their relevance to the needs of industry and alignment to the expected learning outcomes.	The curriculum has a review system for assessment through student surveys at the end of each semester. Meetings are held with an external chairperson, and the meeting outcomes are recorded and summarized. These results are then used to improve teaching methods and assessment processes for the following academic year.	-	4

Criterion	Strengths	Areas for Improvement	Rating
<b>5. Academic Staff</b>			4
5.1. The programme to show that academic staff planning (including succession, promotion, re- deployment, termination, and retirement plans) is carried out to ensure that the quality and quantity of the academic staff fulfill the needs for education, research, and service.	The curriculum has a workforce planning system, with the implementation of Individual Development Plans (IDP) to guide self-development towards higher academic positions, including advanced levels of education, in accordance with the university's criteria and policies.	-	4
5.2. The programme to show that staff workload is measured and monitored to improve the quality of education, research, and service.	<ul style="list-style-type: none"> <li>- The university requires full-time faculty members, according to the KU workload system, to have a workload of 35 hours per week, which includes teaching, research, academic service, and the promotion of arts and culture.</li> <li>- The workload is assessed through a performance evaluation system for salary progression, with monitoring and oversight of faculty workload by the department head.</li> </ul>	-	4
5.3. The programme to show that the competences of the academic staff are determined, evaluated, and communicated.	<ul style="list-style-type: none"> <li>- The curriculum defines the competencies of faculty members in the department, including:</li> <li>- Compliance with the AMM program's qualifications and the university's faculty standards and requirements.</li> <li>- Knowledge and understanding of teaching and learning methods based on Outcome-Based Education (OBE).</li> <li>- Teaching skills in active learning methods and</li> </ul>	-	4

Criterion	Strengths	Areas for Improvement	Rating
	<p>effective practical teaching skills.</p> <p>- Skills in lifelong learning transfer.</p> <p>- Involvement in research, academic service, and student advising."**</p> <p>Competencies are assessed through performance evaluations for promotion.</p>		
5.4. The programme to show that the duties allocated to the academic staff are appropriate to qualifications, experience, and aptitude.	Faculty members in the curriculum are assigned workload based on their expertise, skills, and experience, ensuring that students receive knowledge from specialists, which supports the achievement of the expected learning outcomes of the program.	-	4
5.5. The programme to show that promotion of the academic staff is based on a merit system which accounts for teaching, research, and service.	Faculty promotions are based on a merit-based system, evaluated across all responsibilities, including teaching, research, and academic service. Faculty members are aware of the evaluation criteria.	-	4
5.6. The programme to show that the rights and privileges, benefits, roles and relationships, and accountability of the academic staff, taking into account professional ethics and their academic freedom, are well defined and understood.	<p>- The curriculum provides academic freedom for faculty members to conduct research aligned with their expertise and specialization."</p> <p>- The curriculum communicates the rights, benefits, rules, and regulations that faculty members should be aware of through various channels, such as circular letters and faculty handbooks.</p>	-	4
5.7. The programme to show that the training and developmental needs of the academic staff are systematically identified, and that appropriate training and development activities are implemented to fulfill the identified needs.	The curriculum has a policy for faculty development, including OBE (Outcome-Based Education), active learning techniques, and quality assurance based on AUN-QA standards, as well as knowledge development in agricultural machinery. This aims to drive students to achieve the desired learning outcomes. Faculty members	-	4

Criterion	Strengths	Areas for Improvement	Rating
	create development plans, which are then used by the department head to allocate the budget.		
5.8. The programme to show that performance management including reward and recognition is implemented to assess academic staff teaching and research quality.	The faculty awards prizes to staff members whose academic work is published internationally, granted patents, or receive minor patents or copyrights, with financial incentives. Additionally, at the university level, awards are given for outstanding academic achievements, especially research that has a significant impact on the development of the country.	-	4

Criterion	Strengths	Areas for Improvement	Rating
<b>6. Student Support Services</b>			4
6.1. The student intake policy, admission criteria, and admission procedures to the programme are shown to be clearly defined, communicated, published, and up-to-date.	<ul style="list-style-type: none"> <li>- The curriculum defines policies for student admission, including admission criteria, methods, number of admissions, and the admission process, in accordance with the TCAS system and university regulations."</li> <li>- The curriculum analyzes the reasons for not meeting the planned student intake and has conducted promotional activities to reach a wider target audience.</li> </ul>	Based on interviews, there is a suggestion for the curriculum to increase outreach to the target audience, with a recommendation to use TikTok for promotion.	4
6.2. Both short-term and long-term planning of academic and non-academic support services are shown to be carried out to ensure sufficiency and quality of support services for teaching, research, and community service.	The curriculum uses the results of annual evaluations and feedback from stakeholders to provide academic and non-academic support services.	The curriculum considers creating clear short-term and long-term plans, with defined timelines, goals, indicators, and responsible parties, to ensure adequate support services for students until graduation.	3
6.3. An adequate system is shown to exist for student progress, academic performance, and workload monitoring. Student progress, academic performance, and workload are shown to be systematically recorded and monitored. Feedback to students and corrective actions are made where necessary.	The curriculum records and tracks students' academic progress and performance. Faculty members across the program collaborate to analyze and address issues, providing academic guidance and life skills support to students.	The curriculum considers monitoring the effectiveness of the student supervision process to develop and improve the student care procedures.	4
6.4. Co-curricular activities, student competition, and other student support services are shown to be available to improve learning experience and employability.	-The curriculum encourages all 4 - year students to participate in the Thailand Tractor and Agri-Machinery Show (ThaiTAM), a collaboration between KU and external organizations, providing students with hands-on experience working with the private sector, leading to employment	The curriculum evaluates the success of activities based on their objectives and should define objectives that reflect the expected learning outcomes that the program aims for students to achieve.	4

Criterion	Strengths	Areas for Improvement	Rating
	<p>opportunities for students nearing graduation.</p> <p>- The curriculum supports students in participating in the Smart Agricultural Robot Competition, with students winning first place in the 2022 academic year, and taking part in the Innovation Robotic AI &amp; IOT Contest 2023. Additionally, there are various activities that enhance skills aligned with the PLOs.</p>		
6.5. The competences of the support staff rendering student services are shown to be identified for recruitment and deployment. These competences are shown to be evaluated to ensure their continued relevance to stakeholders needs. Roles and relationships are shown to be well-defined to ensure smooth delivery of the services.	<p>- The department has 7 support staff for the program's teaching and learning, with clear roles and responsibilities, and well-defined competencies. The curriculum analyzes the needs and staffing requirements, and requests additional staff annually.</p> <p>- All support staff members receive continuous training and development every year, with assigned duties and performance evaluated according to the KU SMART P system.</p>	<p>- The faculty/university assesses the need for support staff with expertise as required by the curriculum to assist in teaching and learning, ensuring that students engage in practical training that leads to the desired learning outcomes as specified by stakeholders.</p> <p>- The curriculum considers the support staff that students regularly interact with, ensuring that both faculty and university staff are included.</p> <p>- Evidence of the recruitment process, hiring, and performance evaluation is provided in accordance with university regulations.</p>	4
6.6. Student support services are shown to be subjected to evaluation, benchmarking, and enhancement.	<p>- The curriculum evaluates student satisfaction with student support services for the 2022 and 2023 academic years, with improvements in the evaluation results.</p> <p>- " Results are analyzed, and solutions are sought for issues with poor evaluations, such as insufficient support staff.</p>	The curriculum considers benchmarking student support services in areas that require development, comparing them with programs, departments, or institutions that have demonstrated better performance.	4



Criterion		Strengths	Areas for Improvement	Rating
Criterion	Strengths		Areas for Improvement	Rating
<b>7. Facilities and Infrastructure</b>				4
7.1. The physical resources to deliver the curriculum, including equipment, material, and information technology, are shown to be sufficient.	The faculty/department has sufficient facilities, including classrooms, electrical and electronics laboratories, computer and agricultural mechatronics laboratories, general engineering workshops, practical testing areas, audio-visual equipment, and tools for teaching, research, and academic services in agricultural machinery.		The curriculum considers the maintenance process to ensure readiness and functionality.	4
7.2. The laboratories and equipment are shown to be up-to-date, readily available, and effectively deployed.	The faculty has laboratories in mechatronics and agricultural engineering, equipped with tools, equipment, and agricultural machinery. In the 2021 academic year, modern tools were available, such as those used for plant care with irrigation systems and unmanned aerial vehicles (UAVs).		<p>- The curriculum considers reports on the available laboratories, the equipment and tools present, as well as the maintenance processes to ensure their readiness. It also evaluates the need for regular inspections to assess the availability and adequacy of equipment in the laboratories, while demonstrating the modernity of the equipment.</p> <p>- Based on interviews, there were suggestions that some mechatronics equipment is deteriorating, such as computer screen connection cables and software programs.</p>	4
7.3. A digital library is shown to be set-up, in keeping with progress in information and communication technology.	The university and the Kamphaeng Saen campus have a library and a learning resource management office that provide printed media in the form of a digital knowledge repository. They offer research services through a website on digital databases such as E-Books, E-Journals, E-Theses, and Thai Datasets.		-	4

Criterion	Strengths	Areas for Improvement	Rating
7.4. The information technology systems are shown to be set up to meet the needs of staff and students.	The university/campus computer services office provides information systems, software, and digital innovations for managing education. They offer services such as KU-Google, KU Microsoft Office 3 6 5 , and online teaching platforms, facilitating access and the dissemination of digital knowledge.	-	4
7.5. The university is shown to provide a highly accessible computer and network infrastructure that enables the campus community to fully exploit information technology for teaching, research, service, and administration.	The university/campus has a computer services office and campus network infrastructure, providing computer services and network systems, facilitating access through the Nontri Account.	-	4
7.6. The environmental, health, and safety standards and access for people with special needs are shown to be defined and implemented.	The campus provides healthcare services, emergency ambulance services 24 hours a day, every day. It manages the physical environment, maintenance, and designs the landscaping and architectural art. There is a 24 - hour security system for the safety of life and property within the campus, with surveillance cameras around the department to monitor the safety of assets and individuals.	The curriculum considers providing services for individuals who require special assistance and may include images to support the report.	4
7.7. The university is shown to provide a physical, social, and psychological environment that is conducive for education, research, and personal well-being.	The campus has facilities that impact the quality of life for students and staff, such as green spaces and gardens for relaxation, exercise areas, sports facilities, and mental well-being services including counseling.	-	4

Criterion	Strengths	Areas for Improvement	Rating
7.8. The competences of the support staff rendering services related to facilities are shown to be identified and evaluated to ensure that their skills remain relevant to stakeholder needs.	The curriculum collects and analyzes the results of student satisfaction surveys regarding the performance of staff services at the faculty and campus for the academic years 2022 and 2023.	<ul style="list-style-type: none"> <li>-The curriculum considers conducting continuous evaluations.</li> <li>-The curriculum should consider presenting in the SAR (Self-Assessment Report) how the results of the evaluations are utilized for development and improvement, comparing them with the evaluations and improvements made in the previous academic years.</li> </ul>	3
7.9. The quality of the facilities (library, laboratory, IT, and student services) are shown to be subjected to evaluation and enhancement.	The curriculum conducts satisfaction evaluations from both students and faculty regarding the quality of facilities within the faculty and campus in the 2022 and 2023 academic years, and analyzes the evaluation results.	<ul style="list-style-type: none"> <li>-The curriculum considers continuously assessing the quality of facilities at the campus and university.</li> <li>-The curriculum considers utilizing the results of evaluations on the quality of university facilities to promote development and improvements.</li> <li>-Based on the interviews, the following suggestions for development/improvement were proposed for the campus: <ol style="list-style-type: none"> <li>1.The area used for tractor driving practice is insufficient, or the campus should consider reducing the rental fees for educational spaces.</li> <li>2.The male dormitories are overcrowded.</li> <li>3.In the female dormitory, students are required to move their belongings out during the semester break, which causes issues for students from other provinces.</li> <li>4.There is a smell from animal waste.</li> <li>5.Traffic safety concerns, such as the use of turn signals and large speed bumps.</li> <li>6.The cafeteria seating capacity is inadequate.</li> </ol> </li> </ul>	3

Criterion	Strengths	Areas for Improvement	Rating
<b>8. Output and Outcomes</b>			3
8.1. The pass rate, dropout rate, and average time to graduate are shown to be established, monitored, and benchmarked for improvement.	<ul style="list-style-type: none"> <li>- The curriculum reports on the graduation rate, dropout rate, and average time to graduation continuously.</li> <li>- The curriculum analyzes this data by asking students for their reasons, and plans support for students who are still enrolled but at risk of not graduating.</li> <li>- The curriculum compares the average time to graduation with the Bachelor of Science in Agriculture program.</li> </ul>	<ul style="list-style-type: none"> <li>- Consider setting challenging target values and benchmarking against organizations that can stimulate continuous improvement.</li> <li>- Adjust the method of data presentation to reflect trends and changes over time.</li> </ul>	4
8.2. Employability as well as self-employment, entrepreneurship, and advancement to further studies, are shown to be established, monitored, and benchmarked for improvement.	<ul style="list-style-type: none"> <li>- The curriculum reports on graduate employment outcomes, including employment in relevant fields, positions in public and private sectors, self-employment, and further education at higher levels.</li> <li>- The program compares this data with other undergraduate programs within the Faculty of Agriculture.</li> </ul>	Consider selecting benchmarking partners to stimulate development. The curriculum should choose counterparts that demonstrate superior performance in the targeted areas for comparison, learn from their best practices for improvement, and set challenging target values. Benchmarking should be conducted with organizations that can drive continuous development.	4
8.3. Research and creative work output and activities carried out by the academic staff and students, are shown to be established, monitored, and benchmarked for improvement.	The curriculum continuously collects data on research outputs, patents and petty patents, academic development projects, and academic service activities. Additionally, students participated in the Innovation Robotic AI & IOT Contest 2 0 2 3 under the name “Mechatronic Design Team”.	<ul style="list-style-type: none"> <li>- The curriculum considers collecting student achievement data on a continuous basis.</li> <li>- It considers setting target values and benchmarking with external organizations.</li> </ul>	3

<b>Criterion</b>	<b>Strengths</b>	<b>Areas for Improvement</b>	<b>Rating</b>
8.4. Data are provided to show directly the achievement of the programme outcomes, which are established and monitored.	The curriculum maps the Program Learning Outcomes (PLOs) across various courses and reports the passing rates for each academic year, presenting the percentage of students who received a grade of D or higher. Students who received an F are considered not to have passed.	The curriculum continuously evaluates and reports the achievement of Program Learning Outcomes (PLOs) through both direct and indirect assessments. The results are analyzed and used to identify strategies for improving the teaching and learning processes to enhance student achievement of the PLOs.	3
8.5. Satisfaction levels of the various stakeholders are shown to be established, monitored, and benchmarked for improvement.	The curriculum presents the graduates' satisfaction message according to TQF (Thai Qualifications Framework) and includes data on the satisfaction of employers or users of the graduates.	<ul style="list-style-type: none"> <li>- Consider setting challenging target values by benchmarking with organizations that will foster continuous development.</li> <li>- Continuously assess satisfaction across all stakeholders, ensuring coverage of every group.</li> </ul>	3

**Monitoring to ensure compliance with curriculum standards.**

No.	Assessment Criteria	Performance Results	
		In accordance with the criteria. (P)	Not in accordance with the criteria. (P)
1	The curriculum must be revised within the specified period, not exceeding 5 years.	P	
2	The qualifications of part-time instructors (if any).	P	
3	The qualifications of the full-time faculty members of the program.	P	
4	The qualifications of the program coordinators.	P	
5	The qualifications of academic staffs.	P	
6	The number of faculty members responsible for the curriculum.	P	
<b>Summary of Results: The Curriculum's Performance Meets the Six Standards for Monitoring and Quality Control</b>			

Summary of Self-Assessment Results for Component 1 , Indicator 1.1 : Curriculum Management According to the Curriculum Standards Set by the Office of the Permanent Secretary, Ministry of Higher Education, Science, Research, and Innovation (สป.อว.)

☒ **Passed**

☐ **Not passed**