AQAS

AGENTUR FÜR
QUALITÄTSSICHERUNG DURCH
AKKREDITIERUNG VON
STUDIENGÄNGEN E.V.

FINAL REPORT

UNIVERSITAS BRAWIJAYA

ANIMAL SCIENCES

ANIMAL SCIENCE (MASTER OF ANIMAL SCIENCE)

ANIMAL SCIENCE (DOCTOR OF ANIMAL SCIENCE)

May 2023

Content

DECISION OF THE AQAS STANDING COMMISSION

ON THE STUDY PROGRAMMES

- **"ANIMAL SCIENCE" (MASTER OF ANIMAL SCIENCE)**
- **"ANIMAL SCIENCE" (DOCTOR OF ANIMAL SCIENCE)**

OFFERED BY UNIVERSITAS BRAWIJAYA, MALANG, INDONESIA

Based on the report of the expert panel, the comments by the university and the discussions of the AQAS Standing Commission in its 17th meeting on 22 May 2023, the AQAS Standing Commission decides:

1. The study programmes "**Animal Science**" (**Master of Animal Science**) and "**Animal Science**" (**Doctor of Animal Science**) offered by **Universitas Brawijaya**, **Indonesia** are accredited according to the AQAS Criteria for Programme Accreditation (Bachelor/Master) and the AQAS Criteria for Doctoral Programme Accreditation (PhD).

   The accreditations are conditional.

   The study programmes comply with the requirements defined by the criteria and thus the Standards and Guidelines for Quality Assurance in the European Higher Education Area (ESG) and the European Qualifications Framework (EQF) in their current version. The required adjustments can be implemented within a time period of twelve months.

2. The conditions have to be fulfilled. The fulfilment of the conditions has to be documented and reported to AQAS no later than **30 June 2024**. The confirmation of the conditions might include a physical site visit within the time period of twelve months.

3. The accreditation is given for the period of **six years** and is valid until **30 June 2029**.

Conditions:

I. <u>Both study programmes (Master and PhD)</u>

1. The Faculty of Animal Science must provide an action plan how the expertise on animal behaviour and welfare will be extended by

   a. reskilling one or two staff members on this topic (short term), and

   b. employing an expert on animal behaviour and welfare (medium term).

2. The faculty must establish the post of a security officer in the labs who is responsible for the upkeeping of health and safety standards.

3. The faculty must provide an action plan outlining future activities and endeavours concerning

   a. biosafety, and

   b. working security. and

   c. how health and safety standards will be implemented in all labs.

II. <u>Additionally for the Master's programme "Animal Science"</u>

1. The university must incorporate animal welfare and livestock friendly housing systems more intensely into the curriculum.

The following **recommendations** are given for further improvement of the programmes:

Both study programmes (Master and PhD)

1. The handbook should include all important information on the respective study programme, such as opportunities of a double-degree, part-time studies, internships or minimum number of scientific works.
2. It is recommended to diversify the assessment methods used in the programmes.
3. To advance soft and outreach skills, hands-on experience in the practical business/labour market should be encouraged.
4. The heads of the study programmes should ensure that all relevant information on the Master's and the PhD programme is available to the public, e.g. on the programmes' homepages. The responsible person should also include an English translation of this information.
5. To enhance transparency, more details in the academic handbook on the prerequisites as process of transferring credits from another institution to the programmes at UB as well as formal requirements for a general transfer from another programme to the Master's and PhD programme should be included.
6. The university should encourage students to publish academic work in peer-reviewed or Scopus Index listed journals.
7. The faculty should implement and provide a succession plan how it organises a smooth transition without loss of expertise and authority from retiring staff to newly hired teaching staff.
8. To ensure that students can work individually or in smaller groups in the labs, these labs should be updated in quantity and quality of the equipment according to the faculty's means.
9. To achieve the intended learning outcomes, it is recommended that hardcopies of the recent literature on animal science should be provided in the library.
10. For further international competitiveness, Master and PhD students should be motivated to write their theses in English.

Animal Science (Master)

11. It is recommended to regularly write a report or protocol on changes in the curriculum in order to document these transparently.

Animal Science (PhD)

12. The requirements for doctoral supervisors should be specified in more detail in the handbooks to enhance transparency.

With regard to the reasons for this decision the Standing Commission refers to the attached experts' report.

EXPERTS' REPORT

ON THE STUDY PROGRAMMES

- **"ANIMAL SCIENCE" (MASTER)**
- **"ANIMAL SCIENCE" (PHD)**

OFFERED BY UNIVERSITAS BRAWIJAYA, MALANG, INDONESIA

Visit to the university: 31 January – 2 February 2023

Panel of experts:

Prof. Dr. med. vet. habil. Helen Louton	Professor of Animal Health and Animal Welfare, University of Rostock/Germany
Prof. Dr. Anjas Asmara	Department of Animal Science, Universiti Putra Malaysia
Dr. med. vet. Tanja Dillenburger	veterinary with two offices (labour market representative)
Damon Mohebbi	student of medicine, University of Düsseldorf/Germany (student representative)

Coordinator:

Dr. Sarah Jenischewski	AQAS, Cologne, Germany
Alexandre Wipf	AQAS, Cologne, Germany

I. Preamble

AQAS – Agency for Quality Assurance through Accreditation of Study Programmes – is an independent non-profit organisation supported by more than 90 universities, universities of applied sciences and academic associations. Since 2002, the agency has been recognised by the German Accreditation Council (GAC). It is, therefore, a notified body for the accreditation of higher education institutions and programmes in Germany.

AQAS is a full member of ENQA and also listed in the European Quality Assurance Register for Higher Education (EQAR) which confirms that our procedures comply with the Standards and Guidelines for Quality Assurance in the European Higher Education Area (ESG), on which all Bologna countries agreed as a basis for internal and external quality assurance.

AQAS is an institution founded by and working for higher education institutions and academic associations. The agency is devoted to quality assurance and quality development of academic studies and higher education institutions' teaching. In line with AQAS' mission statement, the official bodies in Germany and Europe (GAC and EQAR) approved that the activities of AQAS in accreditation are neither limited to specific academic disciplines or degrees nor a particular type of higher education institution.

II. Accreditation procedure

This report results from the external review of the Master's and PhD programmes "Animal Science" offered by Universitas Brawijaya.

1. Criteria

Each programme is assessed against a set of criteria for accreditation developed by AQAS: the AQAS Criteria for Programme Accreditation (Bachelor/Master) and the AQAS Criteria for Doctoral Programme Accreditation (PhD). The criteria are based on the Standards and Guidelines for Quality Assurance in the European Higher Education Area (ESG) 2015. To facilitate the review each criterion features a set of indicators that can be used to demonstrate the fulfilment of the criteria. However, if single indicators are not fulfilled this does not automatically mean that a criterion is not met. The indicators need to be discussed in the context of each programme since not all indicators necessarily can be applied to every programme.

2. Approach and methodology

Initialisation

The university mandated AQAS to perform the accreditation procedure in April 2021. The university produced a Self-Evaluation Report (SER). In November 2021, the institution handed in a draft of the SER together with the relevant documentation on the programmes and an appendix. The appendix included e.g.:

- an overview over statistical data of the student body (e.g. number of applications, beginners, students, graduates, student dropouts),
- the CVs of the teaching staff/supervisors,
- information on student services,
- core information on the main library,
- as well as academic regulations.

AQAS checked the SER regarding completeness, comprehensibility, and transparency. The accreditation procedure was officially initialised by a decision of the AQAS Standing Commission on 21 February 2022. The

final version of the SER was handed in March 2022. Due to the coronavirus pandemic, there were some delays in the accreditation process.

Nomination of the expert panel

The composition of the panel of experts follows the stakeholder principle. Consequently, representatives from the respective disciplines, the labour market, and students are involved. Furthermore, AQAS follows the principles for the selection of experts defined by the European Consortium for Accreditation (ECA). The Standing Commission nominated the aforementioned expert panel in December 2022. AQAS informed the university about the members of the expert panel and the university did not raise any concerns against the composition of the panel.

Preparation of the site visit

Prior to the site visit, the experts reviewed the SER and submitted a short preliminary statement including open questions and potential needs for additional information. AQAS forwarded these preliminary statements to the university and to all panel members in order to increase transparency in the process and the upcoming discussions during the site visit.

Site visit

After a review of the SER, a site visit to the university took place on 31 January – 2 February 2023. On site, the experts interviewed different stakeholders, e.g. the management of the higher education institution, the programme management, teaching and other staff, as well as students and graduates, in separate discussion rounds and consulted additional documentation as well as student work. The visit concluded by the presentation of the preliminary findings of the group of experts to the university's representatives.

Reporting

After the site visit had taken place, the expert group drafted the following report, assessing the fulfilment of the AQAS Criteria. The report included a recommendation to the AQAS Standing Commission. The report was sent to the university for comments.

Decision

The report, together with the comments of the university, forms the basis for the AQAS Standing Commission to take a decision regarding the accreditation of the programmes. Based on these two documents, the AQAS Standing Commission took its decision on the accreditation on 22 May 2023. AQAS forwarded the decision to the university. The university had the right to appeal against the decision or any of the imposed conditions.

In July 2023, AQAS published the report and the result of the accreditation as well as the names of the panel of experts.

III. General information on the university

Universitas Brawijaya (UB) is a public university located in Malang, East Java, Indonesia. It was founded in 1963, has three campuses, 16 faculties and offers 177 study programmes (Diploma programmes, vocational programmes, Bachelor's, Master's and PhD programmes) to over 72,000 students. UB employs close to 2,900 lecturers and about 1,900 supportive staff.

The university pursues a Tri dharma of education, research and community service. It has defined its vision and mission at the university level and at the faculty level. The activities of UB are based on its Strategic Planning for the period 2020-2024, under which specific performance targets in the three areas of education, research and community service, and institutional management have been set. The university has identified milestones and specific targets to be reached, including having 85 % of study programmes internationally accredited by 2039. In the shorter term, UB wants to focus on creating a sustainable environment by improving the quality and quantity of educational and community services, infrastructure and facilities.

The Faculty of Animal Science (FAS) was established in 1961. At this point, the university offered only Bachelor's degree programmes in the discipline. In 1981, UB and Universitas Gadja Mahda (UGM) pioneered the Master's programme. Originally established under the postgraduate management, the Master's programme was handed over to the Faculty of Animal Science in 2006 and the PhD programme in 2008. According to the SER, the faculty has 158 Master students and 44 doctoral students. The faculty currently has twelve research groups focusing on gamete cell bank, red meat producers, tropical poultry research and technology, and genomic and proteomic research, development of indigenous and local animal, community and livestock studies, functional food of animal products, Honeybee, and product technology of Honeybee, dairy animals research group, precision livestock farming, artificial intelligence in livestock agribusiness and animal waste and composting technology. It is said that the faculty staff is involved in national and international associations, e.g., Indonesian Society of Animal Science, the Association of Animal Technology Experts of Indonesia, the Association of Animal Reproduction of Indonesia, the Association of Indonesian Nutrition and Feed Experts, the Indonesian Socio-Economic Association, and the Indonesian Microbiology Association. The faculty's vision is for its programmes to become a pioneer and reformer study programme in the discipline with an international reputation in science, technology, and entrepreneurship.

IV. Assessment of the study programmes

1. Quality of the curriculum / Aims and structure of the doctoral programme

Master's degree

The intended learning outcomes of the programme are defined and available in published form. They reflect both academic and labour-market requirements and are up-to-date with relation to the relevant field. The design of the programme supports achievement of the intended learning outcomes.

The academic level of graduates corresponds to the requirements of the appropriate level of the European Qualifications Framework.

The curriculum's design is readily available and transparently formulated.

[ESG 1.2]

Doctoral degree

The intended learning outcomes of the programme are defined and available in published form. They reflect both academic and labour-market requirements and are up-to-date with relation to the relevant field. The design of the programme supports the achievement of the intended learning outcomes.

The academic level of graduates corresponds to with the requirements of the appropriate level of the national qualifications framework or the European Qualifications Framework.

The curriculum's design is readily available and transparently formulated.
[ESG 1.2]

Animal Science (Master's programme)

Description

The Master's programme "Animal Science" is structured under the government regulation of the Indonesian higher education system. According to the SER, the programme aligns with the Indonesian qualifications framework (IQF) level 8. The faculty bases the programme on three intended learning outcomes on the programme level according to the IQF. According to the IQF, Master graduates will be capable of developing knowledge or technology through research and with innovative works (1), have the ability of problem-solving of science and technology in the discipline through an inter- or multidisciplinary approach (2), and will be equipped with skills to develop the society and academia (3) beneficially. Based on this overarching theme, the faculty has designed ten intended learning outcomes on the programme level, differentiated into core competencies (six ILOs) and supporting competencies (four ILOs). The SER indicates that the core competencies are subdivided into attitude competencies (two out of six ILOs), knowledge competencies (one out of six ILOs), and special skills (three out of six ILOs). These included critical thinking in the field through scientific research, communication skills about the results of livestock industry research, mastering livestock industry theories, application of new developments of the livestock industry, problem-solving abilities based on analysis or experimental studies, and the identification of research objectives. The supporting competencies are subdivided into general competencies (three out of four ILOs) and particular competencies (one out of four ILOs). These include the ability to increase independently learning capacities, application of software in the discipline, correspond with institutions and research communities, and ensure the validity of research data while avoiding plagiarism.

The curriculum is categorised in three SKS of university compulsory courses (one course; "Research methodology and scientific work"), three SKS of study programme compulsory courses (one course; "Big data and artificial intelligence in animal science"), nine SKS of research interest compulsory courses (three courses), nine SKS of research interest elective courses (three courses), at least three SKS of other research interest course (one course), and the Master's thesis (10 SKS). It is said that the research interest compulsory and research interest elective courses can be taken with several foci of the discipline. Students can either focus on topics in "Animal production", "Animal feed and nutrition", "Animal products technology", "Agribusiness", or "Animal reproduction and breeding". The programme is a four-semester programme with a length of 36 SKS. The first semester includes the university compulsory courses, study programme compulsory courses, and the research interest compulsory courses, while the second semester focuses on the research interest elective courses and the other research interest course. The third and fourth semester focus on the Master's thesis. If students come from a non-linear background, these students have to take a non-credit matriculation programme, including courses on statistics, experimental design, and academic writing.

As described in the SER, the curriculum is reviewed every four years. This process considers stakeholders, such as the industry, the government, faculties, and universities. Regular tracer studies are conducted to collect information, e.g., from alumni, stakeholders or the industry. It is said that the programme enables graduates to be employed as researchers, lecturers, the public or private sector, or entrepreneurs. The SER outlines that the programme graduates are equipped to hold positions at the manager level of livestock industries.

The university uses the Indonesian credit system. The SER defines that one SKS credit equals 285 minutes per week per semester or 76 hours per semester. According to the national regulation, the conversion of one SKS equals 2.53 ECTS credits.

Experts' evaluation

The faculty states three intended learning outcomes, which should be achieved with the qualification of the Master's degree. These include subject-specific and interdisciplinary elements such as research and innovative work, problem-solving skills and skills in academia and society. Furthermore, additional ten ILO's have been stated and divided into six core competencies (attitude, knowledge, special skills) and four supporting competencies (general and particular competencies). Therefore, the ILOs include subject-specific and interdisciplinary elements.

The intended learning outcomes reflect academic/scientific and labour market requirements by providing competencies in the field of knowledge, communication skills, mastering livestock industry theories and the application of the knowledge within practical conditions. By taking experimental studies into account, the ability to solve problems is extended.

The curriculum is evaluated every four years. In the progress of review, stakeholders from the industry, government, facilities and university are involved. Four years are regarded as an appropriate time frame for a re-evaluation of the programme by the experts. The incorporation of labour market representatives, which was also stated in the interviews with the stakeholders, guarantees the appropriateness of the ILOs.

It has been stated in the discussions that the labour market stakeholders are involved in experimental studies and projects and can, therefore, also support students in doing suitable and currently necessary research. Labour market stakeholders are also involved in lecturing, e.g. as guest lecturer and can thus bring information from the labour market, government or other institutions into the curriculum. This is evaluated as good, especially as it allows students exposure to the practical aspects of their studies from which they benefit inside and outside the classroom.

Through the information the experts received, it is supported that the academic degree corresponds to the ILOs. The programme is completed with a Master's thesis. Several of these theses are published in scientific journals. It should be noticed however, that the faculty has its own scientific journal with an ISSN Number (TERNAK TROPIKA Journal of Tropical Animal Production). This is another positive aspect worth mentioning. Nevertheless, the students should also be supported to publish their results in Scopus indexed journals which are ranked higher and have a real impact factor.

Important topics which are considered in the curriculum are, amongst others, animal husbandry, reproduction, management of livestock waste management. In order to keep up with the global development, the experts expect that animal welfare and livestock friendly housing systems are incorporated more intensely into the curriculum, for example by establishing it in more explicit in teaching and research or working group for this topic or inviting professionals who can give lectures in this field (**Finding 1**).

Within the visit and discussions, it became obvious that the general structure of the programme supports the achievement of the ILOs. All curricular elements and the functions are well documented and easy to follow in the academic handbook and the description of modules. An idealised typical course plan is available. It is easily understandable which courses are elective and which compulsory. Reasonable changes and adaptations of the curriculum were made. For the future, the experts recommend writing a report or protocol on these changes in order to document these transparently (**Finding 2**).

The possibility of a double-degree programme is given. However, this is not described in the handbook (only in the Report of Management Review). This opportunity should be added in the handbook for an easy access for students and reviewers of the programme. Furthermore, elements such as part-time studies and internships should be described in the handbook of the study programme (**Finding 3**).

Conclusion

The criterion is fulfilled.

Animal Science (Doctoral programme)

Description

The doctoral programme “Animal Science” strives to prepare graduates as academics, researchers, consultants, or policymakers, either at university, industry or government level. The four main strategic foci of the programme are to enable students to have independence in thinking and developing science and technology (1), the ability to conduct innovative research (2), the application of science and technology to contribute to society’s needs (3) and to collaborate institutionally on a national and international level (4). The programme focuses on research, while one track focuses on policymaking. Based on these general strategic foci of doctoral programmes in Indonesia, the faculty has composed the curriculum based on ten intended learning outcomes on the programme level. These are differentiated into main competencies (four ILOs), supporting competencies (five ILOs), and other competencies (one ILOs). The principal competencies focus on the ability to intervene in animal science issues at the macro level, mastering theoretical theories of animal science, expanding and deepening new animal science theories through multi and transdisciplinary approaches, and contributing to the formulation of policies. The ILOs on supporting competencies focus on the further development of the theoretical framework and their application, the development of research objectives, or the publication of research results in scientific journals on a national and international scale. Also, the programme strives to equip students with academic leadership skills.

The programme is a three-year programme and consists of 46 SKS. However, it is stated that the average study length was 5.0, 4.02 and 3.95 years between 2018 and 2020. The curriculum has specific aims for the semesters, starting with a focus on basic science and philosophy (Semester 1), on design and developing research, and problem-solving (Semester 2-4), and on publications, novelty findings, and policy (Semester 5-6). According to the SER, the doctoral programme aligns with level 9 of the Indonesian qualifications framework (IQF). The curriculum includes six compulsory courses with 18 SKS and the dissertation (28 SKS). It is said that students may take elective courses (out of a pool of 20 elective courses), but these are not included in the overall programme’s structure. However, the SER outlines that students take elective courses to support their dissertation topic. The mandatory courses cover topics on scientific writing, animal production studies, animal reproduction and breeding studies, feed science studies, animal husbandry socio-economic studies, and animal product technology studies.

According to the national regulations which are applied but do not exactly reflect the ECTS system, the university calculates that one SKS is based on 440 minutes per week per semester or 117.3 hours per semester, which equals one SKS to 3.91 ECTS credits.

Experts’ evaluation

In general, the doctoral programme ‘Animal Science’ (DPAS) is structured under the purview of the Indonesian Higher Education System. There are six compulsory courses for DPAS students with 18 credits, and 20 elective courses. All of the courses are presented well to the students, who find important information easily. The DPAS students have the right to take or not take elective courses. The students usually register for elective courses to support their dissertation projects. In terms of the curriculum structure, the students have to take 46 credits (18 credits lecture + 28 credits research) before they can graduate.

The number of credits for dissertation activities is 28 credits consisting of the following components: The DPAS equalizes the number of semester credit units with the European Credit System (ECTS) to improve the quality

of learning on an international level. Following national regulations, this means that students of the DPAS must pass 46 credits to obtain their degree. The conversion of SCU to ECTS is documented and consistent within the programme. lecture, structured assignments as well as independent studies are accounted for, however, the conversion rate does not match that of the Master's programme or national regulations.

The framework setting for the Intended Learning Outcome (ILOs) defines employability, knowledge, skills and attitude. The ILO fulfilment of the competency profile of graduates is formulated in the programme and is available in published forms. They which reflect both academic and labour-market requirements and are up to date with relation to the relevant field. The design of the programme supports the achievement of the ILOs.

In terms of student assessment, there are five types of assessment introduced to ensure the quality of the PhD programme offered, consisting of the proportions of the qualification exam, the proposal dissertation exam, the seminar research exams, the dissertation defence, and the final dissertation defence.

The Academic Handbook for Doctoral Programme of Animal Science 2020/2021 prepared by FAS UB has most of the important information including admission, curriculum structure, and assessment. Just like for the Master's programme, there still are a few points that need further clarification in the handbook so that the potential postgraduate student will not get confused, such as the minimum number of scientific works (see **Finding 3**).

Conclusion

The criterion is fulfilled.

2. Procedures for quality assurance

Master's degree

The programme is subject to the higher education institution's policy and associated procedures for quality assurance, including procedures for the design, approval, monitoring, and revision of the programmes.

A quality-oriented culture, focusing on continuous quality enhancement, is in place. This includes regular feedback mechanisms involving both internal and external stakeholders.

The strategy, policies, and procedures have a formal status and are made available in published form to all those concerned. They also include roles for students and other stakeholders.

Data is collected from relevant sources and stakeholders, analysed, and used for the effective management and continuous enhancement of the programme.

[ESG 1.1, 1.7 & 1.9]

Doctoral degree

The programme is subject to the higher education institution's policy and associated procedures for quality assurance, including procedures for the design, approval, monitoring, and revision of the programmes.

A quality-oriented culture, focusing on continuous quality enhancement, is in place. This includes regular feedback mechanisms involving both internal and external stakeholders.

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[ESG 1.1, 1.7 & 1.9]

Description

UB sees quality assurance as a contributing instrument in reaching its university-wide strategic goals. The main body responsible for quality assurance at the university level is the Educational Development and Quality Assurance Office. It is responsible for the development of an internal quality assurance system in the academic field. A separate unit, the UB Quality Assurance Centre, has been created and tasked with carrying out quality control, quality assurance and quality improvements in academic and non-academic fields and is assisted by Quality Assurance Groups at the faculty level and Quality Assurance Units at the department level.

Internal quality assurance at UB is based on an OSDAT-system:

1. Develop a quality assurance organisation (O).
2. Develop a system in a policy and document system (quality standards, quality manuals, procedure manuals and work instructions) (S).
3. Implement the system (socialisation and work reference) (D).
4. Conduct an Internal Quality Audit (one cycle of quality assurance) (A).
5. Follow-up (T).

The internal quality audit is conducted at the faculty and the programme level every year by the UB Quality Assurance Centre in cooperation with the Quality Assurance Groups at the faculty level and Quality Assurance Units at the department level. It includes system audits and performance audits. The internal quality audits are reported to the Rector for possible corrective action. Further feedback on the programmes is gathered through students' evaluations of the performance of the lecturers each semester, through alumni tracer studies and a general complaints, feedback and suggestions mechanism (UB Care). Evaluation results are available on the central university platform and can be accessed by the lecturers.

The procedure for curriculum development and review includes the definition of graduate profiles/programmes educational objectives considering the feedback of professional associations and alumni, benchmarking results, and national regulations, including the National Standards for Higher Education. According to the SER, the programme learning outcomes and course learning outcomes are aligned to one another and consider the vision and mission of the faculty. The curriculum development process is coordinated by the Centre for Educational Relevance Development within the Educational Development and Quality Assurance Office. UB states in its SER that a curriculum development cycle lasts approximately 4-5 years. In this process, the curriculum design and the formulated learning outcomes are assessed, and the teaching materials and curriculum structure mapped and checked given their comprehensiveness. According to the SER, UB also uses feedback from alumni gathered in the alumni association, the results of the internal quality audits, the results of the annual management review and discussions at regular study programme meetings to strengthen the quality of its curricula.

UB has provided data on the number of applicants and students in the programmes and data on drop-out rates.

Experts' evaluation

Universitas Brawijaya thrives in the implementation and conduction of its academic quality assurance system. Two quality assurance systems are used for the study programmes, an internal and an external one. The internal quality assurance considers the quality standards of the University at the different levels. The head of the study programme is responsible for the QAU (Quality Assurance Unit) on the level of the study programme and the dean at the faculty level.

The information gathered by the quality assurance system covers the student progression and success rates, employability of the graduates, the satisfaction of students with their programme and the effectiveness of teaching.

The internal QA considers an evaluation of lecturers, courses and the workload of lecturers and students. The system is well developed and digital. Furthermore, it is noticeable that consequences follow negative evaluations, which include personal discussions with lecturers by the dean; positive evaluations are followed by awards.

Progression and completion rates are recorded and presented in the annex of the self-evaluation report. Also results of the student evaluations are reported in the annex. Overall, the evaluation progress, the results and the consequences seem very satisfactory.

Stakeholders and alumni are also involved in the evaluation. The assessed criteria include ethics and moral, competencies, English language skills, use of technology, communication skills, teamwork skills, the ability to work in a team and self-development. The curriculum is discussed with stakeholders every four years to improve the teaching and learning process. This procedure and the time interval seem adequate to monitor and revise the study programme respectively.

Stakeholders are asked to respond to questionnaires, the response rate is very high (for example a response rate of 30/34 was shown in a personal discussion during the site visit).

The students are asked to evaluate lecturers and courses and can only enrol in the follow-up courses of the next semesters if the evaluation is done. This ensures a high response rate. A programme, the “Turnitin Plagiarism Checker” is used to check written scientific research for plagiarism. The grade given depends on the percentage of a similarity score.

The annex of the self-evaluation report gives detailed numbers of future employments of graduates. It is presented that 100% of the graduates of the doctoral programme and 88.5% of the graduates of Master’s programme find a job in less than six months after graduation. The rest of 11.5% of the Master alumni find a job in 6-18 months. These numbers indicate that the graduates are prepared for their future job enrolment and the preparation of graduates of the programme is good in the hiring industries.

The University of Brawijaya and the Faculty of Animal Science ensure to protect their students from intolerance and discrimination. For this, standard operation procedures have been developed. There is a website (UB Care) where students can express criticism and suggestions.

The academic standards and requirements in the progress of the doctoral programme are ensured by specific criteria which are mentioned in the handbook of the doctoral programme. The handbook also gives information about the weighting of grades in the final evaluation.

The statistical data on students’ progression, such as student composition, study duration, completion rate, grade distribution, failed/completed exams are recorded and analysed (presented in the annex of the self-evaluation report). This is very satisfactory and used adequately for improvement of the study programmes.

Conclusion

The criterion is fulfilled.

3. Learning, teaching and assessment of students / Learning and assessment of students

Master’s degree

The delivery of material encourages students to take an active role in the learning process.

Students are assessed using accessible criteria, regulations, and procedures, which are made readily available to all participants and which are applied consistently.

Assessment procedures are designed to measure the achievement of the intended learning outcomes.

[ESG 1.3]

Doctoral degree

The form of supervision and/or course structure is adequate and corresponds with the intended learning outcomes.

Students are assessed using accessible criteria, regulations, and procedures, which are made readily available to all participants and which are applied consistently.

Assessment procedures are designed to measure the achievement of the intended learning outcomes.

[ESG 1.3]

Description

According to the SER, students are encouraged to participate in learning activities. Lecturers are described as facilitating the learning process, motivating the students, giving them tutorials and providing feedback on the learning outcomes. UB indicates that it uses various project-based learning and case-based methods to foster student-centred learning. Further examples include small group discussions, cooperative and collaborative learning, role-play and simulation, discovery learning, and problem-based learning. According to the SER, the curricula also use a blended-learning method with the Student Active Learning (SAL) approach. Learning is carried out both synchronously and asynchronously, both face-to-face and online using the virtual learning environment/online learning platform of UB. Next to classroom activities, UB also mentions practical activities, both field practice and laboratory practice, which according to UB, are included in at least three-fourths of the courses in the curricula of both study programmes under review. UB cooperates with external organisations, public authorities, research centres, and industry to facilitate out-of-campus activities. Further, UB states that participation in research activities and community service is an integral part of the students' learning process.

Assessment takes the form of structured activities, quizzes, midsemester exams, final exams and practicums. Especially midterm (week 8) and final exams (week 16) are regulated in the general academic guidelines, and individual steps are set in a specific Standard Operating Procedure. Structured activities can be individual or group assignments; fieldwork assessment is also carried out. According to UB, it also offers the possibility of retaking an exam through special exams, makeup tests, or remedial exams.

The students' grades are combined, i.e., attendance records, assignments, midterm exams, final semester exams, practicum, group work and presentations. A general complaints procedure has been defined at UB; complaints related to student learning assessments should be submitted to the course manager.

Experts' evaluation

In general, learning and teaching methods at FAS contribute to a student-centred learning environment and correspond to the intended learning outcomes. The well-developed radio station can be used for hybrid lectures, podcasts, and blended learning concepts. Within the lectures, the seminars and tutorials use of adequate media optimises the learning experience for students.

The assessment regulations and procedures are defined and accessible to students. Examination requirements and organisational aspects are transparent and made available to students. A feedback and complaint system regarding assessments is well in place. However, currently the main assessment format is written examinations. Other methods of assessment such as simulations, group presentations, practical or oral assessments could be included. The expert group recommends diversifying the exam types used in the programmes under review (**Finding 4**).

The supervision arrangements for conducting their final theses fosters the academic progress of the research work. However, the requirements for supervisors both from other national or international institutions and from the industry in terms of experience, etc. are not completely clear, especially the requirements for doctoral supervisors should be specified in more detail in the handbooks to enhance transparency (**Finding 5**).

In talks with the labour market representatives, it became evident that students should improve on soft skills, including communication and transferability skills, especially when dealing with rural communities and/or farmers. This could be improved by encouraging students to include hands-on experience within their studies in the practical business/labour world. To advance soft and outreach skills, hands-on experience in the practical business/labour market should be encouraged (**Finding 6**).

Conclusion

The criterion is fulfilled.

4. Student admission, progression, recognition and certification / Legal status, admission and certification

Master's degree

Consistently applied, pre-defined, and published regulations are in place which cover student admission, progression, recognition, and certification.

[ESG 1.4]

Doctoral degree

The institution is entitled to award a doctorate.

Consistently applied, pre-defined, and published regulations are in place which cover student admission, progression, recognition, and certification.

[ESG 1.4]

Description

The admission regulation for the Master's programme follows the regulations set by the rector of UB. Students have to fulfil three requirements, including a Bachelor's degree with a minimum GPA of 2.75/4.00 (for the Master's programme) and a Master's degree with a minimum GPA of 3.00 (for the doctoral programme), an ITP TOEFL certificate with a minimum score of 450 (Master's programme) and 500 (doctoral programme), and academic aptitude test (TPA test) with a minimum score of 450 (Master's programme) and 500 (doctoral programme). The student admission for both programmes is carried out twice per year.

The SER provides data on monitoring activities of Master and doctoral students. The responsibility to monitor student success is with the head of the respective programme. According to the monitoring data, the average study period of the Master's programme was 2.40, 2.30, and 2.47 between 2018 and 2020, and 5.00, 4.02, and 3.95 for the doctoral programme.

Upon completing their studies, students receive a graduation certificate (diploma), transcripts and a Diploma Supplement according to the national template. According to the SER, students of all study programmes also receive an additional Certificate of Competence on English skills and ICT regulated by UB. In collaboration with the National Professional Certification Agency, UB also offers its students the possibility to gain further professional/industry certificates during their studies.

Experts' evaluation

Formal requirements for admission and the specific prerequisites for individual study programmes are clearly explained and made available for applicants. The selection procedure follows defined criteria accessible for prospective students. The mandatory publication as a prerequisite for admission to the doctoral programme is specified.

For DPAS it is not explicitly described, how competencies or credits acquired at other institutions can be transferred. During the discussion it was explained, that if the prerequisites are given and fulfilled (including the recommendations), there is no difficulty for students from other institutions of comparable level, to join the doctoral programme. It is not clearly defined who is considered an adequate recommending person. The ability to guarantee the applicant's academic aptitude seems not to be tied to UB. Thus, in the case of external applicants, a recommendation by a teacher of the foreign university would also be of equal importance (**Finding 7**).
All regulations are documented and are available to students in the Academic Handbook for DPAS.

Summarizing, the student admission is well organized, generally transparent and up to date. According to the students everything seems clear and distinct.

The progression throughout the doctoral programme is described in detail. As well as the assessment of the students' success and progress. The same applies to the double degree programme. It is described in detail and the two cooperating universities are named. UB works also to win new, respectively more, partners for cooperation within the double degree programme in the future.
The survey of study process, presence and result is given by digital documentation. It is visible in SIAM, which is an information system for students. Access is possible using the student's identification number (NIM). Further all DPAS students are registered in FORLAP DIKTI, which is also used to verify certificates electronically.

The approval for MP and DP is defined, and the publication requirements are described in detail in the academic handbook. The assessment of said publication, however, of doctoral students requires a higher qualification for students to be internationally competitive. Considering the requirements of the doctoral programme, only one publication is required. This point could be improved by promoting publications in renowned international journals, like peer-reviewed or Scopus Index listed journals (**Finding 8**).

The graduates receive a certificate upon completion of their studies. Furthermore, they receive a document providing transparent information on the qualification gained, including learning outcome, national context and status of their studies. Documentation and content of the certificates is very satisfactory and written in Indonesian and English.

The institution is legally entitled to award doctorates and the status of doctoral graduates is clearly defined.

Conclusion

The criterion is fulfilled.

5. Teaching staff / Academic level of supervisory staff

Master's degree

The composition (quantity, qualifications, professional and international experience, etc.) of the staff is appropriate for the achievement of the intended learning outcomes.

Staff involved with teaching is qualified and competent to do so.

Transparent procedures are in place for the recruitment and development of staff.

[ESG 1.5]

Doctoral degree

The composition (quantity, qualifications, professional and international experience, etc.) of the staff is appropriate for the achievement of the intended learning outcomes.

Staff involved with teaching is qualified and competent to do so.

Transparent procedures are in place for the recruitment and development of staff.
[ESG 1.5]

Description

Teaching staff at UB can be recruited as civil servants or on a contract basis. According to the SER, each study programme and its faculty conduct a job analysis and workload analysis to identify the required staff. New openings are transmitted to the central government agency in charge of civil servant positions or directly advertised by the university for contractual staff. According to the regulations, lecturers in Master's programmes must hold at least a Doctorate – it is also mandatory for each teaching staff to conduct research and engage in community service. According to the SER, all lecturers undergo basic training offered by the ministry and the university. Additionally, the faculty has made it mandatory for lecturers to follow a Basic Instructional Skill Development Training (PEKERTI) as well as training on the Applied Approach (AA). These programmes should support lecturers in developing their skills in, e.g. course reconstruction, writing teaching materials, basic concepts and paradigms of curriculum development or implementing Classroom Action Research (CAR). Lecturers can also participate in different schemes, including a national Scheme for Academic Mobility and Exchange for staff at universities in Indonesia, and obtain professional/industry certificates.

The faculty lecturers are responsible for teaching undergraduate students and postgraduate students for some lecturers. The Master's programme is supported by 34 lecturers consisting of 10 professors, 16 associate professors, and eight assistant professors. The doctoral programme is supported by 20 lecturers, consisting of 18 professors and two associate professors. The minimum educational qualification of supervisors for the Master's programme as internal supervisors and external supervisors is a doctoral degree with an assistant professor position and a doctoral degree with an associate professor or assistant researcher, respectively.

According to the SER, national and international guest lecturers contribute to the different study programmes. There is also a 3in1 Programme through which practitioners are invited to support learning at the university, in team teaching, joint research, joint publications or transfer of knowledge regarding education management and curriculum.

Experts' evaluation

Overall, the number of academic staff available for academic teaching and supervision on MPAS and DPAS are 34 lecturers MPAS, consisting of ten professors, sixteen associate professors, and eight assistant professors. The academic qualification of the academic staff is good. The minimal educational qualification requirement for MPAS internal supervisors is a PhD with the rank of Assistant Professor, while for the doctoral programme the rank of Professor or at least Assoc. Professor is necessary.

To increase the quality of teaching and research for both offered programmes, the academic staff of FAS has been actively involved in collaborative activities in the last five years. These activities consist of collaborations with national and international universities, national and multinational companies, industries, and the government.

To increase teaching and research competencies of the academic staff, the University provides mandatory training for all teaching staff, in the responsibility of LP3M, such as Instructional Technical Basic Skills Development Programme (PEKERTI), Applied Approach (AA), Guidance and Counselling Training (Academic Supervisor), Auditor training for quality assurance in higher education, Leadership training, Internal Assessor training.

Based on the curriculum structure of the Master's programme, it shows that most of the topics covered in the modules are in line with the current industry needs. However, the experts noticed that the topic of animal

behaviour and welfare is not offered in the modules as an independent topic. The issues are mostly embedded and addressed in other subjects as sub-topic. Animal behaviour and welfare is a very important topic globally today and needs to be addressed very carefully by all persons involved in the livestock industry. Therefore, there is a need for the faculty to recruit an expert in animal behaviour and welfare as an academic staff. For the time being, and while waiting for this position to be filled, the faculty should reskill some of the existing academics by sending one or two of them to courses related to animal behaviour and welfare (**Finding 9**).

The experts also became aware that about 76% (26 out of 34 lecturers) are going to retire in less than seven years. The numbers are quite big, and the faculty should address this issue properly with a proper succession plan in place (**Finding 10**).

Conclusion

The criterion is fulfilled.

6. Learning resources and student support / Support and research environment

Master's degree

Appropriate facilities and resources are available for learning and teaching activities.

Guidance and support is available for students which includes advice on achieving a successful completion of their studies.

[ESG 1.6]

Doctoral degree

Guidance and support are available for students which include advice on achieving a successful completion of their studies.

Appropriate facilities and resources are available for learning and research activities.

[ESG 1.6]

Description

The programmes have access to administrative and academic offices, lecturer's rooms, meeting rooms, an auditorium, classrooms, multimedia rooms, laboratories, a library, and a reading room on the faculty level. As stated in the SER, the faculty has five buildings (three buildings for practical work and research activities, one for postgraduates, and one as the central faculty building). The central faculty building has 30 classrooms with 40 students, 90 individual lecturer rooms, eleven seminar rooms, faculty administration offices, the dean's and vice dean's offices, and one auditorium for 200 participants. All classrooms are equipped with audio-visual and computer systems, whiteboards, and Wi-Fi access. The postgraduate building has five classrooms (one with a 30 people capacity, another with 20, and three for ten people), two seminar rooms, and one discussion room. In addition to the central library, the faculty offers a reading room.

The faculty's on-campus laboratories include an introductory laboratory for animal science, a laboratory of animal production, a laboratory of reproduction and breeding, a laboratory of nutrition and feed technology, a laboratory of animal products technology, a laboratory of socioeconomics study, and a laboratory of animal biotechnology. Also, the faculty has a field laboratory with animals (beef cattle, dairy cows, goats, sheep, and broilers).

For each course, students receive a Semester Lesson Plan (RPS) detailing the programme learning outcomes, the course learning outcomes, the learning frequency, duration of learning, course types, duration of face-to-face learning, duration of independent study, number of students, prerequisites for attending lectures, course objectives, learning methods, assessment methods, the person in charge of the course. Overall academic

regulations are published in the faculty's Educational Guidelines, updated yearly. Additional material is made available on the university online platform, including teaching material and teaching media, e.g., videos, and presentation files. According to the SER, the university online platform serves as a central access point for teaching and learning for both students and lecturers, research and community service, and academic information systems, services, and online reporting.

The students' academic advisors provide academic counselling – their role is regulated in a Manual for Guidance and Counselling. The students should meet with their advisor at least four times per semester. There is also a Centre for Academic and Professional Education Development for non-academic matters, including psychological counselling, online or face-to-face. As stated in the SER, UB provides financial and non-financial support for students and information on possible scholarships. Moreover, a Technical Implementation Unit for Career Development and Entrepreneurship supports students in connecting with the labour market. According to the SER, the Centre for the Study of Disability Services support students with disabilities, e.g. by providing assistants or sign language interpreters, and UB's buildings are being retrofitted to be easily accessible for students with disabilities. Further, the Integrated Service Unit for Sexual Violence and Bullying provides additional support for a good learning environment. International students can turn to the international office for advice and counselling.

UB states in its SER that there is a Student Representative Council and a Student Executive Board at UB for formal procedures and matters, as well as student associations at the level of the faculties and for the different subjects.

Experts' evaluation

The experts commend the faculty for the postgraduate buildings, the scholarships available to the students and the day-care and school facilities for the children of students and staff. These are important aspects, which have been thoroughly considered by the university and the faculty.

Furthermore, students are provided with access to the module handbooks, which include information on learning outcomes, methods of learning and teaching and different forms of assessment. Also, guidance and support arrangements are available for the students throughout the student life cycle, including opportunities for national and international exchange as well as gaining skills necessary for future research careers.

During the guided tour the experts were able to assess the current state of the different laboratories. Laboratories were not up to date and the health and safety standards in the labs need to be improved. The electronic and technical devices and instruments must increase in both quantity and quality to ensure that students can conduct practical work individually. Improving the equipment of the faculty could also improve the scientific output (**Finding 11**).

Concerning the state of the health and safety standards, they have to be adhered to. This means, e.g. barriers such as pipes or wires must be removed from the floor or goggles must be available for everybody participating in experiments. Calibration, paper-based documentation, and quality assurance is needed in the labs with a responsible person in charge who controls these aspects on a regular basis (**Finding 12**). The faculty must provide an action plan outlining future activities and endeavours concerning biosafety and working security, and when health and safety standards can be implemented in all labs (**Finding 13**).

The general library is well quipped for the students to study digitally. However, it should be ensured that also hard copies of recent literature, especially of text books on animal science are provided, since textbooks available were not up-to-date. To achieve the intended learning outcomes, it is recommended that hardcopies of the recent literature on animal science should be provided in the library (**Finding 14**).

The experts acknowledge that the English skills of the lecturers and students are good. However, only few students make use of the English courses available. In order to enable scientific exchange and international visibility, it is important that the uptake of English classes provided by the university for the students and staff is increased. For further international competitiveness, the experts recommend that the Master and PhD students should be motivated to write their theses in English (**Finding 15**).

Conclusion

The criterion is partially fulfilled.

7. Information / Public information

Master's degree

Impartial and objective, up-to-date information regarding the programme and its qualifications is published regularly. This published information is appropriate for and available to relevant stakeholders.

[ESG 1.8]

Doctoral degree

Impartial and objective, up-to-date information regarding the programme and its qualifications is published regularly. This published information is appropriate for and available to relevant stakeholders.

[ESG 1.8]

Description

The website of UB provides general information on its study programmes and study conditions and services to students. Each study programme has a specific webpage linked to the faculty site. This includes information on the study programme profiles, the academic regulations at the faculty, the intended learning outcomes, educational systems, research activities and community service, student organisations, scholarships, job vacancies, quality assurance systems, agendas and contact persons. UB indicates in its SER that information is also provided to prospective students, current students, alumni and the broader community through various social media channels.

Experts' evaluation

The Faculty of Animal Science has a well-organised website, which is clearly kept up to date. A lot of the information is also available in English. The possibility to switch between Indonesian and English can easily be found. This is to be commended.

However, most of the information available, such as exam schedule or the academic guidelines, are only available for the Bachelor's programme in Animal Science. Whereas there is one subpage for information on the doctoral programme, it is not extensive, and does not include an examination schedule, e.g. Furthermore, this information is not available in English. To ensure that all relevant stakeholders can inform themselves on the programmes under review, the experts recommend providing all relevant information applicants, students and employers might need (**Finding 16**).

As part of the requirement of the post degree programmes is to publish works, it is to mention that a list of recent publications can be found on the homepage. Given that there is a direct cooperation between universities, farmers and production companies, it is to commend that the study programmes contribute to the discourse of the programmes' study content by delivering neutral and objective public information at a scientific level.

Conclusion

The criterion is partially fulfilled.

V. Recommendation of the panel of experts

The panel of experts recommends accrediting the study programmes “Animal Science (Master)” and “Animal Science (PhD)” offered by Universitas Brawijaya with conditions.

Findings:

2. The university must incorporate animal welfare and livestock friendly housing systems more intensely into the curriculum.
3. The experts recommend writing a report or protocol on changes in the curriculum in order to document these transparently.
4. The handbook should include all important information on the respective study programme, such as opportunities of a double-degree, part-time studies, internships or minimum number of scientific works.
5. The expert group recommends diversifying the exam styles used in the programmes under review.
6. The requirements for doctoral supervisors should be specified in more detail in the handbooks to enhance transparency.
7. To advance soft and outreach skills, hands-on experience in the practical business/labour market should be encouraged.
8. To enhance transparency, the experts recommend including more details in the academic handbook on the prerequisites as process of transferring credits from another institution to the programmes at UB as well as formal requirements for a general transfer from another programme to the ones under review.
9. The university should encourage students to publish academic work in peer-reviewed or Scopus Index listed journals.
10. The FAS must provide an action plan how it plans to extend its expertise on animal behaviour and welfare by
    a. reskilling one or two staff members on this topic (short term) and
    b. employing an expert on animal behaviour and welfare (medium term).
11. The faculty should implement and provide a succession plan how it organises a smooth transition without loss of expertise and authority from retiring staff to newly hired teaching staff.
12. To ensure that students can work individually or in smaller groups in the labs, the experts recommend updating these labs in quantity and quality of the equipment according to the faculty's means.
13. The faculty must establish the post of security officer in the labs, who is responsible for the upkeeping of health and safety standards.
14. The faculty must provide an action plan outlining future activities and endeavours concerning
    a. biosafety and
    b. work security
    and how health and safety standards will be implemented in all labs.
15. To achieve the intended learning outcomes, it is recommended that hardcopies of the recent literature on animal science should be provided in the library.
16. For further international competitiveness, the experts recommend that the Master and PhD students should be motivated to write their theses in English.

17. The heads of the study programmes should ensure that all relevant information on the Master's and the PhD programme is available to the public. The responsible person should also include an English translation of this information.